



International Network of  
Health Promoting Hospitals  
& Health Services

29<sup>th</sup> International Conference  
on Health Promoting Hospitals and Health Services

# **The Role of Health Promotion in Well-being-oriented Healthcare**

in memoriam Jürgen Pelikan

September 20-22, 2023  
University of Vienna, Währinger Strasse 29, 1090 Vienna, Austria  
Hybrid conference

## **Abstract book**

Editorial .....	4
Scientific Committee.....	4
Scope & Purpose.....	5
Wednesday, September 20, 2023.....	6
Thursday, September 21, 2023.....	6
Friday, September 22, 2023.....	6
Plenary 1: Opportunities and Challenges of Health Promotion to Recruit and Maintain a Healthy Workforce in Health Care Settings.....	7
Plenary 2: Contributions of Health Promotion to Climate Change Mitigation and Adaption.....	9
Plenary 3: Empowering Patients, Families and Communities for Times of Crises and Beyond .....	11
Plenary 4: Primary Health Care –Hospital Partnerships as Drivers of Public Health.....	12
Plenary 5: Health Promotion as a Pillar of Well-Being-Oriented Health Care .....	13
Oral session 1.1: WORKSHOP: The health destroyed by war - The best prescription is peace.....	14
Oral session 1.2: Salutogenic, safe and healthy workplace.....	16
Oral session 1.3: Promoting health for vulnerable groups I.....	18
Oral session 1.4: Workshop of the HPH Taskforce on Migration, Equity & Diversity .....	19
ONLINE Oral session 1.5: ONLINE SESSION: Access to services and information I .....	20
ONLINE Oral session 1.6: ONLINE SESSION: Promoting healthy behavior I.....	22
Oral session 2.1: Governance models and leadership for HPH .....	26
Oral session 2.2: Digitalization in health care and health promotion .....	28
Oral session 2.3: Community-based health promotion.....	30
Oral session 2.4: WORKSHOP: Humor in Healthcare.....	32
ONLINE Oral session 2.5: ONLINE SESSION: Health promoting healthcare .....	33
ONLINE Oral session 2.6: ONLINE WORKSHOP: Assessing organizational health literacy in hospitals and primary health care services - experiences from the M-POHL project .....	35
Oral session 3.1: WORKSHOP: What, Why and How to do the Greenhouse Gas Emission Reduction in Health Care Sectors.....	37
Oral session 3.2: Access to services and information II.....	37
Oral session 3.3: Tobacco prevention and cessation, addictive behavior .....	39
ONLINE Oral session 3.5: ONLINE SESSION: Promoting health for vulnerable groups II .....	41
ONLINE Oral session 3.6: ONLINE WORKSHOP: Smart Capacitating Investment as a new concept to place health promotion and disease prevention at the heart of the health system .....	44
Oral session 4.1: WORKSHOP: Children's rights to play and participate in artistic activities in healthcare settings .....	45
Oral session 4.2: Health promoting and health literate organizations.....	45
Oral session 4.3: Promoting healthy behavior II .....	47
Oral session 4.4: Physical activity and healthy lifestyle II.....	49
ONLINE Oral session 4.5: ONLINE SESSION: Staff empowerment .....	51
ONLINE Oral session 4.6: ONLINE WORKSHOP: Social Prescribing as key element of primary health care and hospitals: Implementation opportunities in hospitals, primary care units and GP's surgery.....	54
Mini oral session 1.1: Healthy workforce in health care settings.....	55
Mini oral session 1.2: Improving care of people with multiple health problems and comorbidity I .....	57
Mini oral session 1.3: Health communication and information .....	60
Mini oral session 1.4: Physical activity and healthy lifestyle I .....	64
ONLINE Mini oral session 1.5: ONLINE SESSION: Interventions for health promotion in the local community and for the population served.....	68
ONLINE Mini oral session 1.6: ONLINE WORKSHOP: Professional Health Literacy in Austria, Germany and Switzerland - a pilot study among healthcare professionals .....	71
Mini oral session 2.2: COVID-19 lessons learnt; preparing for pandemic and crises.....	72
Mini oral session 2.3: Equity in health and health care.....	75
ONLINE Mini oral session 2.5: ONLINE SESSION: Health information and education.....	78

ONLINE Mini oral session 2.6: ONLINE SESSION: Improving care of people with multiple health problems and comorbidity II.....	81
Poster session 1: Access to services and information .....	86
Poster session 2: Improving care of people with multiple health problems and comorbidity I .....	91
Poster session 3: Improving care of people with multiple health problems and comorbidity II .....	94
Poster session 4: Mental health and psychiatric care .....	98
Poster session 5: Patient and staff empowerment .....	104
Poster session 6: Promoting healthy behavior and self-management .....	109
Poster session 7: Food, nutrition and diet .....	114
Poster session 8: Physical activity and healthy lifestyle .....	121
Poster session 9: Tobacco prevention and cessation, addictive behavior.....	127
Poster session 10: Salutogenic, safe and healthy workplace .....	132
Poster session 11: Health workforce practice and training.....	138
Poster session 12: Digitalization in health care and health promotion .....	143
Poster session 13: Monitoring, implementation and evaluation .....	147
Poster session 14: COVID-19 lessons learnt; preparing for pandemic and crises I (staff, organization).....	152
Poster session 15: COVID-19 lessons learnt; preparing for pandemic and crises II (patients, population) .....	158
Poster session 16: Promoting the health of older adults .....	166
Poster session 17: Promoting the health of children and young people.....	177
Poster session 18: Promoting maternal and newborn health.....	182
Poster session 19: Integration of hospitals and primary care with community-based health and social services .....	184
Poster session 20: Interventions for health promotion in the local community and for the population served.....	189
Index .....	195

## Editorial

Dear participants of the 29<sup>th</sup> International Conference on Health Promoting Hospitals and Health Services!

This year, the annual International Conference on Health Promoting Hospitals and Health Services (HPH) is being held in the city of Vienna, Austria and kindly hosted by the HPH Network Austria, together with the Austrian Ministry of Social Affairs, Health, Care and Consumer Protection, as well as the Gesundheit Österreich GmbH (Austrian National Public Health Institute). After 1997 and 2017, the international HPH conference will thus take place in Vienna for the third time.

The Austrian HPH Network was built on the experiences of the first European pilot project "Gesundheit und Krankenhaus" ("Health and Hospital") that was conducted from 1989 until 1996 at the Krankenanstalt Rudolfstiftung (today Klinik Landstrasse), a Viennese hospital with a long tradition. With the support of the World Health Organization, this project led not just to the foundation of the Austrian HPH network in the year 1996, but also helped to accelerate the European developments in regard of the international HPH network.

Since 2006, the Austrian HPH network is organized as an independent association of hospitals and health care organizations, funded by its members, and supported by the Ministry of Social Affairs, Health, Care and Consumer Protection. Since then, the network has been an important driving force and source of impetus for the further development of health promotion in health care facilities in Austria. This is always done in close and mutually beneficial exchange with national and international network partners. Recently, the political funding has been increased via the progressive "Agenda Health Promotion" that supports an increased focus on health promotion vis-à-vis a more traditional focus of health care systems.

The original idea for the main theme and the topics of the plenary sessions of this conference came from Jürgen Pelikan. The local host, together with the scientific committee and Jürgen Pelikan in his role as chair of the scientific committee, have decided to focus the 29th International HPH Conference on "The Role of Health Promotion in Well-Being-Oriented Healthcare". The conference aims to follow up on the recent Geneva Charter for Well-Being of WHO, putting the considerations stated there into practice. Moreover, the conference offers the opportunity for experts and colleagues from all the corners of the international HPH movement, to share their experiences of how well-being is already being a main focal point in many health care organizations, that co-operate within the international network.

Altogether, 13 plenary lectures by renowned international experts will address these themes during the two and a half days of the conference. In addition to the five plenaries, the conference will offer a rich parallel program including oral presentations and workshops, mini oral presentations, and posters. Overall, the Scientific Committee screened over 670 abstracts, which were submitted from around the world. Out of these, 405 abstracts (60 %) were finally accepted for presentation in 23 oral sessions and workshops (15 in-person and 8 online sessions; altogether 94 abstracts), 11 mini oral sessions (7 in-person and 4 online sessions; altogether 68 abstracts), and an electronic poster session (243 abstracts).

Delegates from all over the world will meet at the conference to present, discuss, and network around topics related to HPH.

This abstract book of the 29<sup>th</sup> International HPH Conference will be published as a publication of the Virtual Proceedings after the event.

Now, we would like to thank all those who contributed to the program development and to the production of this abstract book. Our special thanks go to the plenary speakers, all abstract submitters, the members of the Scientific Committee, in particular for the review of numerous abstracts, the chairs of the plenary and parallel sessions, and above all the local hosts of this 29th International HPH Conference in Vienna.

Peter Nowak & Birgit Metzler  
Competence Centre Health Promotion and Healthcare at  
Gesundheit Österreich GmbH (Austrian National Public Health Institute)

## Scientific Committee

- Cristina Aguzzoli, HPH regional Network Italy-Friuli Venezia Giulia
- Valentina Bianchi Galdi, GNTH Global Network for Tobacco Free Health Care Services
- Nicolas Bonnet, HPH Network France
- Mafaten Chaouali, WHO/Euro
- Shu-Ti Chiou, HPH Task Force Age-Friendly Health care
- Martina Chválová, HPH Network Czech Republic
- Caroline Costongs, EuroHealthNet
- Judith delle Grazie, Austrian Federal Ministry of Social Affairs, Health, Care and Consumer Protection
- Sally Fawkes, HPH Network Australia
- Giulio Fornero, HPH regional Network Italy-Piedmont
- Mitsuhiro Funakoshi, HPH Network Japan
- Pascal Garel, HOPE European Hospital and Healthcare Federation
- Oliver Groene, HPH Secretariat
- Ralph Harlid, Member of the HPH Governance Board, HPH Network Sweden
- Heli Hätönen, HPH Network Finland
- Marianne Hochet, Member of the HPH Governance Board, HPH Network France
- Wolfgang Huf, HPH Network Austria
- Cristina Iniesta Blasco, HPH regional Network Catalonia
- Keriin Katsaros, HPH Secretariat
- Susann Koalick, GNTH Global Network for Tobacco Free Health Care Services
- Evelyn Kölldorfer-Leitgeb, Chair of the HPH Network Austria
- Margareta Kristenson, Past Chair of the HPH Governance Board, HPH Network Sweden
- Kim Kuesook, HPH Network Korea
- Karl Kuhn, ENWPH European Network on Workplace Health Promotion
- Jaekyung Lee, HPH Network Korea
- Diane Levin-Zamir, Clalit Health Services, Israel
- Ming-Nan Lin, Member of the HPH Governance Board, HPH Network Taiwan
- Birgit Metzler, International Conference Secretariat
- Elke Miedema, HPH Task Force on Health Promoting Built Environment
- Peter Nowak, International Conference Secretariat
- Lina Papartyte, EuroHealthNet
- Nina Peränen, Member of the HPH Governance Board, HPH Network Finland
- Daniela Rojatz, Austrian National Public Health Institute
- Manel Santinà, HPH regional Network Catalonia

- Ilaria Simonelli, Member of the HPH Governance Board, HPH regional Network Italy-Trentino, HPH Task Force on Health Promotion with Children and Adolescents
- Christa Straßmayr, HPH and Health Literate Care Organizations
- Simone Tasso, former HPH regional Network Italy-Veneto
- Friedrich Teutsch, International Conference Secretariat
- Anna-Kristina Wahl, Austrian National Public Health Institute
- Bożena Walewska-Zielecka, Chair of the HPH Governance Board, HPH Network Poland

## Scope & Purpose

The experiences of the early 21<sup>st</sup> century have unequivocally raised awareness for the global interconnectedness of our personal lives and our societies in general. Multidimensional crises, with significant impact on social and individual health and well-being, increasingly require responses based on co-operation, the building of new relations, and the exchange of tools and techniques. These demands have been captured by the ideas stated in the WHO Geneva Charter for Well-Being (2021), the latest formulation of the health promotion ideals, emphasizing stronger than ever the personal and social interdependencies.

The Charter impresses on the importance of social determinants, on equity, participation, and the effects of well-being on a peaceful and healthy development of society. It calls for a deliberation of the way digital communication impacts individual health both in the way of opportunities and challenges. The Charter promotes ecological awareness and points out how our health and healthcare systems are connected to our physical surroundings and the natural world. We find the significance of well-being and health in general boosted in a world of ongoing crises and are challenged to learn and grow to overcome exclusion and social division.

Against this backdrop, the 29<sup>th</sup> International Conference on Health Promoting Hospitals and Health Services addresses the role of health promotion in well-being-oriented healthcare.

The conference is dedicated to Jürgen Pelikan (21.1.1940 – 11.2.2023) in recognition of his significant role in initiating, implementing, and perpetuating HPH. He was Chair of the Scientific Committee of all International HPH Conferences since the first HPH conference in 1993.

### **Opportunities and challenges of health promotion to recruit and maintain a healthy workforce in health care settings**

The first plenary session will focus on the workforce, as the foundation of health-care systems. The globally increasing challenges to attract, recruit and retain health-care workers have reached public awareness, as have issues of supporting and maintaining their health and well-being. Health promotion has repeatedly shown effects on work satisfaction and productivity. The identification and implementation of effective strategies based on insights and experiences remain a challenge.

### **Contributions of health promotion to climate change mitigation and adaption**

In the face of ecological as well as economic crises, the aim to restructure our societies, organizations, and personal lives towards more sustainability, has become an integral part of many ideas for societal development. The present energy crisis

is exacerbating the urgency of these ideas while highlighting interdependencies in our global economy. The second plenary session will address the crucial roles the health sector plays in reducing greenhouse gas emissions and thus improve lives. Furthermore, successful contributions of health promotion in healthcare to climate change mitigation and adaption will be shown and requirements discussed.

### **Empowering patients, families and communities for times of crises and beyond**

Multiple crises are affecting billions of people around the world in the way they live their lives. Technological advancements accelerate the speed of health services provision and the need for people-centered communication. Many of the responses to these challenges risk to aggravate social inequity and pose challenges to our physical, mental, as well as to our spiritual and social well-being. The intersectionality of health of patients, families and communities puts increasing demands on healthcare providers. How to best provide support to those who need it will be the topic of plenary session number three.

### **Primary health care-hospitals partnerships as drivers of public health**

In many cases, primary health care will be the first contact for patients with the institutions of professional healthcare. Their role to promote equitable universal health coverage has furthermore been emphasized, as the demands of health communication have intensified vis-à-vis the increased needs of the broader public. The fourth plenary session targets the role of primary health care as an intermediate between and partner of hospitals and the public and how to strengthen the relationship between these partners.

### **Health Promotion as a pillar of well-being-oriented healthcare**

The development of HPH is inevitably influenced by the global health, social, environmental and equity challenges societies are facing. Considering the various aspects addressed throughout the conference, the fifth and final plenary session will discuss what this means for the future and how and what HPH can contribute to sustainable health and well-being.

## Wednesday, September 20, 2023

**09:00-16:00**

GNTH Conference Conference of the Global Network for Tobacco Free Healthcare Services

**16:30-17:00**

Digital meet & greet for online participants

**17:00-17:45**

Formal Opening In memoriam Jürgen Pelikan

**17:45-19:15**

**Plenary 1** Opportunities and Challenges of Health Promotion to Recruit and Maintain a Healthy Workforce in Health Care Settings

**19:15-22:00**

Welcome Reception, networking

## Thursday, September 21, 2023

**08:30-09:00**

Digital meet & greet for online participants

**09:00-10:30**

**Plenary 2** Contributions of Health Promotion to Climate Change Mitigation and Adaption

**09:00-18:00**

**Virtual Poster Session**

**10:30-11:00**

Coffee, tea, refreshments, networking

**11:00-12:30**

**Oral parallel sessions 1** from abstracts received & symposia by HPH task forces & conference workshops

**12:30-13:30**

Lunch, networking

**13:30-14:15**

**Mini oral parallel sessions 1** from abstracts received

**14:20-15:45**

**Oral parallel sessions 2** from abstracts received & symposia by HPH task forces & conference workshops

**15:45-16:15**

Coffee, tea, refreshments, networking

**16:15-17:45**

**Plenary 3** Empowering Patients, Families and Communities for Times of Crises and Beyond

**19:30-22:00**

Conference Dinner, Rathauskeller

## Friday, September 22, 2023

**08:30-09:00**

Digital meet & greet for online participants

**09:00-10:30**

**Plenary 4** Primary Health Care-Hospital Partnerships as Drivers of Public Health

**09:00-18:00**

**Virtual Poster Session**

**10:30-11:00**

Coffee, tea, refreshments, networking

**11:00-12:30**

**Oral parallel sessions 3** from abstracts received & symposia by HPH task forces & conference workshops

**12:30-13:30**

Lunch, networking

**13:30-14:15**

**Mini oral parallel sessions 2** from abstracts received

**14:20-15:45**

**Oral parallel sessions 4** from abstracts received & symposia by HPH task forces & conference workshops

**15:45-16:00**

Coffee, tea, refreshments, networking

**16:00-17:30**

**Plenary 5** Health Promotion as a Pillar of Well-Being-Oriented Health Care

**17:30-17:45**

Conference closing and announcement of the International HPH Conference 2024

**17:45-19:00**

Farewell refreshments, networking

## Plenary 1: Opportunities and Challenges of Health Promotion to Recruit and Maintain a Healthy Workforce in Health Care Settings

### Needs, Factors and (Policy) Options for Attracting and Retaining Health Workers

#### COMETTO Giorgio

Although the global health workforce shortage is declining significantly – from 18 million in 2013 to 15 million in 2020 and projected at 10 million by 2030 – the data largely depict a pre-COVID-19 trend, and mask profound regional disparities: progress is slower in the African and Eastern Mediterranean regions and Small Island Developing States. Countries at all levels of socioeconomic development contend with issues related to education, deployment, retention and performance of their health workforce. Shortages, maldistribution, inequities, gender segregation and disparities in occupations, the negative consequences of health worker migration, and changing demographics, are among the key challenges. In most LMICs, the main driver of shortages is insufficient economic demand to create jobs and employ the health workers required to meet population health needs. The COVID-19 pandemic has further exacerbated pre-existing challenges, with profound impacts on health workers mental health and wellbeing. This presentation will highlight the policy and investment decisions required to address the most prevalent health workforce challenges, including the need to: Optimize the health workforce through development and implementation of appropriate planning, education, regulation, management and retention policies. Protect the existing workforce and reduce turnover and attrition by offering decent work, adequate remuneration, and appropriate measures on health and safety. Harness the rising demand for health and care services by investing in more and better jobs. Strengthen the institutional capacity for health workforce governance, leadership, planning and finance. Target investments in health system capacity, health workforce education and jobs to rural populations and vulnerable groups to improve equitable access to care that is oriented towards primary health care.

#### Contact:

COMETTO Giorgio  
Unit Head  
Human Resources for Health Policies & Standards  
Health Workforce Department  
World Health Organization  
[comettog@who.int](mailto:comettog@who.int)

## Creating a Healthy Workplace - The Role of Leadership, Power and Trust

#### VALIOTIS George

Healthcare settings, inherently dynamic and high-pressure, present unique challenges and opportunities to the maintenance of a healthy workforce. In the context of the conference theme – “Opportunities and challenges of health promotion to recruit and maintain a healthy workforce in health care settings” – this presentation by George Valiotis, Executive Director of the European Health Management Association, underscores the crucial and intertwined roles of leadership, power, and trust in navigating these complexities. Leadership in healthcare must extend beyond clinical expertise to embody the essence of holistic health promotion. Leaders are tasked with crafting a vision that not only resonates with the objective of patient care but also emphasizes the well-being of healthcare professionals. As burnout and emotional exhaustion become more prevalent, transformational leadership—with its focus on motivation, empathy, and individual development—becomes paramount. Leaders who champion self-care, continuous learning, and open communication foster an environment conducive to both professional growth and personal well-being. Power dynamics in healthcare are multifaceted, often shaped by hierarchy, specialization, and expertise. While these structures are necessary for clinical governance, unchecked power can exacerbate stress and impair inter-disciplinary collaboration. Decentralized decision-making and interdisciplinary teamwork can mitigate potential power imbalances, promoting mutual respect and joint ownership of patient outcomes. Trust is especially salient in healthcare. It underpins the intricate web of interactions, from patient-caregiver relationships to inter-departmental collaborations. A workforce that trusts its leadership is more resilient, adaptive, and committed. Building this trust requires transparency in decision-making, acknowledgment of frontline challenges, and proactive measures to address concerns. Managers in healthcare settings must strike a delicate balance that hinges on robust leadership, equitable power distribution, and steadfast trust. As the health sector grapples with the challenges of delivering excellent patient care and preserving the well-being of its workforce with increasing demand and diminishing resources, these pillars will be essential for success. Attendees will leave this session with strategies tailored to the unique milieu of healthcare, poised to create workplaces that thrive in both health and harmony.

#### Contact:

VALIOTIS George  
European Health Management Association  
BELGIUM  
[george.valiotis@ehma.org](mailto:george.valiotis@ehma.org)

## Staff Health Needs: Biopsychosocial Approach to Stress Management

#### AGUZZOLI Cristina

Allostatic load is the "wear and tear on the body" that accumulates when an individual is exposed to repetitive or chronic stress. Interpreting the "burden of disease" in a period of emergency, keeping the keys to reading health promotion active, implies knowing how to evaluate the allostatic load. The

allostatic load can manifest itself through the adoption of "fixed behaviors", those more or less conscious behaviors that will then be difficult to bring back to their own state prior to the stressful period, even when the threat has passed. Prolonged high concentrations of cortisol over time can cause damage to the hippocampus, with decreased neurogenesis, increase amygdala alertness, impair memory and cognitive performance, and negatively interfere with future adaptation to other stressors. Allostatic load may manifest as "medically unexplained symptoms-M.U.S." (<https://mus.global/>), recently recognized as the signal of related low-grade chronic inflammatory stress. This is one of the main issues we addressed in collaboration with the Italian National Institute of Health during the 2020 pandemic, in order to quickly read the health needs of the staff and activate a rapid psychophysical recovery strategy. The 96,5% of the staff participating in a 2020 survey involving HPH members in Friuli Venezia Giulia Network, showed us the presence of M.U.S. We set up immediately a new method of reading the allostatic load of personnel, through a software for the analysis of medically unexplainable symptoms in correlation with the objective, but non-invasive analysis of parameters describing the activation of the two arms of the stress system (nervous and endocrine) in order to activate fast psychophysical recovery and avoid chronicization of symptoms. The HPH Network Project "Care for those who take care of us", developed a specific regional workline answering to the HPH Standard 4 and to standards supplement for resilience at the workplace realized by our network. Goals: 1) to overcome the basic dichotomy that refers stress exclusively to the psychic and emotional aspects excluding the physical ones and metabolic aspects; 2) to fill the gap in the scientific update in order to link medically unexplained symptoms to the persistent activation of chronic low-grade inflammation, the lowest common denominator of most chronic degenerative diseases; 3) to drive personalized lifestyles strategy for M.U.S. reduction and fast recovery of wellbeing. The new interpretation of the M.U.S., as an epiphenomenon of chronic persistent low-grade inflammation and the biopsychosocial approach that allows to guide its reduction up to abatement, through a correct and personalized lifestyle, determines a very important qualitative leap in the approach to chronicity as well as the recovery of well-being and staff motivation. We are applying this model through continuously updated multi-professional teams, who work for the well-being of their colleagues and are very close to the teams dedicated to risk management. Self-assessment and continuous improvement through new skills of self care are essential to restore therapeutic strength to the context and therefore regenerate trust between healthcare workers and patients.

**Contact:**

AGUZZOLI Cristina

HPH Coordinator

Friuli Venezia Giulia Network, Italian HPH Networks

ARCS – Azienda Regionale di Coordinamento per la Salute

Regional Authority for Coordination of Health Trust

ITALY

[cristina.aguzzoli@arcs.sanita.fvg.it](mailto:cristina.aguzzoli@arcs.sanita.fvg.it)



## Plenary 2: Contributions of Health Promotion to Climate Change Mitigation and Adaption

### Waiora: Towards Planetary Health Promotion for the Wellbeing of All

#### TU'ITAHİ Sione

Waiora[1]: Towards planetary health promotion for the wellbeing of all Through collaborative leadership and co-creating knowledge for transformational change, the International Union for Health Promotion (IUHPE) and its partners are elevating health promotion and enhancing its efficacy to address the most significant global challenge in the world today, the health of the planet, which impacts directly on the wellbeing of our human family. "Mounting evidence tells us that the current economic and social development paradigm of infinite growth and endless exploitation of limited natural resources is unjust and unsustainable, leading to inequities within and among countries and across generations." [2] Therefore, urgent action is needed. As UN Secretary General Antonio Guterres (2020) said, "the state of the planet is broken. Humanity is waging war on nature. This is suicidal. Making peace with nature is the defining task of the 21st century. It must be the top, top priority for everyone, everywhere... Indigenous knowledge, distilled over millennia of close and direct contact with nature, can help to point the way... it is time to heed their voices, reward their knowledge and respect their rights." [3] This lecture will share the story of how IUHPE has been co-operating with its Indigenous members and other collaborators to centralise planetary health in its strategic direction and core activities. By embracing science and Indigenous knowledge with a complementary approach, IUHPE can contribute to discourses, initiatives and charters that inform policies, such as the Geneva Charter for Well-being, promulgated by the World Health Organization (WHO) [4], and working closing with WHO and others to translate into policies and actions. Additionally, the lecture will discuss lessons learnt from the convergence of at least four global challenges that are confronting our global village – geo-political conflicts, economic crises, environmental catastrophes, and pandemics. Further, it will explore new thinking and actions that can help us thrive our post-Covid reality: that we are a one human family on a one common home, with a choice to collaborate and flourish together or continue to fight and perish together.

[1] Waiora is a concept within the knowledge systems of Maori, the Indigenous peoples of Aotearoa, New Zealand. It refers to elements of the environment. Read more on the link in 2 below.

[2] IUHPE (2019) Waiora Indigenous Peoples' Statement. Retrieved June 14, 2023, [https://www.iuhpe.org/images/CONFERENCE/world/2019/Indigenous People statement final.pdf](https://www.iuhpe.org/images/CONFERENCE/world/2019/Indigenous%20People%20statement%20final.pdf)

[3] UN Secretary General Antonio Guterres (2020), State of the Planet Address [4] World Health Organization (2021) Geneva Charter for Well-being. Retrieved June 14, 2023 <https://www.who.int/publications/m/item/the-geneva-charter-for-well-being>

#### Contact:

TU'ITAHİ Sione  
Executive Director, Health Promotion Forum of New Zealand  
Global President, IUHPE  
NEW ZEALAND  
[sione@hauora.co.nz](mailto:sione@hauora.co.nz)

## Greening the Healthcare Sector – Essentials and Tools for Climate-friendly and Health-promoting Healthcare Facilities in AUSTRIA

#### LICHENECKER Ruperta

Climate change is the greatest health threat of the 21st century and the consequential costs of the climate crisis are the highest in the health sector. In AUSTRIA, the healthcare sector is responsible for approximately 7% of the overall carbon footprint. Therefore, there is an urgent need to take action to decarbonize the healthcare sector. Surveys and experience show considerable interest in healthcare facilities in implementing climate protection measures and reducing greenhouse gas emissions. However, there is often a lack of information and practical support within healthcare facilities. The project focuses on the co-benefits of climate action, which are in many cases also health-promoting measures. The Competence Centre Climate and Health of the Austrian National Public Health Institute (GÖG) therefore developed the project "Climate-friendly Healthcare Facilities", which aims to support healthcare facilities in becoming climate-friendly and health-promoting to provide them with the necessary expertise and support. The healthcare facilities are supported by experts who, together with them, develop an individual climate action plan including goals and measures. The action plans cover buildings, energy, green areas, purchasing, mobility, resource and waste management, food system, etc. and also show the health-promoting effects of climate protection measures. Additionally, other projects by the Competence Centre Climate and Health emerged from this project and support AUSTRIA's aim in making the healthcare sector more climate-friendly and thus also health-promoting. "Climate Manager Training" was developed to train qualified climate and health experts and enable them to take a leading role in supporting healthcare facilities on the way to climate neutrality. The "Best Practice Award for climate-friendly healthcare facilities" is a project that aims to bring best-practice projects of climate change mitigation in the healthcare sector to the forefront by initiating an award and identifying innovative pioneer projects. "Contribution to health promotion" represents primary evaluation criteria for selecting the award-winning projects. In addition, the Competence Centre also developed a "Strategy for a Climate Neutral Healthcare System", which helps health services reduce their emissions, optimise their efficiency and environmental performance, to significantly promote the transformation to climate neutrality on a broad basis.

#### Contact:

LICHENECKER Ruperta  
Gesundheit Österreich GmbH [Austrian National Public Health Institute]  
AUSTRIA  
[ruperta.lichtenecker@goeg.at](mailto:ruperta.lichtenecker@goeg.at)

## Good Practice Finland – Climate Change Adaptation Plan and Sustainable Healthcare

### MERILÄINEN Päivi

Climate change is projected to increase health risks all across the world and especially in developing countries. Climate change may affect the functioning and operational reliability of healthcare also in Finland. Risk prevention requires healthcare and social welfare to prepare for and adapt to changes in a timely fashion. The Climate Change Adaptation Plan for the healthcare and social welfare sector, extending until 2031, may be used as an asset in these efforts. Although the effects of climate change extend over a long time horizon, they are already visible to a certain extent. Consequently, alongside curbing emissions it is vital also that adaptation measures be launched now rather than later. Well placed in terms of both climate and economy, Finland as a developed society is fully capable of accomplishing this. Systematic adaptation nonetheless calls for an adequate knowledge base. The Adaptation Plan provides a foundation for initiating systematic adaptation, increasing risk awareness and safeguarding the functioning of healthcare and social welfare also in the future. The focus in the Adaptation Plan is on health protection and the adaptation of healthcare. The Adaptation Plan seeks to assess the current state of adaptation in Finland and the structures supporting it and to identify existing and new adaptation measures in the health and wellbeing sector. Designed to serve as a practical tool, the Adaptation Plan will add to the volume of guidelines relating to climate change in the healthcare and social welfare sector

**Contact:**

MERILÄINEN Päivi

Finnish Institute for Health and Welfare (THL)

FINLAND

[paivi.merilainen@thl.fi](mailto:paivi.merilainen@thl.fi)

## Plenary 3: Empowering Patients, Families and Communities for Times of Crises and Beyond

### Co-Production and Community Participation in Response to Crises

#### RÖHL Claas

Rare diseases are often complex, multi systemic disorders that are challenging to manage. Only about 5% of rare diseases have approved treatments available. Access to information, diagnosis and access to expert care is often limited. Patients and caregivers can quickly feel lost and left alone while they are often dealing with different crisis situations caused by their rare disease. Out of these many unmet needs NF Kinder was founded in December 2013. NF Kinder is a patient organization dedicated to improve the lives of people who are affected by Neurofibromatosis, through improving dedicated health care services in the intramural and extramural sector, and by offering services and support directly through the patient organization. NF Kinder views itself as a part of the Austrian health care system for NF patients and seeks collaborations with relevant stakeholders to fulfill their mission. In the past 9 years, NF Kinder was able to close several gaps in the NF specific health care in AUSTRIA and initiated and funded health services, psychosocial services, educational programs and research activities. Claas Röhl will talk about important milestones of his patient organization and the importance of patient involvement in healthcare.

#### Contact:

RÖHL Claas  
Chair, NF Kinder  
AUSTRIA  
[claas.roehl@nfkinder.at](mailto:claas.roehl@nfkinder.at)

### The Role of Empathy in Healthcare

#### WARD Andy

Lack of empathy reduces patient satisfaction with care and is a major cause of complaints. Meanwhile, studies show that enhanced empathy reduces patient pain and increases quality of life while improving practitioner wellbeing. Therapeutic empathy involves three key features: understanding what a disease means to a patient; communicating that understanding; and acting on that shared understanding in a helpful way. Being really listened to and actually being heard is at the heart of empathic communication and its effects are truly transformative. Systematic reviews have demonstrated that there is variation in empathy between healthcare practitioners, that empathy can be taught, and that enhanced empathy improves patient outcomes. Despite this, empathy has been shown to decline in medical students as they progress through their training. Dr Andy Ward will explain these studies and set out the transformative vision for the future of healthcare being developed at the Stoneygate Centre for Empathic Healthcare. A vision in which healthcare systems breed empathy and medical students' empathy increases throughout medical school.

#### Contact:

WARD Andy  
Leicester Medical School. College of Life Sciences  
UNITED KINGDOM  
[aw139@leicester.ac.uk](mailto:aw139@leicester.ac.uk)

### The Role of Health Literacy for Empowering People and Organizations in the Post-Covid, AI Era and Beyond – New Frontiers for Measurement, Action and Policy

#### LEVIN-ZAMIR Diane

Health literacy is now considered a strong social determinant of health and an important vehicle to empower people and organizations for health promotion on all levels. Health literacy is strongly associated with how people use preventive services, lead their lifestyle, and consume primary care and tertiary health services. As the COVID-19 pandemic approached and certainly beyond, the introduction of virtual/digital resources for health opened up new opportunities for bringing health information and resources to the public while also adding the potential risk of creating health disparities. Thus, it is incumbent upon health promoting hospitals and health services to focus attention on this significant aspect of health promotion. Firstly, measuring general and digital health literacy through national surveys on the population level gives an understanding of what the needs are of the general population of special groups. The results of the WHO Action Network for Measuring Population and Organizational Health Literacy (M-POHL) HLS19 survey conducted in 17 countries showed us not only what the status of general and digital health literacy (DHL) is in countries, but also who are the most vulnerable among us with limited health literacy, and in what contexts. This feeds and leads directly into the area of Organizational Health Literacy, also promoted in the M-POHL network by creating and piloting tools for self-assessment and planning for action and policy among hospitals, primary care health services and health systems in general. Finally, the consequences of all that has been learned to date regarding health literacy in all of its facets and its importance, will be explored vis-à-vis new global developments, such as CHATGPT the continued digitalization of healthcare services and other AI innovation on the horizon. Interventions for improving critical DHL literacy skills and access to digital technology, paralleled with capacity building of organizations/systems to provide trustworthy and appropriate digital resources, to accommodate people with a range of digital health skills, will be highlighted.

#### Contact:

LEVIN-ZAMIR Diane  
Clalit Health Services  
ISRAEL  
[diane@clalit.org.il](mailto:diane@clalit.org.il)

## Plenary 4: Primary Health Care – Hospital Partnerships as Drivers of Public Health

### Family Physician Integrated Care System in Taiwan: The Community Healthcare Group (CHCG), a Collaborative Model Between PHC and Hospitals for High Quality Community Healthcare

**CHANG Brian**

The “integrated care plan through CHCG” was demonstrated since 2003. A CHCG is composed of 5 to 10 GPs, in which half of them are specialized in family medicine. Each CHCG enrolled members in the neighborhood and provided them with continuous and comprehensive care, such as health promotion (24-hr consultation, screening), disease prevention (vaccination), disease care, and 2-way referral between the clinic and hospital. CHCGs improved their care quality through continuous health education and survey of patients’ satisfaction. Until 2022, the Family Physician Integrated Care Plan (FPICP) has covered near one-fourth of Taiwan population, 46.3% of primary care physicians and 53.5% of community hospitals and clinics joined to form 609 CHCGs in six national health insurance regions. Revision of NHI law in 2011 declared to advance “Family Physician Accountable Care” in order to improve preventive medicine, patient referral, care quality, and doctor patient relationship. Taiwan Association of Family Medicine has made recommendations on payment, action plans, outcome measurements, and continue health education. Geriatric care, hospice, and medical futility are all included in the context of the care plan trying to tackle the future challenges. During the COVID pandemic, the CHCGs was the pioneers to provide vaccination, fast screening, digital healthcare for diagnosis and treatment, and home care for the mild cases. Collaboration between primary healthcare and hospitals showed great achievements in both disease control and public health. To strength primary healthcare could improve health quality, reduce care costs, have better health outcomes, and reduce health disparities. Taiwan’s experience gives a good model in response to WHO’s call for primary health care. More studies on performance and outcome to maintain continuous improvement are a future challenge.

**Contact:**  
CHANG Brian  
Honorary Treasurer of WONCA  
Director of Taiwan Association of Family Medicine, TAIWAN  
[susibrian@gmail.com](mailto:susibrian@gmail.com)

### Future Cooperation of PHC and Hospitals through Telemedicine and Digital Solutions

**STUMMER Florian**

In this digital era, the synergy of PHC and hospital-based care through telemedicine and digital solutions is indispensable. Large Language Models (LLMs), such as GPT-3, have great potential to foster this cooperation. LLMs, with their vast knowledge base and natural language processing capabilities, can play a pivotal role in bridging the information gap between PHCs and hospitals, enabling effective knowledge transfer, streamlined communication, and data-driven decision-making. The presentation will introduce the role of LLMs in healthcare, highlighting how they can help interpret and organize vast amounts of patient data, enabling precise diagnoses and personalized treatment plans. They can support real-time language translation, enhancing communication across diverse patient populations and healthcare providers. Additionally, LLMs can assist with triaging, symptom checking, medication guidance, and follow-up, reducing the load on healthcare professionals and expediting patient care. However, the challenges and ethical considerations in implementing LLMs, emphasize the need for rigorous validation, user privacy, and algorithmic transparency. Major reorganisation of the Austrian healthcare system is needed to benefit from these developments and keep up the high quality of healthcare services.

**Contact:**  
STUMMER Florian  
Medical University of Vienna, AUSTRIA  
[florian.stummer@meduniwien.ac.at](mailto:florian.stummer@meduniwien.ac.at)

### The Integration of Social Determinants in Future Health Care – Social Prescribing

**COSTONGS Caroline**

Our health systems are currently unsustainable. As demands continue to grow, health system actors are struggling to deliver quality services for everyone. To effectively meet the challenge, health systems must undergo fundamental transformations. These include adopting wider systems and community health approaches, addressing the social determinants of health, changing economic incentives, addressing overtreatment and low value in health care, and prioritising robust health promotion and disease prevention programming. Health systems that cooperate with a wider set of locally available and accessible services, such as social, cultural, educational or nature-based services, have the potential to enhance the quality of life of people facing vulnerability and to improve population health and wellbeing at large. Social prescribing can be a helpful tool to facilitate cooperation across services, as it recognizes the interconnectedness of health, wellbeing and the social determinants of health and supports actions to link people with complex needs to non-medical support in the community. Existing initiatives as well as research on social prescribing demonstrate the heterogeneity of social prescribing practices as well as the various challenges, opportunities and recommendations for the ways forward. Overall, we should foster an environment of social innovation and leadership in the transition towards resilient, health-promoting health systems, where people (health professionals, patients as well as the wider public) feel supported to maintain and improve their health. The potential benefits to society will be considerable.

**Contact:**  
COSTONGS Caroline  
EuroHealthNet  
[c.costongs@eurohealthnet.eu](mailto:c.costongs@eurohealthnet.eu)

## **Plenary 5: Health Promotion as a Pillar of Well-Being-Oriented Health Care**

### **Well-being Society and the Role of Healthcare**

#### **KICKBUSCH Ilona**

We need to envisage the role of the hospital in a society committed to wellbeing and within a health care system committed to promoting health. We are still very far from that and the pressure for change is mounting. Social inequality, climate change, fiscal pressures and the digital transformation are further exacerbating a sense of crisis that health systems can no longer deliver based solely on medical ethics and priorities – especially for the most vulnerable, but also for society as a whole. The presentation will reflect on the ethics of wellbeing and what it means for generating health and for the institutions and organization that are created to support a society that prioritizes caring, flourishing and wellbeing.

**Contact:**

KICKBUSCH Ilona

Graduate Institute of International and Development Studies

SWITZERLAND

[kickbusch@bluewin.ch](mailto:kickbusch@bluewin.ch)

## Oral session 1.1: WORKSHOP: The health destroyed by war - The best prescription is peace

**Chairs: OKABE Toshihiko, OHNO Giichiro**

### Background and objective

Background and Purpose: War destroys life and dignity of human. The victims are always children, female and elder people. War destroys medical system, steals the right of taking medical care and wastes years all effort of health promotions. War is the worst SDH. This symposium reveals actual damage by war, medical relief for victims, hardness of solution under conflict and the best medicine is stopping the war. Keynote reports: Dr M. Ciesielska, first symposiast, reports medial support activity for Ukraine Refugee in Poland and shows analysis of health problems. Dr Y. Nekozuka, second symposiast, presents action of medical support in Gaza, Palestine showing how the society faces existential crisis. Dr Y. Takei adds a short comment about difficulty of medical support for conflict area of Asia and Africa from own experiences. Health problem is one of the most serious problems for war victims. It is not only physical but also mental insufficiency. Farther more wearing infrastructure and tearing society off make hard to continue human life, with hopeless no one knowing when the war will end. Third symposiast is Dr T. Wong to present a nuclear bomb in Hiroshima. The explosion caused huge damage in an instant but also needs an endless medical care of Hibakusha that second and third generations suffer from harm of radiation even 78 years after explosion. We can reach the best medicine is stopping war, as understanding the enormous health destruction and difficulty of medical care for war victims. Discussion: We talk together what we, medical persons of hospital, can engage for blocking war. Dr A. Mukoyama makes a short report of a doctor acting for nuclear bomb banning. It is not welcomed nor need to criticize specific countries in this symposium. We are sure that banning war disturbing health promotions will become a common understanding of all medical stuff of all nations including countries carrying on war.

### Contact:

OHNO Giichiro  
Hokkaido Teuri Clinic  
JAPAN  
[oonog@nifty.com](mailto:oonog@nifty.com)

## The current situation of refugees and experiences of medical support activities in Palestine and Afghanistan

**NEKOZUKA Yoshio**

### Background and objective

The number of Palestinian refugees since 1948 has already exceeded 6.39 million. In the West Bank and East Jerusalem, the expansion of settlements in violation of international law has increased poverty and health problems. Since 2017, the Gaza Strip, which has a population of 2 million, has been completely blocked by Israel and continues to this day. Under these

circumstances, we have been continuing our medical support activities since 2011. We also conducted medical activities in Afghanistan in February this year.

### Methods/intervention

To report on living and health conditions in these districts and medical assistance activities.

### Results

1. Under military occupation, the refugee camps in the West Bank and East Jerusalem, where a 650km long separation wall has been built, are experiencing environmental deterioration, poverty and limited access to medical care. We have examined low back and knee diseases associated with obesity. Most of them were treated conservatively. 2. In the Gaza, which has been in complete blockade for 16 years, environmental pollution is progressing and residents have a strong sense of mental oppression. At the time of the military invasion, 500 to 2,500 people were killed. More than 1,500 people were amputated due to gunshot wounds during border protests demanding repatriation in 2018. Lumbar spine and knee joint disease are common in musculoskeletal diseases, and the refugee camp clinic provides prevention and treatment centering on rehabilitation for these diseases. 3. In this February, I visited Afghanistan under the Taliban interim government and provided medical care for musculoskeletal diseases in southern Kandahar.

### Conclusions/lessons learned

It is of very importance to avoid war itself to prevent the casualties of civilians under military control in Palestine and soldiers and civilians under war in Afghanistan. These regions also need urgent and multifaceted international assistance.

### Contact:

NEKOZUKA Yoshio  
The Department of Orthopedic Surgery Hokkaido Kin-ikyō  
Sapporo Hospital  
JAPAN  
[y.nekozuka@gmail.com](mailto:y.nekozuka@gmail.com)

## Health Care Organization in Poland for Ukrainian Refugees. Organization of medical care in the first days of the war in Ukraine. Family doctor's own experience

**CIESIELSKA Maria**

### Background and objective

Poland is witnessing a migration crisis caused by the ongoing war in Ukraine. By 10 February 2023, almost 10 million refugees have crossed the Polish border. Many of them needed medical care, especially for people with chronic health conditions, pregnant women, newborns, and wounded ones. Health care for refugees from Ukraine is provided in Poland on the basis of the European Union Council Implementing Decision (EU) 2022/382 of 4 March 2022 and the Act of 12 March 2022 on assistance to Ukrainian citizens in connection with the conflict of armed forces in that country. The aforementioned act grants the right to medical care provided in Poland to citizens of Ukraine, their spouses, and children who came to Poland after 24 February 2022.

### Methods/intervention

A literature review on the functioning of health care systems during the migration crises in Poland in 2022/2023 and a doctor's own experience of the Ukrainian refugee crisis during the first days of the conflict in one of the Refugee Centers in Warsaw.

### Results

According to Artur Prusaczyk et al. the crisis situation revealed the strengths and weaknesses of the medical services in Poland in different aspects: preparation of medical facilities to provide help for refugee development and implementation of the communication system, implementation of available digital solutions, organization of the diagnostic and medical services, and implementation of changes in the management of medical facilities.

### Conclusions/lessons learned

Refugees are medically and socially vulnerable. The provision of medical care for them brings not only organizational but also ethical challenges. Attention should be paid to their health needs but also their personal resilience. The challenge is each time to maintain consistency between the theoretical models of response and the practice of actions.

#### Contact:

CIESIELSKA Maria  
Indywidualna Praktyka Lekarska dr n. med. Przemysław Ciesielski  
POLAND  
[drmariaciesielska@gmail.com](mailto:drmariaciesielska@gmail.com)

## HIBAKUSHA (A-bomb survivors) medical care – The damage to health from the atomic bomb continues to this day, 78 years after the bombing

### MINAMOTO Isamu, SAKURASHITA Miki

#### Contact:

MINAMOTO Isamu  
Hiroshima Kyoritsu Hospital  
JAPAN

## Experience of seeing patients under conflicts in Africa and Asia

### TAKEI Yayoi

My first mission abroad was in a health center in southern Ethiopia about 30 years ago when the civil war was nearly coming to an end. The health center had usually received medicines from European countries by shipping. However its fierce conflict between rebels and the army in northern area obstructed all transportation. Our health center situated in the north far away from the site of the war already run out some of essential medicines. One day a young epileptic patient came on foot taking a few days from his village to get Phenobarbital which we had already finished. I offered Phenytoin instead which was still remained in stock. But he said he had tried Phenytoin before and found it not effective. As there was no other choice I persuaded him to take and try that. In a few days he came back on foot again saying Phenytoin was not working. That means that he had a

terrific convulsion at home. However we had no alternative. Only thing we could do was watching his back going home sobbing. Ten years later in 2000, East Timor, I was working in a makeshift clinic using a school escaped from arson by militia backed by the Indonesian army. Health posts that used to provide minimum medicine were all burnt. Many patients with malaria walked in the clinic from villages some 10 km away. They left the villages around 4 or 5 am when it was still cool. Our clinic starts at 8am when temperature already became around 30 °C. Almost patients with high fever and dehydration fell down on chairs. After taking the first dose of Antimalaria medicine and sip of water, they started standing and going back home on foot without receiving any antipyretic which was running out. I was amazed by their physical strength. Sadly we did not see any of elder patients. Without conflict, basic and minimum medical care could be somehow maintained even in those countries on the way to develop. However once conflict starts all these access to health care is destroyed and the sick, elder are affected badly.

#### Contact:

TAKEI Yayoi  
Yoichi Kyokai Byoin  
JAPAN  
[marchafrica@yahoo.co.jp](mailto:marchafrica@yahoo.co.jp)

## Physicians against Nuclear war

### MUKOYAMA Arata

On August 6, 1945, an atomic bomb was dropped on Hiroshima, and on August 9, 1945, an atomic bomb was dropped on Nagasaki. 8,000-degree heat rays burned skin and shock waves crushed cities and people. Radiation penetrated the human body. Hibakusha lost their families, homes, and possessions in an instant, and 77 years later, they are still suffering from the aftereffects of the atomic bombings (atomic bomb sickness). Malignant tumors are more frequent, and thyroid disease, cardiovascular disease, and liver dysfunction are on the rise. Once nuclear weapons are used, there is nothing we can do to save human lives. Medical facilities will be destroyed by the heat rays and blasts, and we, as medical professionals, will be damaged and completely helpless. Any outside assistance will be blocked by residual radiation. In addition, the dust from the nuclear explosion will cover the world and block sunlight, and nuclear starvation will plunge humanity into crisis. As medical professionals, we believe that the only way to protect human life from nuclear weapons is to abolish them. Physicians around the world are working for the abolition of nuclear weapons; IPPNW (International Physicians for the Prevention of Nuclear War) was formed in 1980, during the Cold War, by cardiologists in the United States and the Soviet Union. The organization was awarded the Nobel Peace Prize in recognition of its contributions to disarmament by appealing to the public about the danger of nuclear war and encouraging governments to prevent nuclear war. In Japan, PANW (Physicians Against Nuclear Weapons) is also active in support of IPPNW's objectives. The Nuclear Weapons Convention is adopted by 122 countries December 2019. Ratification by 50 countries is achieved October 2020, and the treaty entered into force on January 22, 2021, with 68 countries having ratified it.

#### Contact:

MUKOYAMA Arata  
JAPAN  
[arata\\_m@mac.com](mailto:arata_m@mac.com)

## Oral session 1.2: Salutogenic, safe and healthy workplace

**Health Workers' Health Promotion Program, or what a health-promoting hospital can do for its staff. A Hungarian central county hospital example.**

**SZÖRÉNYINÉ VÁNYI Gabriella, MOIZS Mariann**

### Background and objective

Hungary's first hospital health promotion office started operations in 2008 at the Moritz Kaposi General Hospital. It has launched several unique programs in the field of community and individual health promotion. Its work has served as an example of good practice for developing a network of health promotion offices in Hungary. The health and mental health of healthcare workers is poor, according to national and international surveys, and they are exposed to various risks due to their job. Therefore, the Prevention and Health Promotion Office has launched a unique program to improve hospital workers' health.

### Methods/intervention

The presentation will briefly present the programs and achievements of the Health Promotion Office, focusing on the Hospital Workplace Health Promotion Program. Instead of campaign-like interventions, a comprehensive and complex program has been launched involving all hospital employees. It is based on compulsory occupational health. In addition to the mandatory examinations, employees are offered recommendations for age- and risk-appropriate public health screening, other screening tests, and lifestyle changes.

### Results

In the pilot phase of the new program, 800 of the 2200 employees participated in the program. Colorectal cancer screening was organized for 600 workers, and a program for early skin cancer detection for nearly 550 workers. The company doctor offered more than 1000 additional screenings and tests. In the program's first quarter, 2 colorectal cancers, 1 breast tumor, and 2 melanomas were detected early among workers.

### Conclusions/lessons learned

The program ensures equal opportunities and access for all hospital staff. They will receive help with the early detection of certain cancers and other diseases of public health significance and support to participate in lifestyle programs.

### Contact:

SZÖRÉNYINÉ VÁNYI Gabriella  
Moritz Kaposi General Hospital  
HUNGARY  
[szorenyine@kmmk.hu](mailto:szorenyine@kmmk.hu)

**New integrated stress management strategies for medically unexplained symptoms reduction through lifestyle and circadianity**

**AGUZZOLI Cristina, ANNUNZIATA Antonietta, DEL GIUDICE Pietro, LARDIERI Gerardina, PORTOLAN Patrizia, RONCHESE Federico, RUSSIAN Stefano, CAPUTO Tiziana, CAVALLARI Stefania, CORTESE Vito, RISI Marina, DEL ZOTTO Stefania, LUGANO Manuela, ANDREATTI Maurizio, BESTIACO Nicoletta, DUDINE Luisa, VELLA Filomena, MOTTICA Michela, CELEBRE Cinzia**

### Background and objective

During the first COVID-19 pandemic phase, in 2020, our network (6 HPH members) started an improvement plan linked to the Standard HPH n°4 in order to improve resilience of the healthcare workers. The project results gave us the basis for the next extension to the period 2023-2024. The impact is on the whole setting, but in this paper we focus the individual level and in particular the new technology adopted to measure objectively chronic stress impact on mind and body and to enhance the healing skills of the endogenous self regulator network.

### Methods/intervention

The presence of Medically Unexplained Symptoms MUS (<https://mus.global/>) represent a significant alteration of inflammatory parameters stress related. In June 2020 we made a survey about the prevalence of MUS in healthcare workers. We found that 97 % of healthworkers had this symptoms. In July 2020 we offered, to a sample of voluntary (85 healthworkers), 3 follow up in order to recovery pshychophysical weelbeing. We used two non-invasive diagnostic tools: 1) to detect in a precise, fast and repeatable way, the impact of stress and inflammation on the body composition; 2) to study the autonomous regulations of the nervous system facing endogenous and exogenous influence. At the end of the each follow up, a multiprofessional team of physicians and psychologists, driven the healthcare workers in a self empowerment process about circadian lifestyles and through breathing resonance biofeedback.

### Results

We observed decreasing trend of symptoms MUS and of Distress symptoms; decreasing trend of IMAT (IntraMuscular Adipose Tissue); reduction of perceived stress at the level of the prefrontal cortex. The preliminary data of the pilot study 2022-2023 (300 healthcare workers), are confirming the trend.

### Conclusions/lessons learned

In addition to the the health surveillance activities established by law to eliminate the exogenous risk factors connected to the work, we're going to consolidate a self empowerment service, on the side of endogenous protection factors against stress. This change in the paradigm of self care will be the tool to transfer empowerment also to the patients.



**Contact:**

AGUZZOLI Cristina  
Azienda Regionale di Coordinamento per la Salute ARCS-  
Regional Company for Coord, ITALY  
[cristina.aguzzoli@arcs.sanita.fvg.it](mailto:cristina.aguzzoli@arcs.sanita.fvg.it)

## How healthcare clowns can contribute to more supportive hospital environments: RED NOSES Healthcare Programme Evaluation

**DE FAVERI Silvia**

### Background and objective

RED NOSES International is an artistic and humanitarian organization engaging with different vulnerable groups through the art of clowning. Recently RED NOSES carried out a Healthcare Programme Evaluation which examines how the relationships between RED NOSES and its healthcare partners have developed, and how they are perceived by healthcare staff.

### Methods/intervention

The evaluation was conducted in 2021 and followed a mixed-method approach. A brief survey was distributed to a random sample of hospital wards where RED NOSES works, for a total of 729 surveys from 10 countries. At the same time, two case studies were conducted in German and Jordan, and a series of focus groups and interviews were held with RED NOSES team members and external experts to explore the qualitative aspects of hospital partnerships.

### Results

558 (or 76,5%) healthcare staff who took the survey agreed that as a result of clown visits, the atmosphere in their unit improves. Around 60% stated that they find it is easier to treat patients when clowns visit the hospital. The statement "As a result of clown visits, I work better with other healthcare staff" received the lowest level of agreement. Respondents who had been trained in humour in healthcare workshops were more likely to agree with the statements. The question "During an emergency situation, do you think clowns should be considered essential workers as part of the healthcare team?" received mixed responses. Around one-third answered yes (36%), most respondents weren't sure (43%), and a minority answered no (21%), confirming the different opinions among partners on the role of healthcare clowns.

### Conclusions/lessons learned

Based on the results of the evaluation, a Partnership Compass was developed to provide a common understanding of what makes partnerships between RED NOSES and healthcare institutions successful and how these can be further developed. Some recommendations of the evaluation are to work on better defining and communicating the role of clowns in hospitals, and co-create more opportunities for clowns to support the healthcare partners, especially in more acute and stressful situations.

**Contact:**

DE FAVERI Silvia  
RED NOSES International,  
AUSTRIA  
[silvia.de-faveri@rednoses.eu](mailto:silvia.de-faveri@rednoses.eu)

## The HPH Catalan Network commitment on health promotion for professionals in healthy and sustainable centers (SOD 3)

**INIELTA Cristina, PÉREZ Anna-Carol, FERNÁNDEZ-AGUILERA Mònica, IBAÑEZ Rocío, CARBONELL Silvia, JUVINYÀ Dolors, VICENTE Mireia, SANTIÑÀ Manel**

### Background and objective

The COVID-19 pandemic has generated very complex situations with a high emotional impact for health professionals, highlighting the importance of reinforcing and integrating health promotion comprehensive programs to improve emotional and physical well-being.

### Methods/intervention

The health promotion group of Catalan Network for professionals, which is oriented towards to develop tools and methodology, in order to find out which members had already implemented comprehensive physical and mental wellness programs, we designed a questionnaire to collect experiences of good practices and health promotion actions with these issues:

- Target group of the professional
- Dimensions (well-being, diet, physical activity, communication, information)
- Implementation over time, how long has this practice been in place?
- Evaluation carried out to assess the success of the action. With the information obtained, we develop different communication actions to share good practices.

### Results

1. Results of the Questionnaire: Fifty percent of the members of the Catalan HPH Network have comprehensive health promotion programmes; All members carry out different activities aimed at caring for the health of professionals.
2. Training and communication best practices: In order to share best practices, we have conducted an annual webinar from 2021 to the present. "Health Promotion oriented to the health of the professional: Good practices" (October 2021); "Good practices in a healthy work environment and experiences of the HPH Catalan" (June 2022)
3. Participation in the Spanish Society of Healthcare Quality Conference (October 2022) promoting the health of professionals.

### Conclusions/lessons learned

The Catalan Network recommends:

- To design of comprehensive programmes for emotional and physical well-being.
- To identify the groups of professionals or services that require a higher intensity of activity. The health of professionals is key to ensuring the smooth functioning of the health system.

**Contact:**

SANTIÑÀ Manel  
Institut d'Investigacions Biomèdiques August Pi i Sunyer  
SPAIN  
[msantinya@hotmail.com](mailto:msantinya@hotmail.com)

## Oral session 1.3: Promoting health for vulnerable groups I

### Tackle Your Obesity immediately -- A Successful Health Promotion Campaign in a Medical Center

WU Yi-Chen, LIN Yu-Chen, JHU Yi-An, CHANG I-Wen, LO Ya-Wen, HUANG Tsz-Huei

#### Background and objective

Obesity is a chronic disease, that presents a risk to health. The relation between obesity and eight of top ten causes of death in Taiwan. Additionally, studies have shown it to be a risk factor for severe COVID-19 infection and easy hospitalization. The analysis of the hospital staff health examination results in 2021 showed that the first abnormality was BMI  $\geq 24$ , the second was total cholesterol over 200 mg/dl. In addition, the third was the excessive circumference of the waist ( $\geq 90$  cm in men,  $\geq 80$  cm in women). The staff accounting for 37.85%, 22.85%, and 27% respectively. Therefore, hospital started this health promotion campaign for our staff in 2022. The purpose of this 8-weeks campaign was to present three main aspects: healthy diet, healthy lost weight, and healthy lifestyle.

#### Methods/intervention

There were two competitions, "Weight Loss Competition" and "Points Race", which all participants could choose one or both. In addition, all participants could join in our official account on LINE, especially for this campaign, in which participants could upload their before/after photos or record healthy diet and daily steps. Our nurses in Occupational Safety & Health Office provided personalized monitor for one by one replied immediately and encouraged them via the line group.

#### Results

The total number of participants in this campaign was 844 persons. The staff with the metabolic syndrome or BMI  $\geq 24$  participated in this campaign were accounted for 57.4% of all participants. The total of 839.7 kg was lost in this campaign and the average weight loss was 2.34 kg per participant. The top three individuals lost weight of 17.3 kg, 16.1 kg, and 15.5 kg. The average weight of participants before was 69.8 kg (SD=15.1), the average weight of participants after was 67.5 kg (SD=13.82), which decreased 2.34 kg after eight weeks. (SD=3.31), a decrease of 0.28%. The average BMI before was 26.3 kg/m<sup>2</sup> (SD=4.31), and dropped to 25.4 kg/m<sup>2</sup> (SD=3.95) after this activity, a decrease of 0.28%.

#### Conclusions/lessons learned

The discount on E-BOXs helps participants continue eating healthy. The exclusive LINE group played a powerful support function giving for one by one services. The results of this event questionnaire showed that the satisfaction rate for whole event was 93%.

#### Contact:

LIN YU-CHEN  
China Medical University Hospital  
TAIWAN  
[s9004630220@gmail.com](mailto:s9004630220@gmail.com)

## Fight against the epidemic of COVID-19 - The epidemic prevention deployment and employee care in a medical center

WU Yi-Chen, YANG Li-Hui, CHANG I-Wen, JHU Yi-An, LO Ya-Wen, LIN Yu-Chen, HUANG Tsz-Huei

#### Background and objective

China Medical University Hospital(CMUH), a medical center in central Taiwan, firmly believes that staffs are the cornerstone of the hospital's sustainable development. CMUH have obtained the certificate of ISO 45001, and provided employees with a high-quality, safe and friendly working environment. In response to the COVID-19 epidemic, CMUH has fully cooperated with the national epidemic prevention measures, updated and rolled-out personnel movement control measures in real time.

#### Methods/intervention

Since the beginning of the epidemic, the hospital has adjusted the epidemic prevention measures on a rolling basis, and hospital staffs can quickly grasp the latest national policies and epidemic regulations via the staff exclusive App. In addition, multiple staff vaccination sessions have been set up, and the App was used to push messages to staffs, providing links to quickly make appointments for vaccinations. The epidemic was urgent in Taiwan in 2022. In order to report quickly, the infected staffs filled out the notification form online. In order to take care of infected staffs, the hospital distributed "care packages", including alcohol wipes, hand sanitizer, COVID-19 test, etc. In addition, 2,000 NT dollars was allocated to express the hospital's condolences. The OSH nurses contacted infected staffs by phone to provide health education consultation and to care about their physical recovery and work status while they return to work.

#### Results

As of June 2022, the number of people who have installed and used the staff exclusive App reached to 5,201, and the hospital-wide coverage rate was 97.98%. In August 2022, the 3rd vaccination rate for employees, outsourcers, and volunteers was 97.7%. In addition, the fourth dose of vaccination for employees began in May 2022, in order to achieve the maximum benefit of epidemic prevention. From April to August 2022, the number of telephone care reached 4,367 calls, 1,876 care packages were distributed, and notification and care continued uninterrupted.

#### Conclusions/lessons learned

The epidemic prevention deployment created a healthy, safe, and caring working environment, so that hospital staffs can stick to the front line, fight against the epidemic fearlessly together.

#### Contact:

WU Yi-Chen  
China Medical University Hospital  
TAIWAN  
[janewu@mail.cmuh.org.tw](mailto:janewu@mail.cmuh.org.tw)

## Cultural competency as a way to promote the health of patients and hospital staff

**SHATKANI Tal, KRAUS-DORON Nurit, FRUM Etti, HAKER Zipi, YONA Yael, SHALOMON Inbal, KURI Ihab, ZHAGON Orna, YAMINY Liraz, GRANAT Adi**

### Background and objective

The Loewenstein Rehabilitation Medical Center is a symbol for multiculturalism. The community of patients and workers is heterogeneous consisting of groups that differ among themselves in religion, culture and language. Each group has a unique character in tradition and lifestyle, as well as in the perception of health and disease states. Also the existence of cognitive biases and stereotypes towards certain populations is a source of challenge in providing service. And hence it is necessary to invest in activities and processes for the safety and the quality of care as a health promoting center. In order to establish tailored targeted interventions we made a survey. The purposes of the survey were: Review of attitudes among employees regarding cultural diversity in relation to employees and patients, mapping the current situation regarding linguistic accessibility, establishing a work program according to the survey findings

### Methods/intervention

The sample included 192 rehabilitation unit staff members. The employees filled out a self-completion questionnaire. The questionnaire was built based on previous questionnaires from the Intercultural Center in Jerusalem. The questionnaire included statements on topics such as: coping with intercultural relations between staff members and patients, linguistic accessibility, and suggestions for activities for multicultural harmony. we created the questionnaire in several languages (Hebrew, Arabic, Russian and Amharic).

### Results

The findings indicated that there are few dilemmas regarding cultural diversity among the medical staff towards the patients, as well as almost no dilemmas were found, on a multicultural background, among the staff members themselves. Despite a few dilemmas, if a dilemma arises, the majority stated that they do not have ways to cope with it, nor do they know who they should turn to. The current survey highlights the significant effects that language differences have on the provision of medical services to patients as well as on the relationships between staff members

### Conclusions/lessons learned

Following the findings we formed multi-sectoral and multicultural committee. An annual work plan was drawn up in accordance with the findings of the survey. Regarding the assimilation of a multi-faceted organizational culture, we celebrated for the first time the Sigid holiday in which all members of the Ethiopian community were involved. This year there were proactive requests from the medical center staff to raise ethical dilemmas on a multicultural background to the Ethics Committee

### Contact:

GRANAT Adi  
Loewenstein Rehabilitation Medical Center  
ISRAEL  
[adigranat40@gmail.com](mailto:adigranat40@gmail.com)

## Oral session 1.4: Workshop of the HPH Taskforce on Migration, Equity & Diversity

### Supporting vulnerable patients, improving quality of healthcare: the Equity Standards tool

**HÄKKINEN Eeva, VERREPT Hans, NWOBO John, GLOVER James**

### Background and objective

Increasing levels of population migration and diversity globally present a challenge to healthcare providers. Evidence shows that organisations which do not adapt to this increasing diversity provide poorer quality healthcare, causing vulnerable patients to lose out. In 2014 the HPH Task Force – Migration, Equity & Diversity (MED-TF) demonstrated how best practice in equity of service provision could be identified, then shared across 54 health care organisations in 16 countries, using the Equity Standards self-assessment tool. The findings demonstrated the benefits of equity for the workforce, and for vulnerable service users.

### Methods/intervention

The original Equity Standards were based on the existing HPH Standards, and were revised and evaluated in 2017-19. A follow-up programme is proposed to measure progress since 2014, and to further identify best practice that may be shared globally.

### Results

The Equity Standards data available from 2014 provides a strong benchmark for future data collection. The MED-TF will disseminate the revised Equity Standards, provide support and collate the results. The MED-TF seeks to illustrate the benefits of the Equity Standards, and to recruit new health care providers from across the HPH Network to the programme.

### Conclusions/lessons learned

The standards for equity in health care address domains including equity in policy; access to services; quality; and participation of vulnerable patients. A new programme of self-assessment across the HPH Network using the Equity Standards provides an opportunity to strengthen the way services meet the needs of their increasingly diverse and vulnerable service users and workforce.

### Contact:

HÄKKINEN Eeva  
The South-Savo wellbeing services county  
FINLAND  
[eeva.hakkinen@etelasavonha.fi](mailto:eeva.hakkinen@etelasavonha.fi)

## Using the HPH Equity Standards to strengthen healthcare for vulnerable communities

**HÄKKINEN Eeva, VERREPT Hans, BRAEM Clémence, NWOBO John, GLOVER James**

In a time of war, and great population and workforce migration, this session aims to introduce the HPH Equity Standards as a vital tool to guide improvements in healthcare for vulnerable communities. Key messages are:

1. The Equity Standards tool is a practical and accessible system designed to help healthcare organisations of all sizes improve the equity of their service provision to diverse communities.
  2. The Equity Standards include measures to improve the recruitment and retention of a diverse workforce.
  3. The Equity Standards have been tested and validated across the world, used by 54 organisations in 16 countries to strengthen the provision of healthcare to vulnerable communities.
  4. The Equity Standards help the sharing of best practice in delivering equity of healthcare across national boundaries, encouraging more consistent and innovative approaches to this challenge.
  5. The Migration Equity and Diversity Task Force seeks healthcare organisations to expand the Task Force, and to participate in a new programme of measuring equity performance and sharing best practice using new versions of the Equity Standards tool.
- The expected impact of the session is to raise awareness and use of the Equity Standards tool and increase the membership of the HPH's Migration, Equity and Diversity Task Force.

**Contact:**

HÄKKINEN Eeva  
The South-Savo wellbeing services county  
FINLAND  
[eeva.hakkinen@etelasavonha.fi](mailto:eeva.hakkinen@etelasavonha.fi)

## ONLINE Oral session 1.5: ONLINE SESSION: Access to services and information I

**An Action Research on Service Model for Elderly Psychiatric Patients Long Term Care Social Work Services in Kaohsiung Municipal Kai-Syuan Psychiatric Hospital**

**WANG Chun-Mei**

**Background and objective**

As the average life expectancy of the Taiwanese population continues to increase due to advances in psychiatric technology, psychiatric patients are also facing the issue of long-term care as they age. However, there are multiple difficulties in helping elderly psychiatric patients to connect to long-term care services and stabilize their use, a situation that should be generally recognized. The lack of access to long-term care services for the

elderly psychiatric patients also leads to an increasing pressure on the families of the psychiatric patients to take care of them. On the other hand, the need to take care of the elderly psychiatric patients may also add to the financial problems of the already weak families.

**Methods/intervention**

I have been engaged in long-term care services for 16 years, and in the process of implementation, I can deeply feel the difficulty of using long-term care resources for elderly psychiatric patients, especially whether the long-term care professionals understand psychiatric illness, whether the patients have a sense of illness and adequate family support, whether the elderly psychiatric patients have the ability to transport, and whether the psychiatric illness is stable, etc. are all factors that contribute to the smooth and stable use of long-term care services for elderly psychiatric patients. This study uses action research methodology to share the process of exploring the development of a model of long-term care services for elderly psychiatric patients in a psychiatric hospital and to share the results.

**Results**

This study uses action research methodology to share the process of exploring the development of a model of long-term care services for elderly psychiatric patients in a psychiatric hospital and to share the results.

**Conclusions/lessons learned**

Through this action research, it is hoped that more people can understand the unique service models developed by social workers in long-term care for the elderly psychiatric patients in response to their unique characteristics. It is expected that this study will serve as a supportive reference for social workers in the long-term care of elderly psychiatric patients.

**Contact:**

WANG CHUN-MEI  
Kaohsiung Municipal Kai-Syuan Psychiatric Hospital  
TAIWAN  
[angelbyangel2266@gmail.com](mailto:angelbyangel2266@gmail.com)

## Patients, Family members, and Medical Staff Have Similarities and Differences in Their Views on Holistic Care.

**FANG Chun-Kai, PI Shih-Hsuan, LI In-Fun**

**Background and objective**

Patients with chronic diseases and their families are the ones most in need of holistic care. There have been few studies of this kind in the past on whether the medical services provided by medical personnel in medical institutions for holistic care meet the needs of patients and families. Patients with chronic diseases and their families are the ones most in need of holistic care. There have been few studies of this kind in the past on whether the medical services provided by medical personnel in medical institutions for holistic care meet the needs of patients and families.

### Methods/intervention

This research is part of the project "Constructing Medical Service Models and Continuing Education Programs Integrating Holistic Care in General Hospitals", funded by Taiwan National Science Council. This study was performed at MacKay Memorial Hospital. We invited chronic patients, family members, and medical staff to conduct focus groups or in-depth interviews, respectively. The verbatim interviews were qualitatively analyzed using Atlas.ti 7.0 software with content analysis.

### Results

There were 48 patients, 32 family members, and 39 medical staff participating in the study. Through qualitative analysis, a total of 24 themes for holistic care were found for patients, 20 for family members, and 13 for medical staff. All three groups agree that holistic care includes physical, psychological, social and spiritual care. Patients were more concerned about the attitude of medical staff, and whether the hospital provides case management, community medical care, and volunteer assistance. Family members had more expectations on whether the hospital provides medical information. Medical staff attach importance to education and training and the establishment of a medical system.

### Conclusions/lessons learned

Through this study, we understand the differences between patients, family members, and medical staff on holistic care. The results will be used as the basis for the education and training of medical staff, and related scales will be developed to monitor the satisfaction of patients and family members with holistic care.

### Contact:

FANG Chun-Kai  
MacKay Memorial Hospital  
TAIWAN  
[chungkai.fang0415@gmail.com](mailto:chungkai.fang0415@gmail.com)

## Implementing Lean Management to Establish an Integrated Healthcare Administrative Information System

**HUANG Nine-Yin, WU Jia-Min, LIEN Chi-Hsun, WANG Ping-Jen, HSU Hung-Yi**

### Background and objective

The trend in healthcare facility management is towards paperless operations. Traditional paper-based forms are used to require manual filling, collection, filing, and transmission, resulting in cumbersome and time-consuming processing workflows. Therefore, the objective of this project is to establish a user-friendly healthcare administrative information system.

### Methods/intervention

The cross-professional team was established in July 2021. After conducting a form inventory, the signature approval levels for various administrative forms were categorized into five major categories. By applying Lean Management tools to analyze the obstacles to digitization, including (1) Complex processes involving multiple departments, (2) Lack of system standardization, (3) Resistance or lack of trust in the new system due to culture. We have formulated a 5-stage progressive implementation plan: (1) Developing a Column-based data entry system, (2) Establishing standardized formats and processes, (3)

Streamlining unnecessary processes, (4) Designing user interfaces using design thinking, (5) Education, training, and advocacy.

### Results

The process efficiency has been successfully improved, with an average reduction of 3-10 working days in processing time. The progress of form approval can be clearly tracked, and the loss rate of forms has been reduced to 0%. The annual usage of administrative paper forms has decreased by 65,000 sheets. These data demonstrate the tangible benefits and outcomes achieved through the transformation to digitization, including increased efficiency, cost reduction, and decreased loss rate. These have had a positive impact on hospital operations' effectiveness and efficiency.

### Conclusions/lessons learned

In the future, the vision of a smart hospital is built upon a foundation of paperless operations. Through the implementation of lean management, processes are streamlined and work efficiency is increased, allowing healthcare staff to have more time to participate in health promotion activities. The information system alleviates the workload of employees, enhancing their resilience and psychological well-being, resulting in a win-win situation between the hospital and its employees.

### Contact:

HUANG Nien-Yin  
Tung's Taichung MetroHarbor Hospital  
TAIWAN  
[she2001520@gmail.com](mailto:she2001520@gmail.com)

## Assessment and Management of Potential Patient Safety Hazards in Healthcare Information Systems

**LIEN Chi-Hsun, WU Jia-Min, HSU Hung-Yi, FANG Hui-Shan, TUNG Ann-Chen, TSAI Hong-Long, WANG Ping-Jen**

### Background and objective

With the increased adoption of medical information technology in healthcare settings, conflicts between technical configurations and hospital workflows may lead to errors that jeopardize patient safety.

### Methods/intervention

This retrospective case analysis examines patient safety incidents related to medical information systems. This study identifies patient safety risks, determines the root causes of problems, develops barrier strategies, and implements prevention systems.

### Results

From 2021 to 2022, a regional teaching hospital experienced five medication-related incidents, two laboratory system-related incidents, one computerized physician order entry (CPOE) system-related incident, and one nursing system-related incident. Root cause analysis identified three major problems: data transfer errors, lack of information synchronization, and human operation errors. These issues were attributed to software functionality, system configuration, and user interface

issues. To address the problems, the study team clearly defined operational names and contents, systematically reviewed the natural language processing conditions set by the program, and implemented a closed-loop system process to avoid manual error correction. Control measures and monitoring mechanisms were also implemented when users delete information. Additionally, medical information technology security education and training were provided.

### Conclusions/lessons learned

There is currently no comprehensive and systematic framework for managing patient safety risks associated with healthcare information. This study suggests that gradual improvements can enhance patient safety, medical quality, and hospital information operation efficiency in the institution.

### Contact:

WU Jia-Min  
Tungs' Taichung MetroHarbor Hospital  
[m28905108@gmail.com](mailto:m28905108@gmail.com)

## Using flipped teaching to reduce the incidence of choking in patients with chronic psychiatric wards

**CHIN Mei-Hui, CHEN Pei-Jiun, SHEN Yu-Chun, CHENG Tsai-Pu, LIN Yen-Ju**

### Background and objective

Background: Mental patients have dysphagia due to bad eating habits, poor teeth and antipsychotic drugs, and then choking problems. From January to August 2022, 5 cases of foreign body choking occurred in patients, and the incidence rate of choking was 0.044%. A serious injury choking incident of an inpatient, after compiling 5 choking RCA cases in the unit, in-depth analysis: 1 Lack of high-risk choking assessment standards, 2 Lack of swallowing muscle training, 3 Lack of awareness of correct eating habits, 4 Team members have no awareness of choking The importance is not clear 5 The division of responsibilities for choking prevention among the three shifts of the medical team is not clear. Objective: The average incidence rate of choking decreased from 0.044% to 0%, and the rate of choking injury decreased from 25% to 0%.

### Methods/intervention

Methods: Firstly, three kinds of choking prevention teaching plans were made by flipping the teaching to strengthen the cognition of nurses and patients on choking prevention; cross-team cooperation and the medical department jointly formulated the "high-risk choking evaluation form" for pre-assessment and identification, and jointly formulated the "high-risk choking evaluation form" with the nutritionist. High-risk choking food list", and cooperate with speech therapists and occupational therapists to arrange "swallowing health exercises" courses to strengthen patients' swallowing muscle strength training, and doctors actively adjust drugs for patients with dysphagia caused by drug side effects, and finally formulate three Class eating process and division of responsibilities.

### Results

Results: The incidence of choking decreased from 0.044% to 0%, and the rate of choking injury decreased from 25% to 0%.

### Conclusions/lessons learned

Conclusion: , using flipping teaching, swallowing muscle strength training and eating process management to establish a comprehensive assessment tool can effectively reduce the occurrence of choking problems in hospitalized patients.

### Contact:

CHIN Mei-Hui  
Department of Nursing, National Taiwan University Hospital  
Yunlin Branch  
TAIWAN  
[may611108@gmail.com](mailto:may611108@gmail.com)

## ONLINE Oral session 1.6: ONLINE SESSION: Promoting healthy behavior I

### A staff intervention to support smoking cessation for patients in a tertiary referral university hospital in Ireland

**KERLEY Mary, LYONS Ailsa, MATTSON Ana, KELLEHER Cecily, FITZPATRICK Patricia**

### Background and objective

Hospital visits are a cue to action to quit smoking; national guidelines recommend a combination of stop smoking medications and behavioural support to support smokers to stop. Our hospital delivers a comprehensive Smoking Advice Service (SAS). Key Performance Indicators (KPI) include Nicotine Replacement Therapy (NRT) charted and dispensed  $\leq 24$  hours. Making Every Contact Count (MECC) is a national training programme on brief intervention for behaviour change for healthcare professionals (HCPs). The aim was to see if the delivery of short information sessions (the intervention) would improve the KPI, improve SAS knowledge and intention to complete MECC training.

### Methods/intervention

An intervention of in-person informative presentations on SAS, benefits of smoking cessation, NRT, and MECC were delivered to wards/clinical areas. Staff completed an evaluation with scores marked out of 10. Routinely collected anonymous data on the number of referrals to SAS and KPI compliance eight weeks pre/post each area's presentation. Comparisons of proportions scoring 5 or more were conducted using WinPEPI for analysis.

### Results

Presentations have been delivered to staff on 13 wards/areas covering 20 specialities. Overall satisfaction was high. All 121 attendees found the presentation useful; all were happy with the length and 99% agreed they learned something new. There was a pre/post increase in confidence in discussing smoking with patients (38.3% vs 95%;  $p < 0.001$ ) in following up with NRT (40.5% vs 90.0%;  $p < 0.001$ ) and interest in completing MECC training (9.2% vs 90.9%;  $p < 0.001$ ). The early indications suggest KPI compliance and numbers of referrals may be increasing slightly as a result of the intervention but further follow up.

### Conclusions/lessons learned

The intervention is well received with potential for a positive impact on smoking cessation referrals.

#### Contact:

KERLEY Mary  
St. Vincent's University Hospital  
IRELAND  
[marykerley75@yahoo.ie](mailto:marykerley75@yahoo.ie)

## Using information technology and diverse health education methods to enhance the effectiveness of preoperative health education.

**YE Yu-Shi, LIAO Wen-Tsz, WU Jia-Min, CHENG Shu-Chen, YANG Wan-Chun, SHUN Wung-Ping, HSU Hung-Yi**

### Background and objective

Taiwan faces an aging population and more foreign caregivers. Nursing staff uses manuals and verbal explanations for preoperative health education, which can be difficult for elderly patients with hearing or vision problems. Communication barriers with foreign caregivers can also slow down the process. This project aims to improve patients' preoperative cognition and reduce abnormal events.

### Methods/intervention

A total of 16 abnormal events were reported prior to surgery in 2021. Among them, 8 incidents (50%) were found to be caused by inadequate health education skills and communication barriers. Root cause analysis identified communication skills, insufficient equipment, lack of health education tools, and unclear procedures as contributing factors. An interdisciplinary team was formed to discuss improvement methods in regular meetings and review the effectiveness of the interventions.

### Results

The interventions include 1: Creating a multilingual video titled "Preoperative Preparation" with a QR code for inpatients to download on their mobile devices, followed by nursing staff providing clarification. 2: Organizing on-the-job training and education for the ward team, including watching the video and receiving practical communication skills training. 3: Standardizing the preoperative education process. After follow-up, the number of abnormal events decreased to five in 2022, achieving a 68.8% improvement. The nursing staff's satisfaction with their education skills reached 90%, job satisfaction was 90%, and overall satisfaction reached 95%.

### Conclusions/lessons learned

Through improvements on the patient side, nursing staff side, and policy side, coupled with information technology advantages, communication barriers can be effectively overcome, and a more comprehensive quality of medical care can be provided.

#### Contact:

YE Yu-shi  
Tungs' Taichung MetroHarbor Hospital, TAIWAN  
[a0917565572@gmail.com](mailto:a0917565572@gmail.com)

## Physical Activity promotion in Emergency Departments: Culture change is possible!

**SHAIKH Faisal, MACMULLEN Helen, SPEERS Chris**

### Background and objective

Background: Physical Activity (PA) can significantly impact global health. The World Health Organisation have indicated that all health service providers should engage in Health and PA Promotion, including Emergency Departments (ED). ED is fertile ground for health promotion; there is drive to encourage health promotion despite challenges. Objective: We propose and pilot an interdisciplinary project Health and PA Promotion in ED using Behaviour Change Theory principles.

### Methods/intervention

Two trainees conducted a variety of interventions over 9 months including transtheoretical and COM-B based individual/group motivations and educational sessions, staff surveys, informal multidisciplinary engagement; empowering early-adopters, and resource provision. These were aimed at embedding Health and PA promotion ('active conversations') in ED culture using Moving Medicine resources.

### Results

We saw increase in referrals to local health-promotion service (n=39;11 referrers). Referrals continued for 3 years after intervention stopped. Informally, culture change was observed. Our staff survey (n=43) showed that 79% rated PA Promotion ≥7/10 in importance; but 46% rated personal confidence of ≥7/10 in delivering interventions. 34% had PA Promotion training, 63% welcomed it. Time and lack of training were stated as important challenges.

### Conclusions/lessons learned

Multi-disciplinary collaboration can sustainably increase PA Promotion by educating and motivating staff, increasing stakeholder involvement, harnessing motivations to create sustainable culture change. Our model can be adopted at other centres nationwide for population health benefits.

#### Contact:

SHAIKH Faisal  
Oxford University Hospitals  
UNITED KINGDOM OF GREAT BRITAIN  
[faisal.shaikh@ouh.nhs.uk](mailto:faisal.shaikh@ouh.nhs.uk)

## Nutritional and texture-adjusted meals for low- and middle-income elders living alone: A hospital initiative in central Taiwan

**CHANG Ke-Yu, CHEN Mei-Ying**

### Background and objective

In Taiwan, the government offers various social assistance measures to guarantee a basic standard of care for the poor, the

ill, and individuals in urgent need, including meals. The A Skin-Graft With Love Foundation delegates the meal preparation to the Department of Nutrition & Dietetics of Healthcare System of the hospital, and the Ministry of Health and Welfare regularly visits the meal providers.

#### Methods/intervention

Our team consisted of 6 professional dietitians, 1 food hygiene manager, and 29 kitchen staff. Moreover, 89.7% of chefs have professional certificates. According to regulations, the employees must undertake annual physical examinations and the assessed items follow the project specifications for food practitioners set by the government. The menu consisted of four dishes and one soup, and a balanced nutritional supplement was provided once a week. For the elders who had no teeth, texture-adjusted meals were provided. For those with special dietary restrictions, individualized meals were also offered. To ensure food safety, the storage of raw materials, and food during catering were adhered to temperature and humidity control boundaries. To prevent the breeding of vectors and food contamination, monthly disinfection of the facility was performed by a professional vector control company.

#### Results

Each meal provided 4-5 servings of cereals, 2-2.5 servings of meat, 1-1.5 servings of vegetables, and approximately 2-2.5 teaspoons of fats and oils. Each meal provided 610-650 calories. This caloric level meets the Daily Reference Intakes set by the Ministry of Health and Welfare for people over 65 years old. Meals with texture adjustment accounted for 15.2% and those for individuals with dietary restrictions accounted for 12.0%, vegetarian diet accounted for 10.5%, and high-fiber diet accounted for 2.9%. Since the start of this venture in 2008, the average number of meals provided per month has been 7933 meals in the last five years. After the meals were prepared, volunteers delivered them via 13 routes.

#### Conclusions/lessons learned

Cooperation between government units and local hospitals can effectively enhance social welfare for the elderly by taking care of their nutrition and ensuring food safety.

#### Contact:

CHANG Ke-Yu  
Changhua Christian Hospital, Taiwan  
TAIWAN  
[164915@cch.org.tw](mailto:164915@cch.org.tw)

## The experience of the Profitness project in promoting personalized physical activity among healthcare workers with chronic disease

**CHIANDETTI Lucrezia, GRANIERO Francesco, CIGALOTTO Alessandro, AITA Livia, D'ALLEVA Mattia, STAFUZZA Jacopo, URSELLA Giacomo, LAZZER Stefano, BRUNELLI Laura, FORGIARINI Mariarita**

#### Background and objective

The importance of physical activity (PA) in promoting health is widely recognized, as it has been shown to improve people's well-being and health. The Profitness project was created to support the safe and tailored implementation of PA for chronic disease.

#### Methods/intervention

Since 2018, a multidisciplinary team of cardiologists, sports physicians, nurses, physical trainers, and dietitians have been conducting individualized PA programs at the "Experimental Center for Promotion, Prescription and Administration of personalized physical exercise" in Gemona, Italy. Subjects are recruited by general practitioners or occupational health physicians if certain chronic diseases are present. At the beginning of the program, subjects undergo physical testing to assess their functional abilities. An individualized exercise program is then performed both under supervision and at home. During the training, heart rate and subjective exertion perception are monitored. Response to home training and abnormal symptoms are tracked and reported to the team.

#### Results

Twelve healthcare workers (8:M and 4:F, mean age 57±6 years) benefited from the programs. They completed 2 training sessions per week: one at the center and one at home, for a total of 27±17 training weeks, with a participation rate of 76±9% of training sessions. At the end of the program, V'O2 max and FCmax increased, from 2301±627 to 2365±501 ml/min and from 150±14 to 156±12 bpm, respectively; hand strength increased by an average of 5±1 N (p<0.05).

#### Conclusions/lessons learned

These are the first results of an innovative experience with a personalized and supervised training program designed for people who need support in introducing physical activity into their lifestyle. Partnering with the occupational health physicians can help engage healthcare workers in a virtuous cycle aimed at improving their health outcomes.

#### Contact:

CHIANDETTI Lucrezia  
università degli studi di udine  
ITALY  
[chiandetti.lucrezia@spes.uniud.it](mailto:chiandetti.lucrezia@spes.uniud.it)

## Combined Effects of Obesity and Smoking on Subclinical Coronary Artery Disease

**CHENG Kai-Hsuan, KAO Shih-Kai, CHEN Chuen-Fei, TSOU Meng-Ting, HWANG Lee-Ching**

#### Background and objective

Smoking and obesity are strongly associated with coronary artery disease. The study was carried out to investigate the relationship between different indicators of obesity, including body fat percentage, waist circumference and body mass index, as well as the combined effect with smoking to predict the risk of coronary artery disease.



**Methods/intervention**

A cross-sectional study was conducted on 867 adults of a population from health examination center. Medical history, blood tests and coronary artery calcification score (Agatston score) were investigated. An Agatston score of 0 shows no disease; from 1 to 99 indicates mild disease; from 100 to 399 shows moderate disease. More than 400 shows severe disease. Multiple logistic regression models were set up to assess the risk factors for significant coronary artery calcification.

**Results**

All participants were divided into three groups: no calcification, mild, and moderate to severe calcification. After multivariate adjustment, the results revealed the upward trend between body fat percentage, waist circumference and moderate to severe calcification, especially among men with OR=1.07 (1.02-1.12) and OR=1.03 (1.00-1.06), respectively. However, this association was not seen in women or those over the age of 65. Obese smokers have significantly increased risk of moderate to severe calcification compared with non-smokers and normal-weight individuals (OR=2.27[1.24-4.15]).

**Conclusions/lessons learned**

Higher body fat percentage and waist circumference in adults were associated with coronary artery disease. The risk increased significantly for obese smokers, especially men.

**Contact:**

HWANG Lee-Ching  
Mackay Memorial Hospital  
TAIWAN  
[hlc@mmh.org.tw](mailto:hlc@mmh.org.tw)

## Oral session 2.1: Governance models and leadership for HPH

### Investigating Challenges Faced by the Japan HPH Network in Implementing the 2020 Standards for Health Promoting Hospitals and Health Services using Self-Assessment Tools

**FUNAKOSHI Mitsuhiko**

#### Background and objective

Self-Assessment Tools for Implementing the 2020 Standards for Health Promoting Hospitals and Health Services (hereafter referred to as "the Tools") have recently been developed. This study employs the Tool to examine the challenges faced by the Japan HPH Network.

#### Methods/intervention

From April to July 2022, we conducted a survey of 120 member facilities of the Japan HPH Network using a survey form translated from the Tools into Japanese. Responses were provided by the coordinator of each member facility. The Tool has a scale of 1 to 10 points for 85 measurable elements. However, for this survey, we changed the scale to 1 to 5 points. A score of 1 was considered "Not Implemented," and a score of 5 was considered "Fully Implemented." For the analysis, a score of 4 or 5 was defined as "Fully Implemented" and the percentage was calculated.

#### Results

Forty-nine facilities responded to the survey. The criterion with the highest percentage of measurable elements fully implemented was Criterion 4 (Creating a Healthy Workplace and Healthy Setting) at 49.4%. This was followed by Criterion 2 (Ensuring Access to the Service) at 43.6%, Criterion 3 (Enhancing People-Centered Health Care and User Involvement) at 43.1%, and Criterion 1 (Demonstrating Organizational Commitment for HPH) at 36.0%. The criterion with the lowest percentage of measurable elements fully implemented was Criterion 5 (Promoting Health in the Wider Society) at 28.8%. With regard to sub-criteria, recording, monitoring, and capturing local public health data tended to be low.

#### Conclusions/lessons learned

This study identifies challenges faced by the Japan HPH Network in implementing the 2020 Standards for Health Promoting Hospitals and Health Services, using the Tool. The study highlights the importance of addressing new issues such as climate and environment and utilizing local public health data. To raise the standard of health promotion, the Tool can be used as an international standard, and further customization is needed to align them with the actual situation in Japan.

#### Contact:

FUNAKOSHI mitsuhiko  
Chidoribashi General Hospital  
JAPAN  
[funakosi@wc4.so-net.ne.jp](mailto:funakosi@wc4.so-net.ne.jp)

## Accessibility in Greek hospitals

**TSAMI Christina-Anastasia, CHRYSIKOU Evangelia**

#### Background and objective

People with disabilities constitute a considerable proportion of those who require and utilize hospital services. In most countries, in terms of accessibility needs hospitals are considered as any other public building. We argue that this underestimates the actual needs for accessibility. This research posits that hospitals' requirements create a more intricate environment, necessitating specialized approaches and interventions to achieve full accessibility for diverse users and their needs.

#### Methods/intervention

To achieve our research objective, we are undertaking a mixed-method study that comprises a literature review of accessible design theories, a cross-country comparison of regulations in Greece, the UK, the USA, Australia, and Sweden, and an anonymous survey among end-users with a disability to evaluate the level of accessibility in Greek hospitals.

#### Results

Both highlight the need for more specialized attention to the requirements of wheelchair users and a dearth of regulations for the visually and hearing impaired. Moreover, the survey indicates noncompliance with existing regulations.

#### Conclusions/lessons learned

The research concludes that people with disabilities require unobstructed access to healthcare facilities, and there is a need for legislative measures to protect patient rights for accessible healthcare facilities and define accessibility standards that make it mandatory for all healthcare buildings to comply with accessibility guidelines. Although considerable efforts have been made, there is still a long way to go until the creation of fully accessible healthcare environments, and there is a need to ensure compliance with regulations. The research opens up the debate on a broader issue, the definition of particular accessibility standards for healthcare facilities, and suggests possible directions for further research.

#### Contact:

TSAMI Christina-Anastasia  
UCL  
UNITED KINGDOM OF GREAT BRITAIN  
[christianatsami@gmail.com](mailto:christianatsami@gmail.com)

## How to improve the recognition on climate change and health impact

**HUANG Chien-Min**

#### Background and objective

The Covid-19 pandemic is extensive to human in a century. Climate change is also a serious problem and the greatest threat to human health all over the world in recent years. People who have suffered from Covid-19 can easily aware of the Covid-19 pandemic influence, but most of them have no idea about climate change and its impact of health in Taiwan. Even though medical staff or students from medical university were the same. As the UN report, Covid-19 did not help climate action. We want

to know how to improve the recognition on the issue of climate change and health impact.

### Methods/intervention

This study enrolled 378 participants, including 266 students from medical university and 112 medical staffs (such as physician, nurse, pharmacist, physiotherapist and administration staff etc.) from medical center and regional hospital in Taiwan. The Chinese version of the European Health Literacy Survey (HLS-EU-Q47) amended by Wu-Shou Chang was used to conduct the research by on-line questionnaire. We also have the intervention by learning course to improve the recognition of climate change and health impact.

### Results

As the results, both students and medical staffs have lower average score in pre-test ( $42.4 \pm 6.24$ ,  $54.6 \pm 5.54$  respectively). After the intervention, the 1st score of learning course test is statistically increase ( $P < 0.001$ ,  $76.6 \pm 8.44$ ,  $82.8 \pm 7.76$ ). As to medical staffs, we also have follow-up test in 4 months later, we find that the score of the second test without learning course is significantly lower than the first one by using repeat measurement test ( $P < 0.001$ ). Also, nurses get higher score than other participants.

### Conclusions/lessons learned

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### Contact:

HUANG Chien-Min  
Kaohsiung Medical University; KMU Chung-Ho Memorial Hospital, TAIWAN  
[890321@knhk.org.tw](mailto:890321@knhk.org.tw)

## Standards for Health Promotion and Accreditation in the Catalan Health Sector

**SANTIÑÀ Manel, JUVINYÀ Dolors, SIMÓN Rosa, PÉREZ Anna-Carol, BERTRAN Carme, CARBONELL Silvia**

### Background and objective

In 2020 the HPH approved and published the 2020 Standards for Health Promoting Hospitals and Health Services, in order to support a broader implementation of the HPH vision. The 2020 Standards include 5 overarching standards. The objective of this work is to present how we have introduced the 2020 HPH Standards into the Public Acute Hospitals of Catalonia.

### Methods/intervention

We created a working group that we named Health Standards, with the aim to help our Centers to implement the 2020 HPH standards. Taking into account that the Health Department of

the Government of Catalonia had started process to update the accreditation model for Acute Hospitals we saw an opportunity to introduce health promotion standards into the Model. For this reason we prepared a proposal to present to the Department of Health. The Department of Health has the authority to Accredite the health Centers if they want to work in the public health system. This is mandatory for public health organizations and for private health organizations also if its want to work in the public health system. In the proposal we explained the relevance of including health promotion standards in the Catalan accreditation model and indicated which would be the main standards that should be included. We prioritized those standards that we considered most important to incorporate into the Accreditation model in accordance with the objective of facilitating the deployment and implementation of the whole and these were that valued the organization's commitment to health promotion (HPH 1).

### Results

Finally we will achieve to introduce 7 standards in a specific conceptual grouping: "involvement in relation to health promotion", 2 standards included in the conceptual grouping: "Involvement in relation to society" and another 1 standard in the conceptual grouping: "Attention to people".

### Conclusions/lessons learned

To introduce health promotion standards in health organizations is necessary an agreement with the Health Administration. The endorsement of the Administration makes it easier for the Management of the Centers to collaborate in the use of the standards in the organizations. The Health Promotion standards are easily integrated into a Quality Accreditation model, which is a good strategy to introduce them into organizations.

### Contact:

SANTIÑÀ Manel  
Institut d'Investigacions Biomèdiques August Pi i Sunyer  
SPAIN  
[msantinya@hotmail.com](mailto:msantinya@hotmail.com)

## Implementation of Health Promoting Hospital Standards in Kosovo Hospitals

**HASANI Fekrije, ZARARI Jeton, SHALA Fazli, WANG Sophie, GRÖNE Oliver**

### Background and objective

The Integrated Health Services project is focused on improving the availability, quality and continuity of care for patients with non-communicable diseases (NCD) by strengthening related clinical, managerial and governance processes in the General Hospitals. The projects aim is to enhance coordination and referral between primary and secondary levels of care, and at national level, it supports stakeholders to develop and implement a policy framework that fosters patient-centred integrated care. To meet this aim, we introduce and support local actors in implementing HPH standards to promote health among patients, staff, and the community considering the local context. Kosovo is a transition country committed to increase the performance of health care system, and may benefit from the adoption of these standards. The project is funded by Switzerland for the period 2023-2026, and will be implemented

by national and regional institutions, with the support of the Swiss Tropical and Public Health Institute and OptiMedis AG.

### Methods/intervention

We plan to work with local stakeholders in select participating hospitals to implement the HPH standards self-assessment, identify data sources, interpret the results, and translate priorities identified through the self-assessment into a quality improvement plan. To complement results from the self-assessment, we will identify best practice models situated to the context, and run workshops with local experts to develop an implementation plan that operationalizes the identified priorities for action.

### Results

Kosovo's healthcare system faces challenges including limited funding and resources which hamper progress in delivering high quality and equitable care. We expect participating hospitals to demonstrate improved organizational commitment toward health promotion, improved access to services, improved patient-centeredness in service design, increased patient involvement, improved healthy setting and community.

### Conclusions/lessons learned

Implementing the HPH Standards in Kosovo may address challenges faced by the country's healthcare system and promote quality and equity in healthcare services. This may be achieved through the process of empowering stakeholders to operationalize health promotion within their local settings and organizations.

### Contact:

HASANI Fekrije  
IHS project Kosovo  
ALBANIA  
[fekrije.hasani@ihsproject.org](mailto:fekrije.hasani@ihsproject.org)

## Oral session 2.2: Digitalization in health care and health promotion

### Implementation research on online stress reduction technique interventions in a hospital setting

**RON Reut, LARONNE Anat**

### Background and objective

Stress management is a psychological treatment, found to improve mental health and increase health outcomes. Online group therapy (OGT) is a relatively new modality for behavioral stress management (BSM), and its effectiveness is unknown.

### Methods/intervention

Assuta Medical Centers (AMC) is a private network of medical centers in Israel. For the last ten years, Assuta Medical Centers have been providing psychological face-to-face support services. The COVID-19 pandemic led to the diversion to online modality. Alongside this change, a mixed methods study was conducted with 128 patients from the oncology institute, IVF unit and pain clinic. Each group had 4 sessions at weekly intervals. Study

participants were asked to complete a questionnaire before and after the intervention and group facilitators were interviewed in two focus groups.

### Results

The online BSM group intervention was found to be effective for reducing stress, anxiety and depression. Participants' positive attitudes toward the OGT was high and improved after participation. Analysis of group facilitators' experience showed both advantages and challenges to the existence of OGT compared to face-to-face.

### Conclusions/lessons learned

The results of the study indicate the importance of adapting the content and structure of the group to online platforms. Facilitators should dedicate time to clarify the setting challenges and participants' responsibility for privacy. Digital literacy and technological abilities may be improved by adding an extra pre-intervention meeting, adding a co-facilitator and sending psychoeducation materials between meetings. Future interventions and follow-up studies will seek to make further adjustments to the content and structure of BSM groups and examine how these aspects can be strengthened remotely.

### Contact:

RON Reut  
Assuta Health Services Research Institute  
ISRAEL  
[reutro@assuta.co.il](mailto:reutro@assuta.co.il)

## Taylor-made patient safety e-training program for the hospital staff in Estonia: hospital-university partnership

**PÕLLUSTE Kaja, ASI Signe, ÄMARIK Maarja, UIBU Ere, KANNUKENE Angela, MAHLA Marge, MÄGI Liisi, PASTARUS Ilona**

### Background and objective

Patient safety and safety culture are crucial factors in healthcare organisations that significantly contribute to the promotion of patients' health and staff well-being. However, achieving good competence in patient safety is often challenging, due to various barriers, such as limited financial resources for continuous professional training, lack of appropriate training courses, lack of time and motivation, etc. To overcome these barriers, in 2022, Tartu University Hospital in collaboration with the University of Tartu initiated the project to develop a new tailor-made patient safety e-training program for Tartu University Hospital staff.

### Methods/intervention

The design of the modules, definition of the learning outcomes, choice of topics and the number of study hours reflected the staff's training needs and hospital's need to improve the incident reporting system. The training needs of staff were already assessed earlier. The program was fully designed as e-learning to allow participants to complete it at their own pace. The program is for free and open for other hospitals as well.

## Results

A 20-hour training program was launched in 2022, consisting of three modules: 1) Patient Safety Foundations (including the use of the incident reporting system in Tartu University Hospital); 2) Patient Safety culture; 3) Introduction to Root Cause Analysis. By March 31st, 2023, more than 800 healthcare workers had passed the courses, of them 1/3 from other hospitals and outpatient institutions. The feedback from the participants was mostly positive. Based on the participants' feedback, the Patient Safety Foundation module was updated by dividing into two parts: Patient Safety Foundation I (Introduction to patient safety) and Patient Safety Foundation II (Conceptual framework of patient safety and incident reporting system), the new modules were launched in April 2023.

## Conclusions/lessons learned

A hospital-university partnership made it possible to create a continuous professional training program that meets staff and hospital needs. This approach can be applied for other topics, too.

## Contact:

PÖLLUSTE Kaja  
University of Tartu  
ESTONIA  
[kaja.polluste@ut.ee](mailto:kaja.polluste@ut.ee)

**Exploring the utilization of business intelligence and visual data analysis on chronic disease risk assessment — A case study of the customers implementing Preventive Health Service in a Regional Teaching Hospital.**

**LIU Tz Jie, CHEN Mei Tsu, CHEN Wen Chun**

## Background and objective

The National Health Department of the Ministry of Health and Welfare uses the health information of the Chinese people to establish a risk assessment model for predicting chronic diseases in 10 years, and the five chronic diseases that can be predicted are coronary heart disease, stroke, diabetes, hypertension, and cardiovascular disease. The purpose of this study is to use the business intelligence system to explore the prediction results of the chronic disease prevention and treatment platform, integrate big data to visualize the data to analyze the risk situation predicted by five chronic diseases in each mile of Chiayi City.

## Methods/intervention

This study was built using C# .Net application accesses chronic disease risk assessment case data and combines Tableau business intelligence BI software to develop platform data through data cleaning, screening, formalization, ETL extract, transform and load, data exploration and probe down query, agile self-service analysis data, and calculations combined with geographic map data, and finally with Power View interactive visual effects (visualization).

## Results

The results show that the participant in the screening was composed of 3,475 males (34.9%), and 6,481 females (65.1%). The age ranges from 35 to 70 years. The medium-risk and high-risk people with coronary heart disease 2,668 (26.8%) and 2,138 (21.5%), diabetes 2,703 (27.1%) and 5,630 (56.5%), hypertension 3,599 (36.1%) and 1,644 (16.5%), Stroke 2,759 (27.7%) and 2,186 (22%) and cardiovascular dysfunction 3,038 (30.5%) and 3,683(37%).

## Conclusions/lessons learned

Using the Business Intelligence (BI) architecture to integrate the big data predicted by the chronic disease prevention and treatment platform to visualize the data to analyze the risk situation of five chronic diseases predicted in each mile of Chiayi City, the important study found that the risk situation of the five chronic diseases can be quickly and immediately grasped through geographic map data.

## Contact:

CHEN Wen Chun  
St. Martin De Porres Hospital  
TAIWAN  
[babka.shermie@msa.hinet.net](mailto:babka.shermie@msa.hinet.net)

**Digital technologies and its impact on healthcare architects' wellbeing in the UK's National Health Service (NHS)**

**CHRYSIKOU Evangelia, PAPADONIKOLAKI Eleni, SAVVOPOULOU Eleftheria, TSIANTOU Eleni, KLINKE Christian**

## Background and objective

The NHS has developed a strategy for its workforce, to improve staff health and wellbeing, support equality, diversity and inclusion and support recruitment and the development of existing staff. The research focuses on the architects working in the NHS, since NHS is developing two important policies: the new hospital programme and the workforce action plan. The NHS has to view the digital transformation strategy in the prism of the other two. During the pandemic the architects working in the NHS had to deal with added pressure from three new major tasks: adjusting infrastructure capacity for fighting Covid-19 and creating the infrastructure for the testing and vaccination programs. Digital technologies (DTs) in architecture potentially affect job satisfaction in terms of creativity, autonomy, time pressure, menial tasks, career prospects, organisational commitment and potential.

## Methods/intervention

Methodology comprises literature review and a pilot of 12 interviews with healthcare architects/designers working in the NHS or on NHS projects. The interviews covered the Covid-19 crisis with NHS architects creating new wards and vaccination centers, while private healthcare architects designed new hospitals. We explore how DTs transform the wellbeing of healthcare architects.

## Results

In the niche area of healthcare architecture, architects were in their busiest year. Yet, the DTs available to them currently could only support limited tasks and did not link well to operational data.

## Conclusions/lessons learned

Linking wellbeing in healthcare architecture and digital transformation is crucial for creating the necessary leadership for the sector to grow. Especially since DTs could support the productivity of the entire hospital and improve the outcomes of the health service. DTs can have a significant impact on architectural design and on the job satisfaction among its employees.

## Contact:

CHRYSIKOU Evangelia  
the Bartlett School of Sustainable Construction UCL  
UNITED KINGDOM OF GREAT BRITAIN  
[e.chrysiou@ucl.ac.uk](mailto:e.chrysiou@ucl.ac.uk)

## Effectiveness and utilization of smart healthcare program in community health centers of South Korea

**KIM Hyekyeong, KIM Jiye, AHN Sungvogue, KIM Yuri, KIM Myoungjun, YANG Sunyoung**

## Background and objective

Using mobile applications(Apps) and devices, community health centers in Korea provide smart healthcare program that are specifically tailored to the needs of people who are at risk for developing chronic diseases. The purpose of this study is to identify effectiveness in health status and behavior and utilization of this program.

## Methods/intervention

A total of 111,313 Korean adults participated in smart healthcare program in community health centers from 2016 to 2020. For 24 weeks, the program offers health care services tailored to individual health status, such as managing physical activity and nutrition, consulting with healthcare providers in centers, monitoring health state and behaviors, providing health information, setting goals for a healthy lifestyle, and rewarding. This study used the actual usage log data of mobile App and device users and pre-post survey and medical examination.

## Results

Participants in smart healthcare program resulted in improvements in their body mass index, body fat percentage, blood pressure, waist circumference, fasting blood sugar, and blood lipid profile compared to before the program ( $p<.001$ ). The percentage of stages of change in action or maintenance for a healthy diet, physical activity, quitting smoking, and moderate alcohol consumption also increased ( $p<.001$ ). Those with improved health status and behavior had better device interoperability and used app services more frequently than those who deteriorated or maintained ( $p<.001$ ).

## Conclusions/lessons learned

Smart healthcare program of community health centers in Korea was effective to improve health status related to obesity and

chronic diseases and multi-behavior of smoking, nutrition, alcohol and physical activity. It is critical to improve the utilization of smartphone apps and wearable devices, as well as stabilize the app to minimize inconvenience in device linkage, in order to increase effectiveness.

## Contact:

KIM Hyekyeong  
Department of Health Convergence, Ewha Womans University  
KOREA  
[hkkim@ewha.ac.kr](mailto:hkkim@ewha.ac.kr)

## Oral session 2.3: Community-based health promotion

### Group Music Activity Experiences of Community-Dwelling Older Adults: A Focus Group Analysis

**SUN Feng-Ching, WANG Hsiu-Hung, SU Yi-Ching, HUANG Ling-Ya**

## Background and objective

This research probes into the experience of elders in local communities who participate in group music activities through focus groups. For this purpose, three levels of experience are discussed separately: (1) The experience of the elders participating in group music activities. (2) The motivations and obstacles of elders participating in community group activities and music activities. (3) The perceived benefits and health improvement of the elders participating in group music activities.

## Methods/intervention

The participants of this study were seniors over 65 years old who took part in group music activities in Kaohsiung city and who were chosen by a purposive sampling method. A total of 22 elders were recruited and divided into two focus groups. A series of semi-structured guidelines were implemented for data collection as tools in this student. Data were analyzed by content analysis.

## Results

In this study, four themes were analyzed and summarized: (1)Happy relief, (2)Activating body functions, (3) Interpersonal living pool, (4)Realizing the value of life, (5)Where the heart is, and (6)Reaping three good points(good sleep, healthy behavior change and a sense of self-existence).

## Conclusions/lessons learned

The findings also can provide a reference for the design of music activity modules that conform to the community elders to activate their bodily functions.

## Contact:

LIN Yi-Hsuan  
Kaohsiung Municipal United Hospital  
TAIWAN  
[s87108011@gmail.com](mailto:s87108011@gmail.com)

## Promoting Health Dietary Awareness among Elderly Population through Community-Based Healthcare Institutions: An Application of the Health Belief Model and Evaluation Tool

**CHEN Ming-Shu, CHEN Tsou-Chi**

### Background and objective

As the aging population in many countries increases, the risk of chronic diseases such as cardiovascular disease, type 2 diabetes. Promoting healthy dietary awareness among the elderly population is crucial in preventing and managing chronic diseases. Community-based healthcare institutions can effectively promote healthy behaviors, including dietary habits.

### Methods/intervention

This study aims to promote healthy dietary awareness among the elderly population through community-based healthcare institutions, using the HBM and evaluation tool. Nonparametric and paired-sample t-tests were used to analyze the data. Qualitative analysis was also employed to investigate the study's significance.

### Results

After conducting a needs assessment, most female participants (89.5%) from the Wan-Chai community, Taiwan, aged 58 to 75 years old, attended communal dining. Although they generally had high knowledge and positive attitudes towards diet, most participants did not perceive themselves as having a high risk or severity of chronic diseases. While social support for whole-grain consumption was present, the difficulty in obtaining whole-grain food was a common barrier.

### Conclusions/lessons learned

A descriptive analysis of whole grain consumption stages showed that only 5.3% of participants were in the action stage, 21.1% in the preparation stage, and 73.7% were not consuming whole grain, with 26.3% not intending to do so.

### Contact:

CHEN Ming-Shu  
Asia Eastern University of Science and Technology  
TAIWAN  
[tree1013@gmail.com](mailto:tree1013@gmail.com)

**To promote the signature of 'Advance Care Planning' with the model of community health station service by "Nudge theory"**

**LU Shin-I, CHAN Hsin-Lung, LEE Mei-Yu, FANG Chun-Kai, CHUNG Ching Hui, HUNG Ta-Chuan**

### Background and objective

"Patient Right to Autonomy Act" was officially implemented in Taiwan on January 6, 2019. A total number of 45,608 people have signed the act by 2022 in Taiwan. From 2019 to 2022, Tamsui branch have only signed a total number of 428 people, which did not meet expectations. Therefore, we strive to promote the signature of "ACP" at "Community Service Unit".

### Methods/intervention

"Nudge Theory", original intention is "nudge with an elbow", the concept helps people to improve their thinking and decisions, manage all kinds of changes, identify and change existing influences. With the concept of protecting individual autonomy and removing obstacles (removing silt), there is four steps: (1) training candidate volunteers of good potential as our team to promote "Advance Decision" (2) "focus groups" sharing experience (3) conducting lectures for community members and willingness survey (4) our medical team provide group consultation and complete the signature at "Community Health Units".

### Results

From December 2022 to 2023, 382 candidate volunteers have been trained at "Community Health Units". A total number of 5 focus groups, 6 lectures for community members, our medical team completed 3 consultation sessions, accomplished the willing application of 216 people in 3 months and completed the signature of 82 people.

### Conclusions/lessons learned

Focus groups trigger reflection on medical decisions. Candidate volunteers enhance the participation of community members in lectures. Our medical team go deep into the community to accomplish the willing consultation, achieve the signature of "Advance Decision" effectively.

### Contact:

LI YuMeng  
MacKay Memorial Hospital TAMSUI BRANCH  
TAIWAN  
[nana005415.D998@mmh.org.tw](mailto:nana005415.D998@mmh.org.tw)

## Pilot Study of Dementia Literacy Intervention for Primary School Children in Taiwan

**HUANG Hsiao-Ling, TSAI Min-Xian**

### Background and objective

With the acceleration of aging population, many health problems of the elderly have emerged. Among them, dementia is one of the common issues and has gradually attracted everyone's attention. In the past, most of the research focus was on the clinical diagnosis of dementia, the quality of service and care, and how to prevent and delay dementia, little was investigated on the promotion of dementia education from the perspective of children. The purpose of this study is to explore the correlation between children's cognitive ability for dementia and the ability to detect dementia risk behaviors of elders in the family through the intervention of dementia education.

### Methods/intervention

The research method adopts a quasi-experimental research design. The research objects were the primary school children in Northern Taiwan. There were 45 children in the experimental group receiving dementia educational program for six times, while 46 in the control group. The reliability and validity of the research tools were tested.

### Results

The results of the study found that after children received the intervention of dementia education courses, there was a significant correlation between their knowledge of dementia and their behavioral intentions to look after their family members with dementia.

### Conclusions/lessons learned

This study suggests that future educational program could include the topic of dementia which will benefit both children and senior family members.

### Contact:

HUANG Hsiao-Ling  
Yuanpei University of Medical Technology  
TAIWAN  
[hluang@mail.ypu.edu.tw](mailto:hluang@mail.ypu.edu.tw)

## Taipei city Emergency Accident Injury Monitoring-Taking Xinyi District as An Example.

LI Ruei-Ling, LU Chung-Ying

### Background and objective

This project analyzes the accident injury monitoring data of Taipei Medical University Affiliated Hospital to understand the statistics of emergency medical treatment due to accident injuries, and analyzes through annual comparison and quarterly comparison. The Association, Xinyi District Office, Taipei City Xinyi District Health Service Center and other partnerships and references when evaluating safety plans.

### Methods/intervention

The source of the data is the medical record data of the HIS system when the patient went to the emergency department of the hospital for medical treatment. This analysis report includes statistical descriptions such as the basic information of emergency patients during the data period, the injured parts of emergency accidents, the types of accident injuries, and the causes of accident injuries.

### Results

Through the EXCEL hub analysis and statistics of emergency patients in Taipei Medical University Affiliated Hospital who were evaluated by doctors and diagnosed with HIS medical records, 2,510 emergency patients were analyzed, and the gender distribution, age distribution, accident injury site statistics, accident injury category statistics and accident injury cause statistics were analyzed.

### Conclusions/lessons learned

It shows that young adults have a high proportion of injuries. The proportion of injuries is higher at night, and publicity should be strengthened for commuting after get off work, leisure activities or home safety protection. According to statistics on the accident

and injury occurrence time of the elderly, it is found in the morning and evening, so the elderly really need to pay attention to the safety around their homes, community facilities, and driving at night.

### Contact:

LI RUEILING  
Taipei Medical University Hospital  
TAIWAN  
[205073@h.tmu.edu.tw](mailto:205073@h.tmu.edu.tw)

## Oral session 2.4: WORKSHOP: Humor in Healthcare

### Humour in Healthcare

HOUDEK Lukáš

Red Noses International is an organisation focused on healthcare-clown intervention in 11 countries and territories in Europe and the Middle East. Besides the many projects it has developed in the field of programmes for children, adult and senior patients, it has also set up an extensive programme focusing on enhancing the use of humour in healthcare through sensitive and playful communication and interaction with patients and their families. Its main objective is to promote healthy and empowering communication, serving the ultimate aim of strengthening well-being in healthcare for everyone involved, leading to optimal and balanced patient care. The workshop will be led by a seasoned trainer in humour in healthcare, with long-standing experience from both hospitals and other care-oriented institutions, as well as from medical universities. The structure of the workshop blends evidence-based information about communication, non-verbal communication and games with non-invasive practical exercises that help us develop awareness and appreciation of our body, its playful capacity, and teaches us to utilise our best personal abilities to establish a respecting and healthy environment and communication style that empowers both sides and enhances their mutual communication. Humour is often under-appreciated and underdeveloped in the healthcare environment, but it is a skill that can yield powerful results. Using humour and playfulness is not the same as "playing games" and "wasting time" – it is a tool that helps establish healthier relationships in hospitals, making all our professional efforts more effective, while feeling comfortable and confident in ourselves. Workshop leader: Lukáš Houdek from the Czech organisation Zdravotní klaun o.p.s, member of Red Noses International. Besides experience with healthcare clowning in the field and in artistic management, he is also a theatrical clown, teacher of clowning at theatre department of the HAMU Prague university, and teaches and develops Humour in Healthcare seminars.

### Contact:

HOUDEK Lukáš  
Zdravotní klaun / Red Noses International  
CZECH REPUBLIC  
[lukas.houdek@zdravotniklaun.cz](mailto:lukas.houdek@zdravotniklaun.cz)



## ONLINE Oral session 2.5: ONLINE SESSION: Health promoting healthcare

### Laying the groundwork for the implementation of the HPH vision and mission into a new healthcare organization

**CAUTERO Peter, GOBBATO Carlo Antonio, CONTE Alessandro, CAMILLI Andrea, ZORATTI Raffaele, SCARPIS Enrico, CARUSO Vitalba, ROSA Ilaria, FORGIARINI Mariarita, GRILLONE Lucrezia, MESAGLIO Maura, DEVETTI Paola, D'ANTONI Fabio, SAVOIA Aldo, ANASTASIA Daniela, TAMBURLINI Rossella, BIZZARINI Emiliana, CALCI Mario, PERESSINI Alberto, TURELLO David, CAPORALE Denis, BRUNELLI Laura**

#### Background and objective

The 8770-employees Azienda Sanitaria Universitaria Friuli Centrale (ASUFC) was created in 2019 from the merger of three smaller healthcare institutions covering a large geographical area (4969 km<sup>2</sup>) and serving 517848 inhabitants. The purpose of this abstract is to illustrate the steps taken to establish new HPH governance structure and to reorganize HPH activities in the new organizational structure.

#### Methods/intervention

ASUFC joined the HPH network in 2021, formalizing its commitment to health promotion for employees and citizens. To strengthen the professional network, a coordinator, 6 link professionals and an interdisciplinary committee have been appointed, including physicians of various specialties, psychologists, nurses, healthcare assistants, physical therapists, and administrative and technical staff. In addition, a project leader was appointed for each HPH topic: physical activity, nutrition, risk factors, individual and organizational well-being, and communication.

#### Results

The ASUFC HPH committee developed a policy document outlining the mission, vision, and local architecture of the HPH network. During the first half of 2022, all existing health promotion activities were mapped to develop a three-year strategic plan with a unified vision. This approach made it possible to develop an interdisciplinary network that ensures the representation of each professional profile and healthcare context, able to manage the complexity of such a large and heterogeneous healthcare organization.

#### Conclusions/lessons learned

With the establishing of this local HPH network architecture, our healthcare organization has reaffirmed its strong commitment to

the HPH vision and mission and laid the groundwork for the development of various activities and partnerships in the coming years that will lead to healthier lifestyles for staff and citizens.

#### Contact:

CAUTERO Peter  
Università degli Studi di Udine  
ITALY  
[cautero.peter@spes.uniud.it](mailto:cautero.peter@spes.uniud.it)

### Bridging the gap between law and implementation of health promoting primary care: the Austrian case

**ROJATZ Daniela, RATH Stephanie**

#### Background and objective

Health promotion and prevention are defined tasks of multiprofessional primary care units in AUSTRIA. To support the systematic implementation of these tasks, the Fund for a healthy AUSTRIA and the Austrian Social Insurance commissioned a project in 2018 and have worked on it ever since.

#### Methods/intervention

A comprehensive approach was taken, including the development of an ideal model of a health-oriented primary care unit, the development of capacity building tools for health professionals in primary care and the monitoring of current health policy developments.

#### Results

Experience shows that in addition to written information materials, a continuous guiding process is needed. The Austrian Social Insurance has taken this up and is being supported in setting up a continuous process that already begins when primary care units are founded and provides for the establishment of contact persons for health promotion and prevention in the primary care units.

#### Conclusions/lessons learned

The systematic implementation of the task areas is a complex undertaking and requires addressing several levels as well as coordination with current political developments and other projects in the field.

#### Contact:

ROJATZ Daniela  
Gesundheit Österreich GmbH [Austrian Public Health Institut]  
AUSTRIA  
[daniela.rojatz@goeg.at](mailto:daniela.rojatz@goeg.at)

### Health promoting primary health care: Why? What? How?

**ROJATZ Daniela, WAHL Anna**

#### Background and objective

In line with the endeavor to realize the whole-of-society approach of primary health care, the WHO Collaboration Center for Health Promotion in Hospitals and Health Care was

commissioned to prepare a policy brief on health promotion in primary care that addresses the issues: » why it is worth it to prioritize health promoting primary health care » what it means » how it can be realized

### Methods/intervention

A literature review on reviews on benefits of health promotion and/or prevention services in primary care was launched. Based on the results snowball technique was used to find further studies on concrete health promotion services. Subsequently workshops with experts in the field were held to discuss and agree on the results.

### Results

Health promoting primary health care can contribute to tackle major challenges of our times, as: universal health coverage and health equity, maintaining financial sustainability through prevention and health promotion, increasing quality of care by adapting to changed disease patterns, attracting and maintaining health of workforce and digital inclusion. The health promoting hospitals and health services (HPH) definition for health promoting health facilities was taken up and specified for primary health care. Health promoting primary health care entails: » Integrating health promotion and disease prevention in existing primary health care services » Additional health promotion services in primary care, including outreach services » Cooperation with public health services and other regional organizations » Cooperation, engagement, and participation with the regional community

### Conclusions/lessons learned

For the realization of health promoting primary health care and the creation of appropriate framework conditions, cooperation among all actors is key!

#### Contact:

ROJATZ Daniela  
Gesundheit Österreich GmbH [Austrian Public Health Institut]  
AUSTRIA  
[daniela.rojatz@goeg.at](mailto:daniela.rojatz@goeg.at)

## A shared vision for person-centred healthcare in Sweden: Involving citizens and various stakeholders to prioritize research questions with strategic foresight

**BJÖRKMAN Ida, BERGHOLTZ Jana, LINDGREN Pamela**

### Background and objective

The Gothenburg University's Centre for person-centred care (GPCC) is a national research centre financed by the Swedish government aiming for sustainable health through sustainable care. To participate in identifying and prioritize research areas for future person-centred health care services can empower both patients and staff. As part of GPCC's strategic work a foresight project was initiated including two patient co-researchers. The purpose was to identify problem areas in society related to health and prioritize research questions.

### Methods/intervention

Strategic foresight is a conceptual framework that aims at suggesting steps that helps pave the way to the most desired future scenario. A range of methodologies can be employed, and we utilized workshops, creation of visions, horizon scanning and prioritization exercises involving patients, relatives, staff, decision makers and researchers.

### Results

Four theme areas were identified: 1) the good meeting, 2) learning and trusting organizations, 3) a health-promoting society and 4) digitalization and accessibility. The horizon scanning identified trends such as staff shortage, increased healthcare needs, demographic changes and accelerating technological change. Stakeholders found it difficult to prioritize research areas as they all were deemed important to pursue. Further activities are planned including mapping existing projects financed by GPCC and how they relate to identified theme areas and trends as well as a brainstorming workshop.

### Conclusions/lessons learned

The project highlights several themes related to health promotion and a well-being-oriented healthcare such as the good meeting between patients and staff in learning and trusting organizations. Strategic foresight is a way to form partnerships with various stakeholders to envision future healthcare scenarios but prioritization among research questions is complex.

#### Contact:

BJÖRKMAN Ida  
Health and Care Sciences  
SWEDEN  
[ida.bjorkman@gu.se](mailto:ida.bjorkman@gu.se)

## A Healthcare for Community: Civic participation and development of Community Healthcare

**FORNERO Giulio**

### Background and objective

Background are "2020 Standards for Health Promoting Hospitals and Health Services", mostly Standard 3 "Enhancing people-centered health care and user involvement" and "The New Haven Recommendations on partnering with patients, families and citizens to enhance performance and quality in health promoting hospitals and health services". In collaboration with Cittadinanzattiva (Active Citizenship), the most important Italian Association for the protection of citizens' rights, starting from 2018, particular attention is paid to the interaction between the Regional Chronicity Plans and the Regional Prevention Plans

### Methods/intervention

Piedmont HPH Network and Cittadinanzattiva held the annual conference together in Turin, on October 13th 2022, to promote new initiatives on the basis of agreed Recommendations, the Turin Recommendations 2022. In the light of the Ministerial Decree 77/2022 "Models and standards for the development of Community Health Services in the National Health Service", the central topic is the development of Community Health Services supported by local communities (Local Health Authorities, Municipalities and their Unions, Professionals, Patients and their Caregivers, Associations / Organizations of the Third Sector, etc.)

and by informed civic participation; The Recommendations are dedicated to deepening the links between the development of local health services and civic participation

### Results

The Turin Recommendations were prepared with the Conference participants and presented to the HPH International Network. The document was approved by the HPH Governance Board, which supports its contents and intentions

### Conclusions/lessons learned

Sharing with manager and professionals of Regione Piemonte, Hospitals and Local Health Authorities HPH Standards and Recommendations and collaborating with them is useful to achieve the national and regional goals about the Chronicity and Prevention Plans. Collaborating with Cittadinanzattiva and other Citizens and Patient Associations is crucial for leading communities aware of their rights and Civic participation

### Contact:

FORNERO Giulio  
A.O.U. Città della Salute  
ITALY

[g.fornero@camminare-insieme.it](mailto:g.fornero@camminare-insieme.it)

## HPH strategy at Nantes University Hospital: where do we stand after 2 years of opening the « Hall Santé »?

**BARREAU Berangere, JOSSOME Aline, LE RHUN Anne, RABILLER Erwan, JOLIVET Anne, MORET Leila**

### Background and objective

Inaugurated at the end of 2021, the « Hall Santé » is Nantes University Hospital's flagship structure for the development of health promotion. The project, initiated by the public health department, began at the end of 2018 with the membership in the HPH network, and then continued with a quantitative and qualitative evaluation of the clinical teams' needs. This assessment made it possible to build a structured project financially supported by the Regional (Pays de la Loire) Agency of Health. Premises were fitted out, the identity and brand of the « Hall Santé » were created and protected, and a project team was recruited. After two years of implementation, what assessment can we make and what are the prospects for development?

### Methods/intervention

The missions of the « Hall santé » are: for professionals, to create health promotion events, to support their projects, to train them and to promote their health; for patients, to develop health education programs. A multi-year program of actions has been formalized. For professionals, a health promotion week is organized every year.

### Results

While the first two editions were mainly designed by the project team, the one planned in June 2023 is co-constructed with 15 clinical teams. A flash training course on "Health promotion, what does it have to do with me?" has been deployed, completed by the creation of a comic book. Several clinical teams were trained to lead collective health education sessions. Health

workshops on psychosocial skills and environmental health are organized for patients, adapted physical activities in pediatrics.

### Conclusions/lessons learned

Health promotion is gradually taking root in the practices of the medical teams. In the current hospital context, the institutional priority remains the quality of work life. The prospects are to extend the « Hall santé »'s offer by collaborating with the Health Departement of Nantes Metropolis and by agreeing with the surrounding public hospitals. The next shared medical project of the territory hospital grouping (2023-2027) will indeed integrate Health Promotion.

### Contact:

JOLIVET Anne  
CHU Nantes  
FRANCE

[anne.jolivet@chu-nantes.fr](mailto:anne.jolivet@chu-nantes.fr)

## ONLINE Oral session 2.6: ONLINE WORKSHOP: Assessing organizational health literacy in hospitals and primary health care services - experiences from the M-POHL project

**STRAßMAYR Christa, LEVIN-ZAMIR Diane, SØBERG FINBRÅTEN Hanne, HAARMANN Alexander, ISLERTAS Zeynep, ZILLMANN Nadine, KRAJNOVIĆ Dušanka, JAKS Rebecca**

The WHO-Action Network on Measuring Population and Organizational Health Literacy (M-POHL) initiated in 2022 in cooperation with the Health Promoting Hospitals and Health Literate Health Care Organizations working group a project with two main tasks: (1) to translate, culturally adapt and pilot the "International Self-Assessment Tool for Organizational Health Literacy of Hospitals" in as many countries as possible, an instrument which was developed by the "International Working Group Health Promoting Hospitals and Health Literate Health Care Organizations" in 2019, and (2) to develop a self-assessment tool for organizational health literacy (OHL) in primary health care services, building on existing tools and thereafter translate it into further languages, culturally adapt, and subsequently pilot it in different countries. Many countries in the European region have joined the M-POHL OHL project. The objective of the workshop is to inform on the above-mentioned tools and the study protocol used and to present and discuss national experiences regarding the process and results of translation, cultural adaption, and piloting of the tools with a focus on the feasibility and acceptability of the tools, on possible improvements and suggestions to facilitate a broad uptake of the tools in practice. Key message/Impact: The tools for assessing OHL in hospitals and in primary health care services are designed to support management and staff of hospitals and primary health care services to consider, systematically assess, and improve the health literacy responsiveness of their organization to better serve their patients, their local population, and support to their

staff to integrate health literacy in their roles in the healthcare system. The expected impact of the proposed session is to increase the awareness of OHL and disseminate the respective tools that facilitate the assessment of OHL. Workshop participants can benefit from the experiences gained in the M-POHL project.

**Contact:**

STRAßMAYR Christa

Austrian National Public Health Institute/Gesundheit Österreich  
GmbH

AUSTRIA

[christa.strassmayr@goeg.at](mailto:christa.strassmayr@goeg.at)

## Oral session 3.1: WORKSHOP: What, Why and How to do the Greenhouse Gas Emission Reduction in Health Care Sectors

**LIN Chin-Lon, LIN Ming-Nan, CHEN Chun-Po, SIE Ning-Huei**

Climate change is the leading issue in the world and many countries have been experiencing extreme weather and devastating climate events, including heatwaves, storms, severe flooding, and droughts, affecting millions of lives and livelihoods and it has wreaked the populations of the most vulnerable around the world. The health care sector plays an important role in the climate change. This meeting serves as a platform for stakeholders to address the intersection of climate change and health, with a focus on monitoring and reducing greenhouse gas (GHG) emissions. During the meeting, participants engage in constructive dialogue, focus on understanding the scientific evidence, sharing knowledge, expertise, and experiences regarding the impacts of climate change, strategies to monitor and track emissions, and sharing best practices for reducing GHG emissions at both global and local levels. Furthermore, participants could share innovative approaches and technologies to measure and track emissions across different categories such as energy, transportation, extra supply chains etc. To explore methodologies for conducting greenhouse gas inventories and ensure accurate these comparable data. The objectives include raising awareness about the health impacts of climate change, sharing best practices for monitoring emissions, and highlighting the role of health-promoting hospitals in addressing climate-related challenges. Overall, the health care sectors, NGOs, government officials play a pivotal role in shaping policies, mobilizing resources, and raising awareness about the climate crisis. It emphasizes the importance of collective action and the shared responsibility of all stakeholders in building a sustainable and resilient future for the planet. By fostering collaboration and knowledge exchange, the meeting strives to inspire transformative change and accelerate progress towards a net zero, climate change mitigation and enhance community well-being.

### Contact:

SIE Ning-Huei  
Dalin Tzu Chi Hospital, Buddhist Tzu Chi Medical Foundation  
TAIWAN  
[eagle0531@gmail.com](mailto:eagle0531@gmail.com)

## Oral session 3.2: Access to services and information II

**Applying Mishel's uncertainty theory  
to the critical care experience of a  
new immigrant with systemic lupus  
erythematosus**

**HU Ya-Chieh, HSU Wen-Chuan, CHANG  
Ya-Hui, TSAI Pei-Chen**

### Background and objective

This article aims to describe the care experience of an immigrant woman with systemic lupus erythematosus who was admitted to the intensive care unit due to severe complications of the disease. The care period was from November 1 to November 7, 2022. The case is a Vietnamese immigrant with good Chinese language ability, but the experience of leaving her hometown, different cultural background, and sudden severe illness with complications caused a lot of uncertainty in the case regarding the treatment of the disease.

### Methods/intervention

The author used Mishel's uncertainty theory framework for nursing assessment, collected data through direct care, written communication, and meetings, and determined that the causes of the case's uncertainty feelings were anxiety, deficient knowledge, and disturbed body image. After reviewing the literature, relevant measures and individual care plans were developed. The author used listening and accompanying skills to establish a therapeutic relationship, understand cultural differences, provide assistance and meet psychological needs within a reasonable range, provide disease-related knowledge and health care information, establish smooth communication channels within the medical team, reduce the case's uncertainty about disease treatment, and promote positive thinking and active engagement in the process of disease treatment.

### Results

This helps to establish good communication channels between patients and healthcare teams and enhances knowledge of the disease. A discharge preparation plan can be developed, and potential difficulties can be identified in advance. In addition to addressing patients' uncertainty, this approach also strengthens disease care skills and gradually restores confidence in daily life.

### Conclusions/lessons learned

When providing patient care, we should stand in the patient's role, understand their cultural background and difficulties, especially for new immigrants, provide individualized care, establish effective medical communication channels, and help patients reduce physical and psychological discomfort and uncertainty.

### Contact:

YA CHIEH HU  
CGMH hospital  
TAIWAN  
[eggberger@gmail.com](mailto:eggberger@gmail.com)

## Strengthening resilience through gender- and culturally sensitive workplace health promotion (WHP)

**OLEV Jutta, REITERER Florian**

### Background and objective

It is essential to integrate gender and culture specific aspects into workplace health promotion (WHP). So far, there are hardly any projects that explicitly address the needs of heteronormative socialised women and men, including their migration background - in particular in low-wage sectors of hospitals and nursing homes.

### Methods/intervention

By introducing and implementing the WHP process separately to the female and to the male workforce of a hospital or nursing home, a low-threshold and sensual access to health related topics of women and men is secured. The first language(s) are additionally used by the project team of the "Institut für Frauen- und Männergesundheit" to enable the understanding, interacting and active participating. The core elements (e.g. health lifestyle questionnaire, health circles, tailor-made health promoting offers on the behavioural and relationship level) are adapted to sensitise the target group and favours participation in the workplace health promotion process. Health multipliers from the peer group are trained to ensure sustainability.

### Results

Within 15 years of project implementations, more than 10.000 contacts to the target group have been achieved.

### Conclusions/lessons learned

Within the framework of a report, the sustainability and learning experiences of the WHP projects of the last few years were recorded, which were financed thanks to the General Directorate of the „Wiener Gesundheitsverbund“ (Staff Unit: Human Resources Development & Training, Health Management). The report underlines the gender and culture sensitive methodology and emphasizes the participation as a valuable tool for a successful WHP design. It gives a glimpse into future workplace health promotion strategies with a strong focus on the diversity of working environments.

### Contact:

OLEV Jutta  
Institut für Frauen- und Männergesundheit, AUSTRIA  
[jutta.olev@extern.gesundheitsverbund.at](mailto:jutta.olev@extern.gesundheitsverbund.at)

## Development and Feasibility of a Mobile-Health-Based Health Literacy Weight Management Intervention Program for Adolescents During COVID-19

**CHEN Yu-Hsia, GAU Bih-Shya**

### Background and objective

Adolescent obesity is a global public health concern, with risk factors including reduced physical activity, imbalanced diet,

sugary beverage consumption, sedentary lifestyle, increased screen time, and inadequate sleep. The COVID-19 pandemic has worsened these risks, highlighting the urgent need for prevention and mitigation. This is a priority for adolescent health professionals.

### Methods/intervention

The proposed intervention program was developed in two stages (Stage 1 and Stage 2) in accordance with the concept of transdisciplinary teamwork and team resource management, which involves physicians, nutritionists, data engineers, pediatric physicians, and community and school nurses. In Stage 1, an intervention program called "GO! GO! Smart Healthy" was developed. In Stage 2, the feasibility of the intervention was evaluated.

### Results

In Stage 1, four major tasks were completed: scale development, smartwatch selection, mobile health application development, and weight management health education program development. In Stage 2, a total of 30 adolescents aged 15–17 years were enrolled into a 12-week pilot program from March to September 2021. Three scales were then developed as follows: a weight management health behavior scale, a dietary diary scale, and a health literacy weight management scale.

### Conclusions/lessons learned

Overall, the preliminary findings revealed several advantages and certain disadvantages, which were overcome, in the proposed intervention program. The transdisciplinary teamwork approach adopted in this study ensured the integration and appropriateness of the intervention program. In general, the COVID-19 pandemic has altered the lifestyles and social interactions of people and the physical activity, dietary behavior, and sleep patterns of adolescents.

### Contact:

CHEN Yu-Hsia  
National Taiwan University Hospital  
TAIWAN  
[d03426001@ntu.edu.tw](mailto:d03426001@ntu.edu.tw)

## Eliminating hepatitis C in correctional setting in Taiwan: to treat prisoner as a patient in community

**LAI Chih-Kuan, YEN Ting, CHEN Li-Chiu, LIN Tzu-Shun, MA Hon-Kwing**

### Background and objective

In Taiwan, National Health Insurance (NHI) has funded health care in prisons since 2013. Hepatitis C (HCV) is highly prevalent among prisoners worldwide, with estimated rates between 15%–20% across countries. The availability of direct-acting antivirals (DAA) provide a very effective and safe treatment in 8–12 weeks with a cure rate of >90%. According to WHO recommendation, all prisoners should receive HCV screening. To achieve elimination of HCV by 2025, Taiwan NHI encourage HCV screening and cover costly DAA therapy not only in community but in prisons as well. Thus, we started a HCV screen and treatment program in prison from 2021.

### Methods/intervention

A one-time risk-based screening program was arranged in Yilan Prison, usually incarcerating 3,500 people at northern-east Taiwan, between Feb-Mar 2021. An informed consent was required for prisoner who intended to participate. A total of 1,371 prisoners were successfully screened for anti-HCV, including 1,285 males and 86 females. HCV-RNA test was performed for those with positive anti-HCV results. Subsequent 12-week DAA was started between Apr-Dec 2021. HCV-RNA was done again 3 months after completing DAA treatment.

### Results

Among 1,371 incarcerated people with a mean age of 49.0 years, 257(18.7%) were screened positive for anti-HCV, including 244 men and 13 women. The prevalence rates were 19.0% and 15.1% for men and women in Yilan Prison respectively. More than 95% (246/257) of positive anti-HCV prisoners completed 12-week DAA therapy. The HCV-RNA levels were almost undetectable 3 months after treatment completion. Being moved to other prisons was the only reason for 11 prisoners who prematurely terminated DAA.

### Conclusions/lessons learned

HCV without adequate treatment could lead to liver cirrhosis and hepatoma. The health consequence is notorious. Prison with high prevalence of HCV mandates an effective strategy to screen and treat the incarcerated people which, in turn, reduce the probability of disease transmission in community after their release.

### Contact:

LAI Chih-Kuan  
Camillian St. Mary's Hospital Luodong, TAIWAN  
[ckl.smh08251@gmail.com](mailto:ckl.smh08251@gmail.com)

## Oral session 3.3: Tobacco prevention and cessation, addictive behavior

### Tobacco-free hospital as first step through health promotion: data and perspectives for professionals

**HOCHET Marianne, BONNET Nicolas**

### Background and objective

To widely implement the tobacco-free strategy in French hospitals and health services, the French network for addiction prevention (RESPADD) was given the mission by the health ministry to provide hospitals and healthcare professionals with tools. Among those tools is a survey, with two questionnaires, one targeting patients and the other professionals. The second one allows to know more about professionals' tobacco consumption, basic knowledge and will to work in a tobacco-free hospital.

### Methods/intervention

The survey is of free access and can be implemented by any hospital wishing to. They can spread the questionnaires whenever they want, addressing both the patient and

professional questionnaires or either of the two. Questionnaires are disseminated in paper form or online, during one month, after notifying RESPADD. Data are collected and analyzed by RESPADD for each hospital. After four years of survey implementation, a global analysis was done with all collected professional questionnaires.

### Results

From 2017 to 2021, we collected 10 956 professional questionnaires from 76 hospitals. 25% respondents are occasional or daily smokers, 25% are former smokers and 49% never smoked. 66% of smokers are smoking less while working at the hospital. 85% think that prohibiting smoking in hospital is a good thing and 67% that it should be prohibited to smoke in work wear.

### Conclusions/lessons learned

Tobacco-free strategy is a way to address professional smoking habits and to give them keys to quit. Moreover, they do want to work in a preserved place from tobacco. Addressing professionals' tobacco consumption is also a way to give them the opportunity to feel legitimate to help patients to quit.

### Contact:

HOCHET Marianne  
RESPADD  
FRANCE  
[marianne.hochet@respadd.org](mailto:marianne.hochet@respadd.org)

## Women with AUD attending Addiction Centre in Malmö: A 42-year follow-up study on mortality and life expectancy

**RAMJI Rathi, RASMUSSEN Mette, TØNNESEN Hanne**

### Background and objective

Background :Alcohol use disorders (AUD) has been increasing in Europe and not the least in Sweden were nearly 10% of the population had consumed alcohol over the normal recommended levels in year 2019. Despite the presence of numerous addiction treatment centers, alcohol consumption has been on the rise in particular among women since they seldom sought support. The overall aim of this study was to compare the mortality, life expectancy and cause-specific mortality between women and men seeking treatment for alcohol use disorders as well in comparison to population-matched controls.

### Methods/intervention

Method :Data were collected in form of information retrieved from medical records of 12,460 patients who sought treatment for alcohol use disorder in the Addiction Center in Malmö in years 1970-2013. A control group 1:1 matched by age and sex, was drawn from the general population who lived in the same point of time in Scania Region. Death certificates for the patients and controls were obtained from the national registers to obtain time and cause of death. Kaplan-Meier survival analysis was used to compare survival curves between men and women in the patient group and the population controls using the log-rank test. Life expectancy rates were calculated using abridged life tables for men and women patients.

## Results

Results: The age- and gender-standard mortality rate among women seeking treatment for AUD was significantly higher compared to men. Further estimated mean survival in years was lower among women patients compared to men. The life expectancy was also lower for women patients over 65 years compared to men.

## Conclusions/lessons learned

Conclusions : The rise in alcohol related mortality among women indicates a need for effective alcohol prevention programs tailored to women, and continued evaluation of these programs so as to evaluate and improve them.

## Contact:

RAMJI Rath  
Department of Care Science, Malmö university  
SWEDEN  
[rathi.ramji@mau.se](mailto:rathi.ramji@mau.se)

## Clinical Health Promotion includes prehabilitation of multiple risky SNAP factors: A systematic review and meta-analysis on the impact on postoperative complications

**LYDOM Line Noes, JENSEN Sofie Anne-Marie Skovbo, LAURIDSEN Susanne Vahr, RASMUSSEN Mette, CHRISTENSEN Robin, JOENSEN Ulla Nordström, ROSENBERG Jacob, TØNNESEN Hanne**

## Background and objective

Patients undergoing surgery are often in need of clinical health promotion aiming at multiple risky SNAP-factors to reduce postoperative complications and improve recovery. Until now major developments have taken place for single factor SNAP intervention, such as preoperative smoking cessation. However, an increasing number of publications focus on combined intervention of the SNAP factors before surgery. The aim of this study was therefore to evaluate the effect of multiple risky SNAP-factor intervention on postoperative complications and length of stay (LOS) compared to usual care.

## Methods/intervention

We conducted a systematic review with meta-analysis in accordance with the PRISMA statement and the Cochrane Handbook. We searched for RCT's in five databases: Medline, Embase, Web of Science, Cochrane Central and CINAHL in the end of 2022. Primary outcome was postoperative complications within 30 days. Risk of bias was assessed with the Cochrane RoB2 tool. The protocol was registered at PROSPERO CRD42022282611.

## Results

The search resulted in 20,862 hits. At the final full text screening 24 studies evaluated multiple SNAP intervention, but 22 were not aiming at multiple predefined risk-factors. Thus, only 2 RCTs were included: One on intensive physical training and brief nutritional counselling to 55 x 2 frail patients with colorectal

cancer. This study reported complication rates of 45% (RR 1.00 95%CI 0.84-1.19) and LOS of 4 days in both groups. The other study on intensive alcohol and smoking intervention in a subgroup (n=10) of patients undergoing radical cystectomy, reported a complication rate of 43% vs 100% (RR 0.50 0.21-1.19). LOS was however significant: 8 vs. 14 days. The meta-analyses showed for complications RR 0.81(0.43-1.52) and MD -2.81(-8.68-3.05) for LOS.

## Conclusions/lessons learned

Most RCTs investigated the effect of a multiple SNAP program prior to surgery without predefined SNAP risk-factors. Only two small RCTs were aiming at preoperatively identified risky SNAP factors.

## Contact:

LYDOM Line  
Parker Institutet, DENMARK  
[line.noes.lydom.01@regionh.dk](mailto:line.noes.lydom.01@regionh.dk)

## Tobacco-free environment in Healthcare Services – new ways for clear signage of the tobacco-free campus

**KOALICK Susann**

## Background and objective

The Global Network's mission is to advocate, recruit and enable healthcare services and professionals globally to implement and sustain effective tobacco management and cessation policies in accordance with the WHO Framework Convention for Tobacco Control (FCTC).

## Methods/intervention

The Global Network for Tobacco Free Healthcare Services (GNTH) since its foundation in 1999, provides healthcare services with a systematic and comprehensive approach to tobacco free policies and management in accordance with the Framework Convention on Tobacco Control (WHO/FCTC). With the aim of creating guidelines to integrate comprehensive action on tobacco control and provide evidenced based care to all tobacco users at healthcare members, the GNTH developed 8 Standards. The GNTH concept takes the eight evidence-based Standards with detailed implementation criteria and the Self-Audit tool (a self-administered questionnaire) to help guide healthcare services in achieving implementation and monitoring progress. The high-level implementation of all GNTH Standards is recognized within the certificate GNTH GOLD Forum Process.

## Results

In the presentation, Standard 5 "Tobacco Free Environment" will be presented more specifically with best practice and new way's of signage for a tobaccofree environment. which were developed in the GNTH networks, including examples from AUSTRIA, Catalan and Switzerland.

## Conclusions/lessons learned

Measures are needed at the behavioral and environmental level to reduce the prevalence of smoking. At the relationship level, it is important to send clear messages for a smoke-free environment.



**Contact:**

KOALICK Susann  
Global Network for Tobacco Free Healthcare Services  
SWITZERLAND  
[susann.koalick@ftgs.ch](mailto:susann.koalick@ftgs.ch)

## Disadvantaged patients with cancer: Effectiveness of intensive smoking cessation intervention in primary care - A cohort study The Danish Gold Standard Program (GSP)

**LAURIDSEN Susanne Vahr, JENSEN Bente Thoft, TØNNESEN Hanne, DALTON Susanne Oksbjerg, RASMUSSEN Mette**

### Background and objective

Smoking cessation is an important prognostic factor for survival after a cancer diagnosis, especially for tobacco-related cancer diseases. After being diagnosed with lung cancer, about 50% continue smoking or frequently relapse after a quit attempt. The objective was to compare the effectiveness after 6 months of a 6-week intensive smoking cessation intervention, the Gold Standard Program (GSP), in persons surviving cancer compared with smokers without cancer. Secondly, to compare socioeconomically disadvantaged cancer survivors with non-disadvantaged cancer survivors.

### Methods/intervention

This cohort study was based on 38,345 smokers from the Danish STOPbase for Tobacco & Nicotine. The National Patient Register was used to identify cancer survivors undergoing a GSP after being diagnosed with cancer (except non-melanoma skin cancer). The GSP is the standard program offered as open access and free of charge in about 100 municipality clinics distributed all over Denmark. Logistic regression models were applied to evaluate the effectiveness.

### Results

Six percent (2,438) of the included persons were cancer survivors at the time they undertook the GSP. Their 6-month successful quitting showed no difference compared to smokers without cancer, neither before nor after adjustment; 35 % versus 37 % in crude rates and OR 1.13 (95% CI: 0.97-1.32), respectively. Likewise, the results for disadvantaged compared non-disadvantaged cancer survivors were not significantly different; 32.2% versus 33.1% and adjusted OR 0.87 (95% CI 0.69-1.11).

### Conclusions/lessons learned

Overall, the intensive GSP seems effective in helping people to successfully quit smoking - with or without having survived a cancer diagnosis and with or without co-existing disadvantages.

**Contact:**

TØNNESEN Hanne  
WHOC, the Parker Institute, Bispebjerg-Frederiksberg Hospital  
DENMARK  
[hanne.tonnesen@regionh.dk](mailto:hanne.tonnesen@regionh.dk)

## ONLINE Oral session 3.5: ONLINE SESSION: Promoting health for vulnerable groups II

### Exploring Consumer Risk Perception and Food Safety Knowledge during the COVID-19 Pandemic

**CHEN Fang-I, YANG Ting-Yu, LU Ying-Chen**

### Background and objective

The pandemic affected the global economy, restricting consumer and social activities. This study investigates consumers' awareness of food safety risks during the COVID-19 pandemic and identifies reliable sources for ensuring food safety. The objective is to understand the relationship between consumers' attitudes/practices and food safety during a critical time where health is paramount.

### Methods/intervention

This study utilized a cross-sectional research design, and questionnaires were distributed in 2022, with 336 of them being considered valid samples. The primary objective of the research was to investigate the reliability of the sources providing food safety information, the perception of food safety events, and the impact of COVID-19 related restrictions on food safety. Descriptive statistics, chi-square tests, ANOVA, logistic regression analysis, and assessments of reliability and validity were employed to conduct statistical analysis.

### Results

This study found that most of the surveyed participants were women (62.6%) and had the highest level of trust in the internet as a source of information, followed by the government and media. 87.3% believed people pose higher COVID-19 risk than food, indicating better virus transmission understanding. 88.4% of consumers believed that cooking at home is safer than dining out or getting takeout, reflecting consumers' concern for their own health. Older respondents (aged 61 and above) placed greater importance on food safety attitudes.

### Conclusions/lessons learned

The pandemic has raised awareness of health risks and led to changes in consumer behavior. While good health and dietary habits are important, consumers may not associate them with food safety. As health promoters and food safety educators, we should use this opportunity to strengthen promotion of these concepts and encourage consumers to change their habits for better health protection.

**Contact:**

CHEN Fang-I  
National Chiayi University  
TAIWAN  
[c2h3.kiki@gmail.com](mailto:c2h3.kiki@gmail.com)

## Association of Parity with Ideal Cardiovascular Health among Taiwanese Women

**PENG Tao-Chun, CHEN Wei-Liang, FANG Wen-Hui, KAO Tung-Wei**

### Background and objective

The threat of cardiovascular disease (CVD) in women is non-negligible. It constitutes the leading cause of death among women, accounting for approximately 1 in every three female deaths in the United States and worldwide. The American Heart Association(AHA) has defined ideal cardiovascular health(CVH) by proposing a metric called Life's Simple 7 (LS7). To our knowledge, there are no published studies on the interaction of parity and CVH among the Asian population. Thus, we aim to recognize if parity is related to the ideal CVH among women in Taiwan.

### Methods/intervention

The data for the present study were drawn from the MJ Health Management Institution and were collected from 2000 to 2016. This study was based on a retrospective cohort design. The participants, aged 45 to 75 years, were enrolled in the analysis. CVH metrics included BMI, smoking status, healthy diet score, physical activity (PA), blood pressure, total cholesterol, and blood glucose based on a definition modified from the definition presented in the AHA guidelines. The parity numbers were considered independent variables, and CVH metrics were dependent variables.

### Results

Among our study group of 20400 female subjects, parity ranged from one to a maximum of five (11% had 1 live birth, 41% had 2 live births, 28% had 3 live births, 12% had 4 live births, and 8% had 5 live births). Participants' mean (SD) age was 55.5(7.8) years, and age increased mildly with increasing parity. Women with multiple births were less likely to have 5-7 ideal CVH metrics. Multiparity was less likely to have ideal blood pressure and ideal fasting blood sugar in comparison with women with one birth.

### Conclusions/lessons learned

In conclusion, our study demonstrated a graded inverse relationship between the numbers of parity and hyperlipidemia in a Taiwanese population. In addition, a positive relationship between the numbers of parity and hypertension. Women's health can highlight strategies targeting CVH differently according to the parity numbers.

### Contact:

PENG TAO-CHUN

Tri-Service General Hospital, National Defense Medical Center  
TAIWAN

[koigojaff@gmail.com](mailto:koigojaff@gmail.com)

## Develop new models of medical outreach services to promote medical autonomy for patients with rare diseases and vulnerable groups

**CHUNG Hui Ching**

### Background and objective

With the concept of Compassionate City/Community and Death literacy, promote localization and communization of medical care, improve the accessibility of citizens to receive pre-established medical consultations, and encourage sub-healthy people to think about major medical decisions early, especially patients with rare diseases and vulnerable groups. MacKay Memorial Hospital actively connects the community care network and community care bases, geriatric day care centers, long-term care institutions, social welfare resettlement units including homeless shelter centers, homeless care non-profit organizations, etc.

### Methods/intervention

We provide "institutional ACP" and "residential (home) ACP" services, and set up a "Dual Service Model" innovatively: the first stage arranges "publicity activities" to videos, presentations, and Q&A, help the public and staff understand the Patient Autonomy Act, ACP, and palliative care, and establish a long-term cooperative and mutual assistance relationship. The second stage arranges "Advance Care Planning, ACP" services to help the public sign Advance Decision (AD) and pre-establish hospice care wishes.

### Results

From 2021 to 2022, we assisted 45 homeless people and seven rare disease patients and their families to sign AD, and the rate of pre-established hospice care willingness has been increased. Seven patients with rare diseases including ALS, Spinal muscular atrophy, Spinal muscular atrophy and NMOSD.

### Conclusions/lessons learned

Innovative outreach medical services combined with "Dual Service Model", "Institutional ACP" and "Residential (home) ACP". It can expand the community medical care service network and help sub-healthy people and vulnerable groups to think about the concept of medical autonomy early, including their intention of good death, the preference of medical services and Advance Decision.

### Contact:

CHING HUI Chung

MacKay Memorial Hospital

TAIWAN

[nnhui1104@gmail.com](mailto:nnhui1104@gmail.com)

## How Adolescent-friendly Health Care Initiative implemented in Taiwan

**CHIANG Chien-Dai, WU Chao-Chun**

### Background and objective

To promote adolescent-friendly health care and improve the quality of health-care services for adolescents, the Health

Promotion Administration, Ministry of Health and Welfare has started to accredit Adolescent-friendly Health Care Initiative (AFHCI) following the standard set established in 2018. There have been 26 hospitals and clinics were accredited as Adolescent-friendly Health Care Institutions since. This presentation analyzed how these 26 institutions had implemented the initiative to be qualified according to the standard set.

#### Methods/intervention

1. The standard set includes 6 standards, 12 sub-standards, and 20 indicators. Each indicator was evaluated as completed, partially completed, or not completed by a committee with 3 professionals from different fields for each institution. 2. To be qualified, for hospitals, at least 12 indicators should be evaluated as completed and 3 or less indicators uncompleted. There must be at least one indicator completed in each standard. For clinics, the threshold of completed indicators was 10.

#### Results

1. Within 26 institutions, 26.9% of the participants (7 institutions) were accredited with 17 indicators completed, 23.1% (6 institutions) with 16 indicators, and 19.2% (5 institutions) with 14 indicators. Two regional hospitals (7.7%) had passed the accreditation with all 20 indicators completed. 2. About 70% of these institutions could achieve all indicators in standard 1, 2, 4 and 6, and over 60% achieved most (but not all) of the indicators in standard 3 and 5.

#### Conclusions/lessons learned

1. 16 institutions (61.5%) out of 26 participants had 80% or more of 20 indicators completed. 2. According to the results, institutions need to improve their services according to some indicators in standard 3 and standard 5. Such as (1) providing assigned personnel for comprehensive care services for adolescents, (2) being sensitive to private and confidential issues while adolescents receiving health care, and (3) collecting, analyzing, and using data for quality improvements in health care services.

#### Contact:

CHANG Cypress  
Taiwan Society for Adolescent Medicine and Health  
TAIWAN  
[teens.77380025@gmail.com](mailto:teens.77380025@gmail.com)

## Construct the Patient's Spiritual Need Questionnaire for Use in Providing Spiritual Care for Patients.

**FANG Chun-Kai, CHENG Sung-Yuan, PI Shih-Hsuan, WU Ya-Li, LIN Keng-Chen, PAN Ruei-Yi**

#### Background and objective

Holistic care in medical institutions includes spiritual care, and spiritual care can no longer be equated with pastoral care. Even hospitals with religious backgrounds must provide spiritual care for patients of various religions. This study explores the spiritual needs of chronic patients, with the goal of developing a tool for screening patients' spiritual needs.

#### Methods/intervention

After passing the IRB review, this study adopts both qualitative and quantitative research. Qualitative research used in-depth interviews with chronic patients and focus group interviews with family members to obtain textual data on patients' spiritual needs. The text is analyzed by Heidegger's hermeneutics with Colaizzi analysis. The researchers constructed the Patient's Spiritual Need Questionnaire (PSNQ) from the themes obtained through qualitative analysis. Quantitative research is to analyze the reliability and validity of the PSNQ.

#### Results

A total of 19 chronic patients and 16 family members participated in the qualitative research. After interpretation, 15 themes of spiritual needs of patients are obtained. After interpretation, 15 themes of spiritual needs of patients were obtained and designed into the PSNQ with 15 items. Each item is scored from 0 to 3 points. A total of 661 chronic patients participated in the quantitative study. Cronbach's alpha was used to check the reliability of the PSNQ, and the internal consistency of the full scale was calculated with a Cronbach's alpha value of 0.899. The Bartlett's Test of Sphericity of the PSNQ reached a significant difference ( $p < 0.0001$ ), and the KMO value of sampling appropriateness was 0.900.

#### Conclusions/lessons learned

The PSNQ has been preliminarily verified to be used to screen the spiritual needs of chronic patients. In the future, hospitals will be able to use PSNQ as a basis to construct a spiritual care system suitable for chronic patients with different religious beliefs.

#### Contact:

FANG Chun-Kai  
MacKay Memorial Hospital  
TAIWAN  
[chunkai.fang0415@gmail.com](mailto:chunkai.fang0415@gmail.com)

## To the Operating Room! Positive Effects of a Healthcare Clown Intervention on Children Undergoing Surgery

**MARKOVA Gabriela, HOUDEK Lukáš, KOCABOVA Zuzana**

#### Background and objective

Medical procedures, especially surgeries, can be very scary for children. The fear and distress they experience during medical treatment can increase their perception of pain, disrupt necessary medical procedures and even have long-term negative emotional and psychological consequences. In recent years, the use of non-pharmacological interventions to manage psychological distress has increased considerably, particularly in paediatrics. We investigated the positive effects of healthcare clown intervention on children undergoing surgeries and their caregivers.

#### Methods/intervention

A total of 62 children between 5 and 12 years of age and their parents participated in the study. 35 children were observed before scheduled surgeries in the company of a clown and parent

(Intervention Group – IG) and 27 children in the company of a parent only (Control Group – CG). Data were collected at five observation points with the Modified Yale Preoperative Anxiety Scale and during four measurement points thanks to questionnaires. Children in both groups were videotaped to assess their activity, emotional state, mood, emotional expressivity and vocalisations. Parents were also administered the Child-Parent Relationship Scale.

### Results

Children in IG vocalized more positively than children in CG and showed more positive emotions. Additionally, the parents in the IG reported a better mood than those in the CG, and confirmed that their children were in a more positive mood pre-surgery compared to the CG. However when parents reported a conflictual relationship with their children, children in both groups showed more negative behaviours.

### Conclusions/lessons learned

Children can benefit from the visit of a healthcare clown before they go into surgery. The clown visit can promote positive emotions and support the children to cope better with this stressful situation. This positive effect of healthcare clowning is even stronger when supported by a good parent-child relationship.

### Contact:

DE FAVERI Silvia  
RED NOSES International  
AUSTRIA  
[silvia.de-faveri@rednoses.eu](mailto:silvia.de-faveri@rednoses.eu)

care, pandemic readiness or poor mental health. Innovative forms of holistic approach to investment that helps people to improve their life quality and stay healthy are required to reduce the increasing pressures on health and social care services. The Invest4Health project attempts to develop, test and put forward a model called 'Smart Capacitating Investment' (SCI), in which long-term benefits to health and related sectors outweigh initial costs and generate sustainable returns and localised benefits. The SCI has a high potential to generate a multi-actors interest and cross-disciplinary capabilities to engage in collaborative health promotion and prevention initiatives. Join us for the online workshop at the 29th International Conference on Health Promoting Hospitals and Health Services to hear the preliminary characteristics of the SCI defined through the initial rapid scoping review and share your feedback that would help us finalise the definition of the SCI. With the usable definition of Smart Capacitating Investment in hand, Invest4Health project will turn to the novel financial model(s) which can be used to determine which of the business models align with pre-defined contingencies for health promotion and disease prevention including addressing broader determinants of health. Ideas will be implemented and evaluated in four regional testbeds in Sweden, Spain, Germany, and the UK.

### Contact:

MAASSEN Alison  
EuroHealthNet  
BELGIUM  
[a.maassen@eurohealthnet.eu](mailto:a.maassen@eurohealthnet.eu)

## ONLINE Oral session 3.6: ONLINE WORKSHOP: Smart Capacitating Investment as a new concept to place health promotion and disease prevention at the heart of the health system

Smart Capacitating Investment as a new concept to place health promotion and disease prevention at the heart of the health system

**MAASSEN Alison, VAN VLIET Jolanda, BOKSTRÖM Tomas, RUTTEN-VAN MÖLKEN Maureen, PLUNGER Petra**

The fiscal space and budgetary resources of many governments are shrinking, all while demand for public services, including healthcare, is rising sharply. Hospital-focused healthcare models and 'traditional' forms of public health investment (e.g. national to local government funding and health insurance) are inadequate. Solutions must transcend health sector and focus on creating the conditions in which our societies can thrive. This means addressing issues ranging from inequality, unhealthy living environment, access to early childhood education and

## Oral session 4.1: WORKSHOP: Children's rights to play and participate in artistic activities in healthcare settings

### Objectives

RED NOSES International and the Task Force HPH-CA of the International HPH Network are organising a Workshop focused on the partnership between children's health promotion in healthcare settings and the role of arts and creative activities for enhancing children's well being and promoting the realization of their rights (e.g. right to play, leisure as well as to participate in artistic activities). Given their missions, RED NOSES and the Task Force aim at raising awareness among professionals and supporting implementation of Health Promotion Standards as defined by the International HPH Network.

### Key Messages

Hospitals can be stressful environments for children. Being hospitalised means the disruption of the daily routine, spending time in an extraneous place and interacting with strangers. Moreover, medical invasive procedures can be an extra source of fear, anxiety and distress for children and their caregivers. Numerous studies have highlighted the role of the arts and creative activities in improving mental health and well-being of children, including the healthcare context. Healthcare Clowning has greatly developed as a professional artistic discipline in the last decades, with more and more professionally trained clowns collaborating with healthcare institutions to improve the general well-being of the patients, especially children. Ensuring that the children's emotional and mental health is addressed is also at the core of the international agenda. Children's rights such as their right to leisure, play and to fully participate in cultural and artistic life are highlighted in many international policy frameworks and declarations. Expected Impact: The workshop aims at raising awareness on the need to provide children with artistic activities in the hospital environment, in order to improve their mental health and wellbeing. Participants will be invited to join the discussion and reflect on how this could be achieved in their healthcare institutions.

### Contact:

DE FAVERI Silvia  
RED NOSES International  
AUSTRIA  
[silvia.de-faveri@rednoses.eu](mailto:silvia.de-faveri@rednoses.eu)

## Oral session 4.2: Health promoting and health literate organizations

**Diabetes Info-point: an easy access  
to Community-based Health Care  
Service.**

**ZORATTI Raffaele, PIZZIN Cristina,  
CAUSSER Claudia, CIROI Cristina,  
AGUZZOLI Cristina**

### Background and objective

To provide an easy, equal and sustainable access to Health care services we need to improve health literacy, information and Community-based Health facilities to let people aware of the importance of chronic diseases burden, especially non communicable diseases and how to prevent them. Type 2 diabetes mellitus accounts for 90–95 % of all diabetes cases. According to International Diabetes Foundation, by 2040, the number of adults with diabetes is projected to increase to 642 million, and countries in the developing economies contribute disproportionately to the escalating global diabetes burden. Among the different interventions of proven efficacy in preventing diabetes, lifestyle modification is the most appealing because of its high efficacy, reduced costs and beneficial effects in various ethnic groups, together with glycemic control.

### Methods/intervention

In the South part of Friuli Venezia Giulia, in the North-East of Italy with 120.000 inhabitants, we established 14 Diabetes Info-point sites, run by Diabetes Family Association volunteers 4-6 hours a week, in close partnership and collaboration with family doctors, Community nurses, Hospital Diabetes Centers and Social Services, for population based information and screening for diabetes and institution of prompt life-style counselling.

### Results

The effective translation of diabetes prevention across global communities requires engagement and coordination at multiple levels within health-care services, civic society, government agencies.

### Conclusions/lessons learned

The establishment of Community Diabetes Prevention Centers, such as the Diabetes Info-point, to serve as hub for harmonizing the planning, delivery, and evaluation of lifestyle intervention activities, would be an efficient approach to global diabetes prevention.

### Contact:

ZORATTI Raffaele  
Medicina Interna di Palmanova (Udine), Presidio Ospedaliero  
Latisana-Palmanova  
ITALY  
[raffaele.zoratti@libero.it](mailto:raffaele.zoratti@libero.it)

## Building sustainable alliances for health promotion in hospitals and residential care in Vienna

**HÜBEL Ursula, METZLER Birgit**

### Background and objective

In Vienna, health promotion in health services has a long tradition starting 1989 with the WHO-model project on health promotion in hospitals. In 2000, a network was established as first regional HPH structure in AUSTRIA, pioneering the inclusion of long-term-care. The network transformed to a formal Vienna Alliance for Health Promotion in Health Care, involving the main

players of the sector and coordinated by Vienna Health Promotion, a non-profit organisation of the City of Vienna.

### Methods/intervention

The alliance enables systematic exchange of experience and knowledge regarding health promotion in hospitals and long-term-care by means of meetings of representatives of different management levels, events and the use of media. The partners of the alliance conjointly define issues to be tackled. Highlight was a project on health literacy and communication involving 9 pilot units.

### Results

The alliance is sustainably fostering the re-orientation of health services towards health promotion. Continuous capacity building, both on organisational and staff level, has taken place.

### Conclusions/lessons learned

Sufficient resources for organisational and scientific support and the organisational commitment of all partners underlined by the ceremonial signing of a cooperation agreement every five years were key for the sustainability of the alliance. Implementing a common project has further deepened collaboration and mutual trust.

### Contact:

HÜBEL Ursula  
Vienna Health Promotion  
AUSTRIA  
[ursula.huebel@wig.or.at](mailto:ursula.huebel@wig.or.at)

## Transforming Healthcare Spaces: HPBE Task Force's Interdisciplinary Solutions

### MIEDEMA Elke

### Background and objective

The built environment is a critical factor that can positively influence health outcomes of patients, staff, visitors, communities, and the planet. As international healthcare organizations are looking to adopt more proactive approaches, there is a need to further explore the role the built environment can play in health promotion. The current problem is two-fold: existing healthcare architecture research has limited exposure and implementation, and there are few studies focusing on health-promoting perspectives in healthcare architecture.

### Methods/intervention

The HPBE task force aims to overcome challenges by leveraging the expertise of its interdisciplinary members. This will involve compiling and sharing research through open knowledge platforms, raising awareness through webinars and trainings, and promoting collaboration across disciplines for research-informed design (RID) practice.

### Results

From the input collected from various stakeholders in the health-promoting hospitals (HPH) network the taskforce's can adjust and revise their goals and priorities for the upcoming years to reflect the networks interests.

### Conclusions/lessons learned

The built environment plays a critical role in health outcomes, but limited implementation and focus on health-promoting perspectives in healthcare architecture research present challenges. The HPBE task force aims to address this by leveraging interdisciplinary expertise, sharing research, raising awareness, and promoting collaboration for research-informed design (RID) practice, based on input from HPH stakeholders.

### Contact:

MIEDEMA Elke  
Tu Delft  
NETHERLANDS  
[elke@healthscapes.eu](mailto:elke@healthscapes.eu)

## Patients' Perceptions of Informed Consent Process - Comparison Between Public and Private Hospitals in Israel

### RON Reut, SZYPER-KRAVITZ Martine, TAL Orna, AMIT Inbal, BARNEA Royi, ANKRI Hadar

### Background and objective

Informed Consent is a prerequisite for providing medical treatment, which includes two components: receiving and understanding information and giving consent. It is unknown whether this process is carried out in Israel in accordance with the law and satisfaction of patients.

### Methods/intervention

Objectives: Identifying barriers in the informed consent process for surgery, in Israel, by examining the patients' experience. Methodology: A mixed-methods study which was carried out simultaneously in three hospitals in Israel - Assuta Medical Centers, Assuta Samson Public Hospital in Ashdod, and Shamir Medical Center: (1) a structured telephone interviews (2) In-depth qualitative interviews.

### Results

Between 04/11/21 to 24/08/22, 633 patients were interviewed. 93% remember the meeting, but only 74% remembered signing the consent form. Most meetings was held at hospital, a month before surgery, and lasted 10-20 minutes. Most patients (88% and 86%) reported on explanations given in a language they understand and that the physician gave them opportunity to ask questions. Accordingly, 83% reported that the explanation was clear, and 80% reported an alignment between the explanations they received and their experience. In the qualitative study, several important themes were found to improve patient experiences.

### Conclusions/lessons learned

The results of this study indicate that in both the public and the private health systems in Israel, the process of receiving an informed consent for surgery, which includes the meeting with the physician for explanations, and signing the consent form, is effectively good, and in accordance with the law.,but distinct differences were observed between the private and public hospitals. There are a number of significant recommendations

for physicians and hospital's management, which are described in detail in the research report. Continuing research is required to subjectively examine the patient's level of understanding following the encounter and the quality of signing with conscious consent.

**Contact:**

RON Reut

Assuta Health Services Research Institute, ISRAEL

[reutro@assuta.co.il](mailto:reutro@assuta.co.il)

## Strengthening health literacy: national coordination and support through the Austrian Health Literacy Alliance

**NOWAK Peter, DIETSCHER Christina, SCHLACHER Angelika**

**Background and objective**

Health literacy is an important precondition a.o. for the usage of healthcare services and for health outcomes. The first European-comparative Health Literacy Survey in 2011 demonstrated a clear need for action in AUSTRIA as compared to other European countries. Therefore, the Austrian government devoted one of the ten inter-sectoral national health targets to the improvement of population health literacy. In 2014, the Austrian Health Literacy Alliance was founded in order to support implementing Health Target 3 and started its work in 2015. A "core team" was established as a decision-making body. It consists of members of the federal government, federal provinces, social security institutions and Health in All Policies (HiAP) partners. In 2022 the second independent evaluation was performed to assess processes and goals achieved and to guide the further development of the Alliance.

**Methods/intervention**

A mixture of document analysis, interviews, and online surveys was used to evaluate the Alliance. Recommendations for further developments were derived.

**Results**

The evaluation confirmed successful capacity-building for improving health literacy in AUSTRIA. The Alliances' successes were networking, collaboration, knowledge transfer and the development of a unifying understanding of health literacy and quality standards.

**Conclusions/lessons learned**

Looking forward, the evaluation recommended building on the established fundament, continuing the Alliances' focus areas (high-quality health information, high-quality communication in healthcare, health-literate organizations, empowerment of citizens and patients, measuring health literacy), orienting on a focused and impact-oriented approach towards their activities and broadening the Alliances' impact.

**Contact:**

SCHLACHER Angelika

Gesundheit Österreich GmbH, AUSTRIA

[angelika.schlacher@goeg.at](mailto:angelika.schlacher@goeg.at)

## Oral session 4.3: Promoting healthy behavior II

### Impact of Integrated Home Health Care Program on Homebound Patients' Healthcare Utilization in Taiwan: A Retrospective Cohort Study

**SHEN Yi Hsuan, YU Ernest Wen-Ruey, HO Chin-Yo, LEE Jason Jiunshiou**

**Background and objective**

The Integrated Home Health Care (IHHC) program was implemented in Taiwan in 2016, providing care for homebound patients. The program categorized homebound patients into three stages based on their medical needs. Homebound patients in stage 1 have medical needs, those in stage 2 have medical and nursing care needs, and stage 3 provides palliative care at home. This study aimed to investigate whether the IHHC program affects hospitalization and emergency department utilization among homebound patients.

**Methods/intervention**

This retrospective cohort study used Taiwan National Health Insurance Research Dataset to analyze homebound patients from 2016 to 2018. We compared the differences in the number of emergency department visits, hospitalizations, and length of hospital stay before and after enrollment in the IHHC program.

**Results**

After enrollment in IHHC, homebound patients (N=18,485) significantly reduced their total number of outpatient visits (before/after: 15.61(10.85)/11.90(10.45)), emergency department visits (1.15(1.79)/0.86(1.55)), hospitalizations (0.93(1.21)/0.62(1.06)), and length of hospitalization (12.66(21.18)/7.36(16.14)) compared to before enrollment. We performed a subgroup analysis stratified by care stages (s1, s2, and s3) and obtained consistent results.

**Conclusions/lessons learned**

The IHHC program not only provides homebound patients with good medical accessibility but also reduces the burden on the medical system, healthcare expenditures, and the risk of homebound patients being exposed to a higher risk of infection in the hospital.

**Contact:**

SHEN Yi-Hsuan

Taipei City Hospital Yangming Branch, TAIWAN

[annie453300@gmail.com](mailto:annie453300@gmail.com)

## Effectiveness of Nutrition and Physical Activity Interventions for Weight Management Program at Workplace

**YEE Pei Ni, LEW Ya Hui, KEE Ng Teik Dicky**

### Background and objective

Obesity is one of the health issues that attract global attention. National Health and Morbidity Survey 2019 (NHMS) showed that Malaysia rated 50.1 % of adults are overweight or obese (30.4% overweight and 19.7% obese). The high levels of overweight and obesity among the workforce are associated with an increased risk of sick leave (absenteeism) and reduced productivity. The aim of this study was to improve awareness of well-balanced nutrition needs and weight loss for employees in an electronic factory through a dietary and exercise education program.

### Methods/intervention

The weight management program was carried out in the setting of 3 modules focusing on Body, Mind, and Spirit. The participants were selected employees in an electronic factory at Bayan Lepas (Penang, Malaysia). The 3 months' weight management program included nutrition lectures, motivation lectures, one hour of exercise, a cooking demonstration, food labeling activities, and food match activities. Participants were asked to keep a journal (in Google Drive) in which they recorded the details they had eaten and the exercise they had carried out. Participants were asked to submit their journals every week. Besides, they were required to carry out weekly weighing. Participants' anthropometric measurements were performed every month. Biochemistry blood tests were performed at the beginning and the end of the program.

### Results

All participants (n= 19) had a BMI of  $27.5 \pm 20$  in the beginning and at the end of the program, reduced to  $26.5 \pm 14.8$ . The average weight loss for all participants was 3.4 kgs. The average percent of body fat loss was 2.65% and the average waist circumference reduction was 8.6 cm. 84.2% of participants had a reduction in cholesterol, as well as 63.2% of participants, had a reduction in triglyceride. 94.8% of participants managed to have a reduction of hBA1c.

### Conclusions/lessons learned

According to our results, a weight management program emphasizing lifestyle and self-monitoring of food intake interventions through small groups and the motivation of peers is considerably important in resulting short- term weight losses and healthier behaviour at workplace.

### Contact:

YEE Pei Ni  
Penang Adventist Hospital  
MALAYSIA  
[lifestyle@pah.com.my](mailto:lifestyle@pah.com.my)

## Effectiveness of 'Peer-Coach' Weight Management Program

**YEE Pei Ni, LEW Ya Hui, KEE Ng Teik Dicky**

### Background and objective

The overweight and obesity rate in Malaysia has increased from 44.5% in 2011 to 47.7% in 2015 to 50.1% in 2019. Weight management is one of the suggestions to improve the health of those who are overweight or obese. Penang Adventist Hospital (PAH) is having a large proportion of employees who do not have a healthy BMI which is not convincing for the patients. The purpose of this program is to encourage overweight/ obese PAH staff to achieve a normal range of BMI with the supervision of a coach selected from PAH staff to motivate and encourage each other to live a healthy lifestyle.

### Methods/intervention

The 'coach-peer' weight management program lasted for 12 weeks. The setting was set in such 3 permanent staff in a team whom 1 acted as the coach and the other 2 acted as participants. A pre and post-assessment were conducted by using an In-Body composition analyzer to analyze the body composition of participants. Nutritionist was available to share nutrition-related topics, and exercise videos in terms of modules using the messaging platform. The role of the coach was to support the modules with the team. After three months, the participants underwent their post-assessments with InBody machine. The total weight loss of the participants was calculated and the most weight loss in a team was ranked accordingly.

### Results

There were total of 104 participants where 82% from female and 18% male. The largest age group falls into 21-30 years old (49%) staff followed by 31-40 years old (33%), 41-50 years old (13%) and the least was 51-60 years old (7%). Post-assessment showed that 90.4 % of participants have reduced weight. When segregated into muscle-fat, the fat loss was 86.4% but 13.6% of participants gained fat. For muscle, up to 72.8% of participants lost their muscles, and 27.2% gained muscle. The participants agreed on the modules given were beneficial effects, and easy to understand. 83.7% of participants responded materials were conveyed in video type.

### Conclusions/lessons learned

This study demonstrated that the effectiveness of the 'coach-peer' program is beneficial to the participants. When they have the knowledge, attitudes, and peer support, these attitudes posed positive effects on their weight reduction.

### Contact:

PEI NI YEE  
Penang Adventist Hospital  
MALAYSIA  
[lifestyle@pah.com.my](mailto:lifestyle@pah.com.my)



## Using Smart Phone Application Device for Health Promotion among Hospital Employees during Pandemic of COVID-19

**KAO Tung-Wei, LIN Jing-Yi, PENG Tao-Chun, FANG Wen-Hui**

### Background and objective

Previous person-to-person interacted model of health promotion activities were restricted during the pandemic of COVID-19. Using high technology device to assist hospital employees to maintain good health behavior is an alternative method. We provided a smart phone application for brisk walking competition and also estimated the changes of exercise associated behaviors after program.

### Methods/intervention

Our hospital provided a "smart health city" application device for employees. There were multiple health related programs including exercise teaching video, pedometer, fitness examination, diet education and on-line caring group. We recruited employees to join the program of daily walking 7500 steps, participants were requested to record their daily steps and upload data to the program platform. They could post personal experience and feelings regarding exercise on this social media as well. Participants' basic demography, questionnaires of international physical activity, self-efficacy on exercise performance and behavior skills on exercise were ascertained before and after this program. We also provided rewards to the top three employees for the purpose of encouragement.

### Results

There were 169 participants enrolled in this program and 82.8% were female employees. There were 11.2% of participants felt very good about their health condition. Among the participants, 39.6% of them were low physical activity, and 16.5% of them were high physical activity. Before the program, there were 23.1% of participants had good self-efficacy on exercise conduction, and 36.6% of them had good maintenance on regular exercise. There were 54 participants completed the post-test, 22.2% of them felt very good about their health status, 44.4% of them had good self-efficacy on exercise condition, and 70.3% of participants had good maintenance on regular exercise. In the comparison of changes on self-efficacy of exercise, there were three domains with significant increment ( $p=0.002$ ,  $0.031$ , and  $0.002$ , respectively) after program. In the changes of exercise skill, there were five domains with significant improvement (all  $p<0.003$ ).

### Conclusions/lessons learned

Smart phone application device provided a practical method to enhance group recognition and to facilitate exercise empowerment for hospital employees during pandemic of COVID-19.

### Contact:

KAO Tung-Wei  
Tri-Service General Hospital, National Defense Medical Center  
TAIWAN  
[cupiter888@gmail.com](mailto:cupiter888@gmail.com)

## Oral session 4.4: Physical activity and healthy lifestyle II

### Health Promoting Posters

**BAUMGARTEN Adi, NOAH LEVIN Ifat, HARAN SILUK Yael, MUGAMI Odelia, FRIEDMAN Rebecca, LEVI Michal, BADER Tarif, VANDER Tatiana**

### Background and objective

In 2021, Herzfeld Geriatric Rehabilitation Medical Center (HGRMC) carried out the "Health Promoting Posters" project, intended to improve the health and well-being of three target populations: inpatients, staff and community dwellers, by posting tips and messages for a healthy lifestyle on the walls of HGRMC.

### Methods/intervention

Posters contained short texts phrased by the physiotherapy staff, stating simple acts that could improve the health of their readers. We aimed to increase awareness of living a healthier lifestyle, encourage regular physical activity, give knowledge on fall prevention and promote readers to be more aware of their health. The phrasing is short and simple in order to get the main message through to anyone walking down the corridors. After posters were written, experts toured HGRMC in order to find the optimal location for each message we wanted to hand out. For example: a message about the importance of using stairs was posted between the elevator and staircase.

### Results

We have received positive feedback from patients, staff and visitors (community dwellers) that enjoyed reading our posters. It seems that they have increased awareness to health promotion. Since we have put them up on our walls, we see more people take the stairs, exercise on their free time and ask more questions about phrases they have read. In 2022, new posters were added by occupational therapy and nutrition staff with tips on healthy nutrition and leisure activity.

### Conclusions/lessons learned

The posters are an economic, accessible and simple way to promote health. They are large and colorful and people enjoy reading them.

### Contact:

BAUMGARTEN Adi  
Tel Aviv University,  
ISRAEL  
[adi.baumgarten@gmail.com](mailto:adi.baumgarten@gmail.com)

### Health Promoting Workshops

**BAUMGARTEN Adi, NOAH LEVIN Ifat, HARAN SILUK Yael, MUGAMI Odelia, FRIEDMAN Rebecca, WASSERSTEIN Irit, BADER Tarif, VANDER Tatiana**

### Background and objective

Herzfeld Geriatric Rehabilitation Medical Center (HGRMC) operated by Clalit health services has been focused on health promotion since the day it was established. Health promotion is derived from our organizational vision and strategy. In 2020, HGRMC was recognized as a Health Promoting Hospital by the HPH organization and in spite of the COVID-19 pandemic, we have been able to carry out many health promoting activities since then. These activities intend to promote the health of three target populations: inpatients, staff and community dwellers.

### Methods/intervention

2022 work plans for HGRMC included various health promoting activities for our target populations. Collaborations were formed in order to encourage community dwellers to participate in various workshops taking place in HGRMC. Some examples of health promoting workshops in HGRMC are:

- Exercise groups, mindfulness meditation groups for hospital staff
  - Multidisciplinary diabetes management workshop, smoke cessation workshop for inpatients
  - Healthy lifestyle, exercise, healthy nutrition and a caregiver workshop for community dwellers
- All workshops are group sessions led by trained medical staff.

### Results

Our workshops aim to make participants feel active and productive in the community, to enhance and improve their sense of capability, to allow them to share their life experience and knowledge with other members of the group and also to give them various skills and ways to improve their quality of life. After participating in HGRMC workshops, participants reported improvement in their sense of well-being.

### Conclusions/lessons learned

This year we plan to open additional workshops in different interest areas.

#### Contact:

BAUMGARTEN Adi  
Tel Aviv University, ISRAEL  
[adi.baumgarten@gmail.com](mailto:adi.baumgarten@gmail.com)

## The effectiveness of a community-based group exercise program on the physical function in community dwelling elderly

**SHUE Jonathan Hao-Hsiang, LU Su-Chen, HUANG Pin-Chun, HUNG Shou-Hung SHIH Ming-Feng**

### Background and objective

Muscle strength and mobility are crucial to the physical independence in older persons, as reduced muscle strength and loss of mobility may lead to a decreased quality of life and an increased risk of overall mortality. Physical dysfunction in the older population also carries a substantial healthcare as well as social care cost, an important issue that must be intervened early, especially in rural areas where health resources are scarce. This study aimed to investigate the effectiveness of a

community-based group exercise program on the physical function of community dwelling elders in a rural area.

### Methods/intervention

Participants were recruited from a rural community in an agricultural county in central Taiwan from November, 2022 to January, 2023. Each participant received a 12-week, once-weekly group exercise program provided and instructed by the staff from a university hospital (NTUH-Yunlin branch). Protein supplement was given after each exercise session. Measurements at baseline and post-program included anthropometric tests, BMI, body composition, grip strength, lower body strength, and gait speed.

### Results

Data were collected from 33 participants (6 male and 27 female) with a mean age of 76.7 (range, 63-87). Lower body strength, as measured by the number of sit-to-stand repetitions in 30 seconds, significantly improved (15.24 vs. 18.94,  $p < 0.001$ ). The gait speed also improved significantly (1.04 m/s vs. 1.31 m/s,  $p < 0.001$ ). Variables unaffected by our intervention were BMI, body composition and grip strength.

### Conclusions/lessons learned

The 12-week, once-weekly group exercise program effectively improved lower body strength and gait speed in a group of rural community-dwelling older individuals.

#### Contact:

SHUE Jonathan  
TAIWAN  
[jonathanshue@gmail.com](mailto:jonathanshue@gmail.com)

## The effects of workplace exercise programs on employee physical fitness

**LIN Jing-Yi, CHEN Wei-Liang, HSU Pei-Jung, KAO Tung-Wei, PENG Tao-Chun, WANG Chih-Chia, FANG Wen-Hui, HUNG Chun-Chi, CHAO Yuan-Ping**

### Background and objective

Workplace health promotion is now an important part of preventative medicine. In Taiwan, due to work stress and lifestyle, many employees have inadequate exercise habits. Our study investigated the potential benefit of an employee exercise program designed by the community medicine department and measured by fitness-related indexes.

### Methods/intervention

Our prospective study included 49 employees and a three-month exercise program developed by professional trainers. We collected before and after questionnaires and fitness examinations. A paired t-test was performed to compare the parameters before and after the exercise programs.

### Results

Of the 49 participants, 37 were in the experimental group (EG) and 12 were in the control group (CG). This study discovered no significant difference in the International Physical Activity Questionnaire (IPAQ) scores on the pre-tests and post-tests of

both groups. The EG had a significant increase in exercise skill and efficiency and a decrease in body mass index (BMI) and waist circumference.

#### Conclusions/lessons learned

Our research suggests that instituting an appropriate hospital workplace exercise program can improve employees' exercise skills, exercise performance, and physical fitness indexes such as flexibility and cardiorespiratory endurance.

#### Contact:

CHENG YUNG WEN  
Tri-Service General Hospital  
TAIWAN  
[cyw0451@gmail.com](mailto:cyw0451@gmail.com)

## "Free exercise - the staircase" Promote Employees to Exercise Autonomously

LEW Ya Hui, KEE Ng Teik Dicky, YEE Pei Ni

#### Background and objective

In a healthy lifestyle, regular exercise is an important part. In particular, when the workplace is under pressure, regular exercise habits should be cultivated to be carried out autonomously. Free exercise – the staircase is one of the programs to encourage the development of self-regular exercise in staff.

#### Methods/intervention

Our objective was to educate our staff there are creative ways to be physically active during their working hours. Using the staircase instead of the elevator is an easy and inexpensive way to reduce time spent being sedentary. We decorated the stairways with motivational phrases and calorie counting paint, the portraits directing to use of staircases in high-traffic areas in and around the hospital compound, stickers on the elevator's button, health benefits on the door of the elevator, and motivational posters on the wall on each floor of the carpark.

#### Results

To assess the effectiveness of the campaign, we conducted a 14 days' reward system activity, "Climb, Spot and Win" in the 3rd month after the launch of the campaign. The participants who randomly collected an envelope on the wall of the staircase were required to answer the questionnaire in order to collect their rewards. The surveys revealed the implemented intervention was effective to encourage the staff to use the staircases more often as more than 90% of participants answered that they were motivated to take the stairs after stair prompt signage, stickers, posters, and paint on stairways were added.

#### Conclusions/lessons learned

The survey findings indicated that the impact of the campaign with added activity is a great way to promote "free exercise" at the workplace. It also helped the staff and nurses who are having difficulty carrying out physical activities after work or shift work.

#### Contact:

PEI NI YEE  
Penang Adventist Hospital, MALAYSIA  
[lifestyle@pah.com.my](mailto:lifestyle@pah.com.my)

## ONLINE Oral session 4.5: ONLINE SESSION: Staff empowerment

### Coping with shared trauma among rehabilitation units' staff members, during COVID 19 "The profession supports you from behind. He's the back"

GRANAT Adi, SHATKANI Tal, ROSENBERG  
Sari, SHOTOV Kfir, GILI Raen-Rosen,  
GRANOT Osnat, SEGAL Niza, ASHERMAN  
Adi

#### Background and objective

The COVID19 epidemic has affected us all. Many therapists have found themselves dealing with a unique state whose main characteristic is a Shared Traumatic Reality. Studies on staff members in a shared traumatic reality show an increase in the therapists' psychological distress, the need to adapt to frequent changes in the work environment. Alongside these, it has been found that shared traumatic reality can increase empathic ability, and professional satisfaction and contribute to professional development and personal growth. This enables them to increased commitment to the profession and to patients, and a sense of ability to cope with the traumatic reality. In order to establish tailored targeted interventions for the staff members of our hospital, we made a survey. The purposes were: Identify demographic factors prone to develop distress, identify resilience factors that should be increased, detection of distress level, establishing a work program according to the survey findings.

#### Methods/intervention

The sample included 109 rehabilitation unit staff members. The employees completed self-administered questionnaires: Demographic characteristics, Compassion Satisfaction CS, Perceived Organizational Support POS, General Self-Efficacy Scale GSE, General Health Questionnaire GHQ

#### Results

The present study reveals the adverse impact of working in a shared trauma reality as indicated by the high prevalence of emotional distress. Age seems to be a resilience factor when older staff reported an increase in the sense of self-efficacy and a reduction in the level of distress. While aiming to increase self-efficacy, the importance of compassion satisfaction as a mediator should be noted. Mediation analysis indicates that the ability of older staff members to receive gratification from caregiving and compassion increases levels of self-efficacy. Despite higher levels of organizational support it seems that staff members lacked the ability to channel this resource to reduce distress

#### Conclusions/lessons learned

Following the findings activities were selected for long and short-term intervention aimed at providing support preserving and increasing personal and professional resilience. Balint groups for long-term intervention and mindfulness to physical, mental and emotional well-being were established

**Contact:**

GRANAT Adi  
Loewenstein Rehabilitation Medical Center  
ISRAEL  
[adigranat40@gmail.com](mailto:adigranat40@gmail.com)

## Future Physicians as Health Care Providers: What Happens to the Students' Health State and Health Behaviour During University Years?

**UMAMI Afriza, MOLNÁR Regina, PAULIK Edit**

### Background and objective

Health and health behaviour of medical students should also be considered from the point of their future health care work. This study aimed to examine if there is a difference in health and health behaviour among medical students before and during medical school.

### Methods/intervention

A cross-sectional study was conducted among medical students at the University of Szeged, Hungary in 2021 using an online questionnaire. Health variables were chronic illnesses, general health, mental health, and nutritional status; health behaviour was characterized on the basis of visiting various health professionals (e.g., GPs, dentists, specialists, and psychologists), smoking, alcohol consumption, and sexual behaviour. Data were analysed with SPSS 28.0 using descriptive statistics and McNemar test to compare the two periods.

### Results

688 medical students participated in this study; 61.0% were female, 60.3% were pre-clinical students, and 47.4 % were foreign students. Of all participants, 12.6% had a prior chronic illness, while during medical studies it raised to 16.4% ( $p<0.001$ ). Before university, 22.1% and 38.2% students had poor general and mental health, respectively, but during medical school, these conditions worsened to 33.1% and 50.9% ( $p<0.001$ ). The proportion of visiting health professionals such as GPs (before 70.6%; during 56.8%), dentists (before 81.8%; during 59.2%), specialists (before 49.7%; during 37.6%), and psychologists (before 25.4%; during 17.2%) dropped while attending medical school, significantly in all cases ( $p<0.001$ ). Alcohol consumption (before 66.7%; during 70.1%) increased during medical education ( $p=0.011$ ). There was no significant difference in smoking, sexual behaviour, and nutritional status.

### Conclusions/lessons learned

During medical education, students experienced unfavourable changes in their health and health behaviour, which points to the necessity of some preventive intervention at university level.

**Contact:**

UMAMI Afriza  
University of Szeged  
HUNGARY  
[afrizaumami20@gmail.com](mailto:afrizaumami20@gmail.com)

## COVID-19 Emergency: emotional decompression interventions towards healthcare professionals at Udine Hospital (Italy) through EMDR technique

**ZAGO Daniela, CAMPANELLA Fabio, PASCOLI Eva, ACCOLLA Pierpaolo, REGATTIN Laura, D'ANTONI Fabio, BRUNELLI Laura, FIORILLO Francesca**

### Background and objective

The present work aims at describing our experience in psychological support of healthcare professionals from Udine Hospital (Italy) during COVID-19 pandemic through EMDR-IGTP (Eye Movement Desensitization and Reprocessing-Integrative Group Treatment Protocol) intervention technique aimed at reducing Post-Traumatic Stress Disorder (PTSD) symptoms in participants from Emergency, Intensive Care and Infectious Disease/Pneumology Units.

### Methods/intervention

Between April-September 2021, 23 group meetings (117 participants) were organized. Psychological intervention was performed through EMDR-IGTP protocol. IES-R (Impact of Event Scale-Revised) was administered to assess PTSD symptoms. Preliminary efficacy analysis of EMDR was performed by comparing intensity of subjective disturbance of trauma related images (Subjective Units of Disturbance – SUD) at the beginning and at the end of intervention. Moreover, IES-R data from a subset of 17 participants who took part to more than one meeting were longitudinally compared to explore changes in IES-R scores.

### Results

Mild to severe PTSD symptoms were present in 79% of the participants. Prevailing symptom was “Intrusivity” (persisting/intrusive thoughts and images related to trauma) which was significantly higher than “Avoidance” (attempts to avoid reminders/situations/thoughts) and “Hyperarousal” (hyperactivation, anger, irritation, sleep difficulty). SUD levels comparison showed that 42.7% of participants reported 8-to-10/10 SUD levels at the beginning, but only 10.9% at the end of the intervention. A significant reduction in Hyperarousal levels was found between first assessment and follow-up in the 17 participants taking part to more meetings.

### Conclusions/lessons learned

Results show high incidence of PTSD symptoms in healthcare professionals exposed to high levels of stress during pandemic emergency. Preliminary analyses suggest that EMDR approach to trauma reduction can be effective, both immediately and also in the longer period.

**Contact:**

ZAGO Daniela  
University of Udine  
ITALY  
[zago.daniela001@spes.uniud.it](mailto:zago.daniela001@spes.uniud.it)

## Prevalence of Second Victims, Risk Factors and Support Strategies among Austrian Paediatricians (SeViD-AI Survey)

**POTURA Eva, HUSCSAVA Herbert, SITTER Barbara, VOITL Peter, KLEMM Victoria, STRAMETZ Reinhard, RÖSNER Hannah**

### Background and objective

The Second Victim Phenomenon (SVP) is critical to workplace and patient safety, and epidemiological data is missing to this point to investigate the causes and its effects on Austrian health care. Albert Wu's and Susan Scott's publications on the SVP made very clear that medical errors might lead to severe emotional injury of health care workers. This is the first quantitative study in AUSTRIA that investigated the SVP in Austrian Paediatricians regarding prevalence, causes, and predisposition compared to preceding studies on German physicians (Second Victims in Deutschland/SeViD-I) and nurses (Second Victims in Deutschland/SeViD-II). Our study aims to identify the prevalence of the SVP among Austrian paediatricians, in hospitals and in paediatric primary care surgeries.

### Methods/intervention

We conducted a nationwide anonymous cross-sectional online study in 2023 using a modified SeViD-questionnaire including BFI-10 (personality traits). We distributed the SeViD-questionnaire among n = 2100 members of the Austrian Paediatric Society via email to assess general experience, symptoms and support strategies associated with the SVP.

### Results

Of 414 responding paediatricians, 89% reported to experience SVP at least once during their working lifetime, 14% reported recovery times of over one year. Compared to SeViD-I and -II (60% approximately), this proportion highlights the need of preventive measures against SVP. Like SeViD-I and SeViD-II, Austrian paediatricians reported a demand for institutional response if SVP occurred.

### Conclusions/lessons learned

SVP is very common among Austrian Paediatricians. However, four out of ten paediatric doctors affected did not seek or receive any assistance in coping with this stressful situation. Effective support networks, e.g., easy access to psychological and legal counselling as well as the implementation of peer support in hospitals, are urgently required to prevent employees from further harm. This may prevent healthcare professionals from leaving their field of medical care and may aid to maintain a high level of system safety and well-being of subsequent patients.

### Contact:

POTURA Eva  
Second Victim,  
AUSTRIA  
[eva.potura@secondvictim.at](mailto:eva.potura@secondvictim.at)

## Preventing Stress-Related Ill Health Among New Registered Nurses by Supporting Engagement in Proactive Behaviors—Development, feasibility, effect evaluation, and process evaluation of a behavior change intervention as part of transition to practice

**FRÖGÉLI Elin**

### Background and objective

Early experiences of stress and limited professional adjustment among new registered nurses (RN) constitutes risk factors for later symptoms of burnout and turnover. Proactive learning behaviors may contribute to new RNs learning and adjustment and reduce experiences of stress but are at times avoided due to fear of aversive events.

### Methods/intervention

I will present a series of research focused on developing and testing a behavior change intervention for improving new RNs' professional adjustment and health including an interview study and behavior analysis, a feasibility study, a randomized controlled trial, and a process evaluation.

### Results

The results show that avoidance of proactive learning behaviors is a problem among new RNs and that a behavior change model targeting such behaviors is acceptable for new RNs and may be integrated into a transition to practice program at professional entry. Furthermore, the results show that the behavior change intervention may contribute to preventing new RNs' experiences of stress and improve their adjustment, but that more support of new RNs' proactive learning behaviors is needed as part of everyday clinical practice and training.

### Conclusions/lessons learned

Transition-to-practice programs may benefit from adding an intervention that specifically addresses new RNs' proactive learning behaviors and experiences of stress to further support them as they adjust to their new professional role. More knowledge is needed on how to increase the support of new RNs' proactive learning behaviors as part of everyday clinical practice and training.

### Contact:

FRÖGÉLI Elin  
Karolinska Institutet  
SWEDEN  
[elin.frogeli@ki.se](mailto:elin.frogeli@ki.se)

## **ONLINE Oral session 4.6: ONLINE WORKSHOP: Social Prescribing as key element of primary health care and hospitals: Implementation opportunities in hospitals, primary care units and GP's surgery**

**ROJATZ Daniela, CHIVA GIURCA Bogdan, HUSK Kerry, COSTONGS Caroline**

Health starts within our communities and homes. When health concerns can no longer be resolved at home, primary care is often the first port of contact to professional care. Every 5th patient visits primary care facilities because of health-related, non-medical concerns. Social prescribing is considered an innovative approach for addressing these concerns. The Delphi Study of Muhl et al. (2023) defines Social prescribing as “a holistic, person-centred, and community-based approach to health and wellbeing that bridges the gap between clinical and non-clinical supports and services. [...] Social Prescribing is a means for trusted individuals in clinical and community settings to identify that a person has non-medical, health-related social needs and to subsequently connect them to non-clinical supports and services within the community by co-producing a social prescription – a non-medical prescription, to improve health and wellbeing and to strengthen community connections.” The session will address the question of what kind of health facilities social prescribing can/should be implemented in and how social prescribing can strengthen resources and ensure that non-clinical supports and services within the community can be made accessible. Objectives: - To make people aware of the social prescribing approach and different forms of implementation. - To consider to what extent social prescribing can be usefully implemented in different health care settings. Key messages: - Social prescribing embodies all elements of primary health care. - Social prescribing ensures the access of patients in need (esp. also vulnerable and disadvantaged groups) to health-relevant non-medical support and, thus, promotes health equity - Social Prescribing is applicable in several types of healthcare settings: GP, multi-professional primary care units, paediatric facilities. Impact: - To address the different possibilities and resources of health facilities to implement social prescribing or to collaborate with community-based forms of social prescribing.

### **Contact:**

ROJATZ Daniela  
Gesundheit Österreich GmbH [Austrian Public Health Institut]  
AUSTRIA  
[daniela.rojatz@goeg.at](mailto:daniela.rojatz@goeg.at)

## Mini oral session 1.1: Healthy workforce in health care settings

### A study of factors related to hospital staff's perceptions of hospital management before and after the epidemic

**CHEN Mei-Ju, KUO Chia-Wei**

#### Background and objective

This study was conducted to find out whether there were differences in the perceptions of hospital management and patient safety-related components between staff at the Taipei City Infectious Disease Dedicated Hospital and the backup hospital before and after the Covid19 outbreak.

#### Methods/intervention

The target population of this study was the staff of the Taipei City Infectious Disease Dedicated Hospital and its backup hospital, and the research instrument was the National Patient Safety Culture Network Survey of the Medical Policy Association. In 2018 and 2020, 498 and 470 questionnaires were returned by a Dedicated hospital, and 180 and 192 questionnaires by its backup hospital, respectively.

#### Results

The percentage of positive perceptions of hospital management was higher in Dedicated hospitals than in redundant hospitals, but neither exceeded 40%. 2020 had a lower percentage of positive perceptions than 2018, with the percentage of positive perceptions of management decreasing from 38.7% to 21.8% and 43.3% to 36.7% in backup hospitals and Dedicated hospitals, respectively. The percentage of positive resilience was the lowest in both 2018 and 2020. The percentage of positive resilience in the backup hospitals was higher, but not more than 20%; the percentage of positive resilience in the specialized hospitals even dropped to 17.2%.

#### Conclusions/lessons learned

The results of this study revealed that hospital staff perceptions of management, stress perceptions, and even resilience were significantly affected by the pandemic. Staff must be empowered through transparency and teamwork at all levels of the system to build strong health care systems and stable hospitals that can quickly respond to the challenges of a changing and unpredictable environment.

#### Contact:

CHEN Mei-Ju  
Taipei City Hospital  
TAIWAN  
[g158090011@gmail.com](mailto:g158090011@gmail.com)

## Examining the effectiveness of improving Tungs' Taichung MetroHarbor Hospital employee self-health awareness and behaviour to improve body weight and body fat control

**YANG Yu-Chen**

#### Background and objective

Past studies found that if the attitudes of people towards certain things can be first understood, then the behavioural presentation of people towards the thing can be predicted, and this can be used in various types of slimming measures. As most of our hospital's employees are at their peak golden years of career progression. To encourage employees to focus on their health, we conducted this activity to enable employees to pay attention to their obesity problems and implement various weight reduction and fat reduction plans for employees with weight and fat abnormalities to improve and change".

#### Methods/intervention

Methods designed on follows: Predisposing factors: 1. Weekly publication of weight reduction and fat reduction health slogans in the competition LINE group 2. Periodic access to Google forms after the start of the competition to report current reduction status Reinforcing factors: 1. Organising exercise classes, weight reduction and fat reduction diet teaching in the hospital 2. Inviting people who successfully achieved weight reduction and fat reduction to share their experiences to encourage participants Enabling factors: 1. Free use of hospital gym by participants 2. Stride exercises

#### Results

A total of 279 employees participated in the activity. However, there was a gradual increase in the number of reported participants every month from July to October. The number of participants with weight and fat reduction also gradually increased, with values falling between 9.45 and 182.7, demonstrating significant effectiveness.

#### Conclusions/lessons learned

To achieve effective control, weight reduction and fat reduction plans were based on influencing factors: predisposing factors, reinforcing factors, and enabling factors were used to plan various activities to change behaviour, improve literacy, and increase weight and fat reduction, which showed a positive correlation.

#### Contact:

YANG Yu-Chen  
TAIWAN  
[studentapple520@gmail.com](mailto:studentapple520@gmail.com)

## The effects of midday mindfulness meditation on the improvement of employees' resilience in medical fields

LIU Jo-Yun, TSAI Ru-Ying

### Background and objective

Tung's Taichung MetroHarbor Hospital attaches great importance to the physical and mental health of employees. In 2022, the employees' counseling psychologist designed nine psychological stress relief courses, which were intended to improve employee resilience, and the employees learned mindful eating, mindful body scan, meditation, and other stress relief methods during their one-hour lunch break to reduce the day's work pressure, fatigue, and restlessness. They also learned self-care.

### Methods/intervention

Mindfulness awareness and practice combined with the progressive inner-zone, middle-zone, and outer-zone awareness experience of Gestalt therapy assisted the employees to convert their work stress into physical feelings through abdominal breathing, mindful body scan, and mindful eating, so as to relax their sympathetic nerve and improve their overall resilience.

### Results

A total of 53 participants attended the nine courses in mindfulness meditation stress relief. Among the participants, 30% were nurses; 10% were medical technicians; and 60% were administrators. The overall satisfaction rate with the courses was 90%. Through use of the one-tailed dependent T test, the null hypothesis was consistently rejected at a confidence level of  $\alpha=0.05$ . On the issue of whether there was a difference after nine interventions per person,  $p\text{ value}=0.000000000221\leq\alpha=0.05$ .

### Conclusions/lessons learned

One hour of midday mindfulness meditation can improve the overall resilience of employees and significantly reduce their heart rates.

### Contact:

TSAI Ru Ying  
Tung's Taichung MetroHarbor Hospital  
TAIWAN  
[t1194411944@gmail.com](mailto:t1194411944@gmail.com)

## Cardiometabolic risk factors change among health professionals during the COVID-19 pandemic in a medical center at southern Taiwan – A three year follow-up

CHU Nain-Feng, CHEN Yi-Ru, WU Der-Min

### Background and objective

In the past 20 years, the occurrence and comorbidities of obesity became important health issues in Taiwan. Obesity and obesity-related cardiometabolic disorders become more significant

during the COVID-19 pandemic in recent three years. The purpose of this study is to evaluate the change of cardiometabolic risks among health professionals during the COVID-19 pandemic at a medical center in Taiwan.

### Methods/intervention

This is a repeated cross sectional study from 2019 to 2022. The participants have participated in annual physical check-up for 3 years. Cardiometabolic risk factors, such as blood pressure, lipid profiles and glucose levels were measured using standard methods. We used McNemar test and Wilcoxon Sign Rank test to evaluate the differences between and among subgroups. We used a logistic regression to examine the risk of increase cardiometabolic risk among different weight status change subgroups.

### Results

A total of 2217 participants (1641 females and 576 males) with the mean age of  $40.2 \pm 10.2$  years (from 24 to 65 years) were included in this study. 72 (4.4%) participants' weight status changed from normal weight to overweight or obesity and 530 (32.3%) females remained overweight or obese status during this period. Among males, there was 6.8% and 61.1%, respectively ( $p < 0.01$ ). Participants who remained overweight or obese status have more adverse cardiometabolic risks. The mean SBP was  $131.0 \pm 18.1$  mmHg and fasting glucose was  $94.4 \pm 13.52$  mg/dl for males which were higher than those normal weight subjects ( $p < 0.01$ ). Among females, those remained overweight or obese status has 4.12 (95%CI 3.22-5.27) times higher risk for abnormal SBP and 2.98 (2.05-4.32) times higher for abnormal glucose level than those remaining normal weight status.

### Conclusions/lessons learned

During the COVID-19 pandemic most subjects maintained their body weight status. However, those remained overweight or obese developed more adverse cardiometabolic risks such as high blood pressure, hyperglycemia and dyslipidemia. Further prevention programs may be needed to prevent these adverse cardiometabolic risks during a pandemic.

### Contact:

CHU Nain-Feng  
Department of Medical Affairs Management, Kaohsiung Veterans General Hospital; S  
TAIWAN  
[chuepi369@gmail.com](mailto:chuepi369@gmail.com)

## Behavioral Management on Weight Loss Program for Hospital workers: Assessment of the Adherence and Effectiveness

CHEN Yi-Chun, CHEN Hui-Chuan, YANG Mei-Chu, LIN Yi-Hsuan, LIN Yeu-Tyng, TSAI Shih-Tzu

### Background and objective

The aim of this study is to examine how well participants adhere to various components, such as lessons attendance and self-monitoring of eating and exercise behaviors, in a behavioral treatment program for weight loss. We also investigate the



impact of adherence to these components on weight loss and change in body composition.

#### Methods/intervention

The program consisted of eight sessions of 1.5 hours lessons, completed within six weeks during lunch breaks. Medical professionals including physicians, nurses, nutritionists, and physical therapists lead the sessions. In addition, participants are encouraged to join a mobile social community to upload food diary photos and exercise summaries. Participants undergo body weight, body mass index (BMI), waist circumference, and body fat measurements before and after completing the program.

#### Results

A total of 19 members participated in this program, with an average weight of 68.6 kg, standard deviation (SD) of 15.3, and a mean body mass index (BMI) of 26.9% (SD 4.65) before lessons. The average attendance rate was 91.4%, and the average number of self-initiated messages uploaded was 47.8. After completing the program, the participants had an average weight loss (mean -3.03 kg, SD 2.34), a decrease in BMI (mean -4.24%, SD 2.64), a reduction in waist circumference (mean -3.6 cm, SD 2.27), and a decrease in body fat (mean -1.12%, SD 1.26). Regression analysis found that age ( $p=0.008$ , 95%CI 0.037, 0.210), gender ( $p=0.001$ , 95%CI -6.605, 1.950), and the adherence of food and exercise records uploads ( $p=0.010$ , 95%CI -0.072, -0.012) were statistically significant predictors of weight loss.

#### Conclusions/lessons learned

Through an intensive educational sessions on diet and exercise, as well as the self-monitor adherence records, participants achieved significant improvements in body weight, BMI, waist circumference, and body fat percentage without the use of other weight loss-related medications.

#### Contact:

CHEN Yi-Chun  
Cheng-Hsin General Hospital, Taiwan  
TAIWAN  
[ycchen1204@gmail.com](mailto:ycchen1204@gmail.com)

## Hospital Staff Morale Boosting Program - Focusing on the Health Promoting Hospital (HPH) Activities & Responses of Participants

LEE Jaekyung, SEOL Dongwon, LEE Chunyeong

#### Background and objective

Since February 2020, there has been a gradual mitigation of responses as the COVID-19 pandemic has lengthened. However, the burden of COVID-19 operation in hospital coexists according to seasonal characteristics and virus variants, and quarantine policies of each government changes. It was necessary to boost the morale of medical personnel who felt tired and burdened by changing government policies and corresponding hospital operation guidelines. The efforts of the medical staff can make patients and hospitals happy so that it is becoming more important to boost the morale of medical personnel, to maintain

mental and physical health, and to promote satisfaction, stability, and a sense of belonging.

#### Methods/intervention

In particular, as a municipal hospital with intensive care unit for COVID-19, there had been times when in-hospital activities were not free. In response, the hospital executive department reorganized the structure into a field system to mobilize personnel into departments where demand and work are concentrated. Coming up with this trend, our HPH activities had also been transformed. For individual workers, initial meeting and progress report, online or non-face-to-face activity methods were used, or the risk factors of HPH activities were hedged and through small grouping of activity projects.

#### Results

Health promotion hospitals (spirit-boosting programs) have caused quite positive results amid the difficult situation of faculty members due to COVID-19. Among the pandemic, more than a month of experience and education programs with communication and feedback with managers were also conducted, but short experiences, small group activities with meals and refreshments caused a more explosive response.

#### Conclusions/lessons learned

It seems that the faculty felt that short activities were not burdensome when combined with work. In order to maximize morale, short activities with communication and feedback with managers are being considered in the future.

#### Contact:

LEE Chunyeong  
SMG-SNU Boramae Medical Center  
KOREA  
[lcycl97@daum.net](mailto:lcycl97@daum.net)

## Mini oral session 1.2: Improving care of people with multiple health problems and comorbidity I

### Expert nursing care worker in elderly cohort isolation

SUNG Young Hee, AHN Ju Hee, JUNG Yu Jin

#### Background and objective

From March to May 2020, a group infection of Covid 19 occurred in an elderly care units (nursing home, etc.) within a 50km radius of our hospital. During cohort isolation, hospitalized beds were insufficient for elderly patients with increased severity. We put half of the total beds in quarantine for elderly patients and then sent them back to nursing homes. An infection control expert officer at the nursing home was needed.

#### Methods/intervention

Our geriatric medicine team analyzed the spread of infection in the nursing home. We partnered with the local senior nursing home association and planned infection control field consulting.

We received standard guidelines from infectious disease institutions in the province as educational materials. Hospice specialist nurses were deployed to ensure a dignified death in the event of death. A total of 11 elderly care units that volunteered to participate in this project were educated and consulted.

### Results

The satisfaction of elderly care units who volunteered for this infectious disease visiting education advice was very high, and all requested continuous cooperation. Realistic infection control measures tailored to the space, movement, manpower, and patient severity of each nursing home were educated. This pilot project has strengthened manuals and medical records on the management of infected patients.

### Conclusions/lessons learned

The response to this activity was much higher than expected. The local government's infection control team learned the actual infection control methods of nursing homes. Nursing homes have increased their ability to respond to infection. We must cooperate to protect the socially disadvantaged in the infectious disease pandemic. We will now educate more nursing homes.

### Contact:

JU HEE AHN  
suwon medical center  
KOREA  
[cathdoc@hanmail.net](mailto:cathdoc@hanmail.net)

## Exploring the Association between Nonalcoholic Fatty Liver Disease and Elevated Intraocular Pressure: Implications for Glaucoma Prevention

**FAN Kuan-Yu, LIN Wan-Ying, CHEN Pei-Chun, YU Ernest Wen-Ruey, HO Chin-Yu, LEE Jason Jiunshiou**

### Background and objective

Glaucoma, a leading cause of irreversible blindness, has high intraocular pressure (IOP) as a major risk factor for its progression. The prevalence of glaucoma is notably higher in Asian and African populations and is expected to increase globally in the coming decades. Chronic medical conditions such as hypertension, hyperglycemia, and dyslipidemia have been linked to elevated IOP, suggesting that managing these factors may aid in glaucoma prevention. Nonalcoholic fatty liver disease (NAFLD) is an increasingly prevalent condition affecting an estimated 32.4% of the global population. Previous studies have demonstrated strong associations between metabolic syndrome, NAFLD, and elevated IOP. Our study aims to further elucidate the relationship between NAFLD and elevated IOP.

### Methods/intervention

We conducted a retrospective cross-sectional study, analyzing data from 3,830 health examination cases at Taipei City Hospital between January 2016 and December 2021. Fatty liver diagnoses were determined through abdominal ultrasonography, categorized into seven severity levels. The mean IOP in the general population is 15.5mmHg with an acceptable fluctuation

of  $\pm 2.75$  mmHg. Multiple logistic regression analysis was employed to assess the correlation between NAFLD and elevated IOP ( $>15$  mmHg).

### Results

Among the 2,341 cases analyzed (mean age=40.82), we found a positive correlation between fatty liver and IOP ( $P=0.0430$ ). When comparing cases with normal liver to those with fatty liver, the odds ratio for elevated IOP was 1.189, with a 95% confidence interval ranging from 1.005 to 1.407.

### Conclusions/lessons learned

In Taiwanese adults, elevated IOP was associated with fatty liver. Individuals with fatty liver are 1.18 times more likely to have elevated IOP compared to those without fatty liver. Further studies are necessary to confirm the correlation between elevated IOP and NAFLD.

### Contact:

FAN Kuan-Yu  
Department of Family Medicine, Taipei City Hospital Yangming Branch  
TAIWAN  
[bena8012@gmail.com](mailto:bena8012@gmail.com)

## Development of The Falls Risk Screening Tool for Community-Dwelling Older Adults.

**LIN Min-Ling, CHEN I-Ju**

### Background and objective

The first step in preventing falls in the elderly is to identify the risk of falls, and it is important to choose an effective screening tool. The purpose of this study is to establish a fall risk screening tool that the elderly in the community can perform by themselves in daily life. This tool can effectively identify the elderly at risk of falling in the community.

### Methods/intervention

This study was divided into two stages and eight steps. The first stage was to develop the initial self-screening scale in the community-dwellings of fall-risk older adults. The second phase used a repeat measures study design. The cases were selected from outpatient department of a medical center. Simultaneously measured for the fall risk with the "Self-screening scale in community-dwelling of fall risk older adult", "STRATIFY," and "Balance System™ SD", then follow-up six months. The statistical analysis including internal consistency, test-retest reliability, binary Logistic regression, ROC curve/AUC area, sensitivity, specificity.

### Results

277 elderly people completed the test, 214 elderly people completed a 6-month telephone follow-up. 198 people did not fall, 16 people fell. There are a total of 26 items in the "Self-screening -screening scale in the community-dwellings of fall-risk older adults." The short version of self-screening scale in the community-dwellings of fall-risk older adults was formed, which included "falls in the past year" ( $OR=3.41$ , 95%  $CI=1.22\sim 10.02$ ), "need help in bathing, including undressing or bathing or dressing, any of which," ( $OR=3.92$ , 95%  $CI=0.97\sim 15.83$ ), "recent symptoms of dizziness or vertigo" ( $OR=3.74$ , 95%  $CI=1.30\sim 10.76$ )

and "often feel in a bad mood" (OR=2.61, 95% CI=0.89~7.64), the ROC curve and AUC area were 0.75 (95% CI=0.64-0.87), the sensitivity was 0.94, and the specificity was 0.43.

#### Conclusions/lessons learned

The short version of the "Self-screening scale in community-dwelling of fall risk older adult," has good stability, content validity, criterion validity, and sensitivity. When the inspection score is  $\geq 1$  point, professionals should accept further in-depth evaluation.

#### Contact:

LIN MinLing  
MacKay Memorial Hospital  
TAIWAN  
[ali@mmh.org.tw](mailto:ali@mmh.org.tw)

## Correlation between obesity and fasting blood glucose levels assessed by different body composition measurement tools for the elderly

SU Pei-Hung, WANG Fong-Chin

#### Background and objective

Obesity has become a major public health problem worldwide and is associated with chronic diseases such as diabetes. According to the 2022 data, Taiwan's elderly population accounts for 18.4%, and the prevalence rate of obesity among the elderly is 22.0%. In order to improve the obesity problem of the elderly, the government actively promotes health promotion programs for obese elderly in the community. In order to find a simple and easy-to-operate measurement tool, this study will explore the validity of using different body composition measurement tools to assess obesity and fasting blood glucose.

#### Methods/intervention

The research data is the 2021 Taiwan Elderly Health Survey Database with 456 cases. The data include BMI (Body Mass Index), body fat percentage, visceral fat level, waist circumference ratio and fasting blood glucose value of blood test.

#### Results

1. Categorical data analysis Fasting blood glucose has a significant correlation with different body composition measurement methods. 2. Chi-Squared Test BMI, body fat percentage, visceral fat level, and abdominal circumference ratio are all correlated with excessive blood sugar before meals, and are also correlated with diabetes.

#### Conclusions/lessons learned

1. The common obesity detection tools used in the study, such as BMI, body fat percentage, visceral fat level and abdominal circumference, are all correlated with pre-meal blood sugar and also with diabetes. 2. Different body composition measurement tools can be used as a way to measure fasting blood sugar, and can be used as a pre-diabetes measurement tool. In terms of the convenience of tools, BMI and waist circumference are relatively easy to obtain and use by the general public, while the human body fat percentage and visceral fat levels measured by bioelectrical impedance (BIA) are relatively difficult to obtain and use.

#### Contact:

SU Pei Hung  
Kaohsiung Municipal Cijin Hospital  
[athenesue@gmail.com](mailto:athenesue@gmail.com)

## The Influence of Self-Tracking and Quantified Self Frequency to Senior Functional Fitness and Perceived Physical Literacy of Community-Based Older Adults: A 3-year Longitudinal Study

LIU Chien-Yu, LIN Linda, LIU Bie-Ching, CHEN Yu-Wen, LO Michael

#### Background and objective

Older adults learning to quantify by themselves is critical in managing health, including monitoring health indicators, learning about how one responds to a different condition, and supporting behavior change. The purpose of the study was to evaluate the relationship with functional fitness and physical literacy between different levels of health data self-tracking in community-dwelling seniors. Long-term follow-up from implementations of promoting community health by the university and hospital.

#### Methods/intervention

A total of 224 elderly (75.68 $\pm$  7.6 years) who from 12 different communities joined to this study in southern Taiwan. Each elderly was tested at least one time for Senior Functional Fitness (SFFT) and Senior Perceived Physical Literacy (SPPL) by the research team of the hospital and university during 2020-2022 (COVID-19 constraint). Participants who engaged in the test more than two times were distributed to the high-frequency group (HFG, n=114) and the low-frequency group (LFG, n=110). To analyze the frequency of participation in self-tracking and relationships between functional fitness and physical literacy.

#### Results

The two groups were similar in the ratio of gender. There was a significant relationship between the self-tracking frequency and SFFT/SPPL ( $p < .05$ ). The ratio of regular exercise in the HFG was significantly 25% higher than the LFG ( $p < .05$ ). In physical literacy, the attitude score of HFG was significantly higher than the LFG (5.3%,  $p < .05$ ). Among the SFFT items, the HFG was significantly higher than the LFG in lower-body strength (30-second chair stand, 10.7%), upper-body strength (30-second arm curl, 11%) and cardiovascular endurance (2-minute step test, 16.2%,  $p < .05$ ).

#### Conclusions/lessons learned

The data self-tracking and quantifying self was the way to change the elderly thinking, attitude (SPPL), and physical fitness (SFFT). Therefore, it is beneficial to promote active aging by providing health testing data in the community.

#### Contact:

LIU Chien Yu  
National Taiwan Normal University  
TAIWAN  
[clarissa.liu85@gmail.com](mailto:clarissa.liu85@gmail.com)

## Reduced incidence of symptomatic distress in joint replacement surgery patients

KUO Chen-Chan, HSU Shu-Wei

### Background and objective

In Taiwan's population is gradually aging. According to the Ministry of the Interior, the Executive Yuan's average life expectancy is 84.7 years. According to the 2021 national health insurance medical statistics of the Ministry of Health and Welfare, there are 42,811 patients with degenerative arthritis in Taiwan, of which about 40.5% are in the age group of 65-74. Osteoarthritis is associated with swelling, pain, stiffness, limited squat, difficulty in going up and down stairs and walking, which affects the quality of daily life and self-care ability of individuals, leading to an increasing demand for joint replacement surgery.

### Methods/intervention

1. Set up [Compact Tool Set for Evaluation of Lower Limb Swelling after Joint Replacement], 2. Organize education and training on [Standardized Operations for Measuring Lower Limb Swelling in Patients After Joint Replacement], 3. Make [Educational Videos for Joint Replacement Surgery], 4. .Revised [Joint Replacement Care Instructions and Postoperative Precautions] Health Education Manual], 5. Developed [Joint Care Made Easy] Line@ to reduce the trouble of returning home symptoms.

### Results

The correct rate of orthopedic nurses performing joint surgery nursing guidance was 100%; the correct rate of self-care cognition of 60 orthopedic joint surgery patients before discharge was 92.5%; the incidence of symptom distress after discharge from 60 orthopedic joint surgery patients dropped from 52.7% to 23.9%. This intervention method has a significant difference for joint replacement patients ( $P < 0.05$ ).

### Conclusions/lessons learned

For wound care and symptom tracking after returning home from the hospital, the hospital can set up a realtime interactive platform or communication software to facilitate tracking of the patient's wound care at any time and answer the patient's concerns.

### Contact:

KUO Chen-Chan  
Chang Gung Medical Foundation Linkou Chang-Gung Memorial Hospital /National Taip  
TAIWAN  
[rewa1217@cgmh.org.tw](mailto:rewa1217@cgmh.org.tw)

## Observational Study on Osteoporosis Treatment and Polypharmacy in Older Adults with Osteoporotic Fractures

KIM Kue Sook, HO Ja Hyun, LEE Kee Hyoung, LEE Ji Hong

### Background and objective

Polypharmacy increases the risk of falls, fractures, and dizziness, especially when it involves medications that require caution regarding falls. It has been reported that polypharmacy is associated with cognitive impairment, dementia, frailty, and increased risk of Parkinson's disease. In older patients, the risk of subsequent fractures after an osteoporotic fracture increases. However, the frequency of prescribing osteoporosis medications based on bone density measurements during the treatment process is not high. In foreign countries, national integrated management strategies have been implemented to prevent osteoporotic fractures in older adults.

### Methods/intervention

The study aimed to investigate the status of polypharmacy in older adults with osteoporotic fractures, analyze the performance of bone mineral density tests and prescription patterns for osteoporosis treatment, and assess the use of medications that may contribute to bone mineral density reduction, including proton pump inhibitors, SGLT-2 inhibitors, and tenofovir.

### Results

The study can contribute to raising awareness and understanding of osteoporosis-related re-fracture prevention in older adults with osteoporotic fractures. Currently, appropriateness evaluations are being conducted for conditions such as hypertension, diabetes, and asthma. The study can provide valuable data for establishing an appropriateness evaluation system for bone mineral density testing and appropriate prescription of osteoporosis treatment in older adults with fractures based on their results.

### Conclusions/lessons learned

It can help reduce unnecessary polypharmacy in older patients and encourage consideration of alternative prescriptions, particularly when prescribing medications that may lead to bone mineral density reduction.

### Contact:

KIM KUE SOOK  
SOON CHUN HYANG. UNIVERSITY HOSPITAL (Seoul). Health  
Promotion Center/ KIHIP  
KOREA  
[mdkimks00@gmail.com](mailto:mdkimks00@gmail.com)

## Mini oral session 1.3: Health communication and information

### How to Win the Popularity on the VOD Patient Education Platform? The Secret of the Top-Viewed Patient Educational Clips.

LEE Jaekyung, SIM Eun Jung, CHOI Hyemin, LEE Chunyeong, SONG Kyoung Jun, SEOL Dongwon

**Background and objective**

Using multimedia materials improves patient communication in hospitals and enhances the effectiveness of patient education. Over the past 12 years, our hospital has provided various information to patients and their guardians using a Video-On-Demand (VOD) platform called 'High-Chart.' Currently, we are providing about 1,360 contents.

**Methods/intervention**

In this article, we will introduce the clinical departments that use videos the best, cases of frequently used videos, and analyze the success factors of users who effectively use VOD and video materials that patients love.

**Results**

Among them, the information prescriptions that patients use the most and use and prescribe frequently are trauma treatment information, hospital life information, and shoulder exercise treatment information.

**Conclusions/lessons learned**

Before emphasizing the use of the platform, it is necessary first to understand the characteristics of specialized medical departments and the treatment methods of individual medical staff. It is necessary to guarantee the autonomy of medical staff and encourage and praise their patient education activities. Using these information prescriptions and educational materials in various departments collaborating with various occupations is essential. Encouraging departments to share and communicate educational information with each other enhances the quality of care in hospitals and facilitates the adaptation and proficiency of new staff in particular. In addition, updating patient education materials through Health Promoting Hospital (HPH) activities and accumulating and utilizing them as in-hospital knowledge assets greatly help hospital governance and staff empowerment.

**Contact:**

LEE Jaekyung  
Seoul Metropolitan Government-Seoul National University  
Boramae Medical Center  
KOREA  
[jaekyjaeky@naver.com](mailto:jaekyjaeky@naver.com)

## The Efficacy of Promoting Cardio Pulmonary Resuscitation (CPR) and Automated External Defibrillator (AED)-Take Taipei as an Example

**WU Meng-Ping, HSIAO Sheng-Huang, CHU Da-Chen**

**Background and objective**

Accidental injuries account for a significant proportion of the top 10 causes of death in Taiwan and may cause sudden cardiac arrests. Evidence-based medicine has shown that if first aid measures such as CPR and AED are not applied within 4 minutes of the event, most patients will die. Therefore, to equip community members with the relevant knowledge and skills, and accomplish the objectives of the "Taipei CPR and AED First Aid Skill Training Project", which includes: (1) 45,000 participants; (2) 20% of initial trainees; (3) More than 90% satisfaction rate.

**Methods/intervention**

A community nurse team of a teaching hospital in Taipei executed a series of promotion and training programs from January 1st to November 30th, 2022. The program includes (1) Monthly CPR training, refresher training, and injury prevention for the general public; (2) CPR+AED training for companies with more than 20 employees; (3) Recruiting volunteers and organizing CPR initial and refresher training; (4) Promoting accident and injury prevention courses for teachers; (5) Providing CPR training, crisis management, and self-protection to students and school staff; (6) Conducting CPR training for foreign spouses and foreign caregivers; (7) Training of basic life support (BLS) instructors and automated external defibrillator (AED) training courses.

**Results**

A total of 46,222 participants were in the program, achieving a completion rate of 102.72%. Among the participants, 21,232 people (45.93%) were initial trainees, with an initial training rate of 45.93%. The number of male participants was 20,310 (43.94%) and the number of female participants was 25,912 (56.06%). The satisfaction rate was 98.31%.

**Conclusions/lessons learned**

The results of this study showed that after a series of promotions, all objectives of the "Taipei CPR and AED First Aid Skill Training Project" were accomplished. In the future, CPR and AED should be continuously promoted to achieve the annual objectives. Additionally, to understand the actual results of CPR+AED training, it is recommended to conduct pre-and post-training exams to compare the effectiveness of the programs.

**Contact:**

WU Meng-Ping  
Taipei City Hospital  
TAIWAN  
[wumengping18@gmail.com](mailto:wumengping18@gmail.com)

## Health Literacy Strategy for Improving Self-Management Behaviors among Patients with Chronic Obstructive Pulmonary Disease

**LIN Sz-Ching**

**Background and objective**

Chronic obstructive pulmonary disease (COPD) is leading to third of death. One of the best strategies to promote self-management is using health literacy interventions. It will assess patient literacy level, give appropriate materials and enhance self-management effectiveness. Therefore, this study have designed COPD self-management interventions combination health literacy strategies, to improving self-management in COPD.

**Methods/intervention**

The health literacy strategy to improve self-management was conducted in 3 stages. In the first stage, every participant was given clear instructions on how to understand the materials in 5 domains. The materials included a test on reading comprehension, summarizing, and short-answer questions to

evaluate each participant's understanding of the materials. In the second stage, the researcher grouped the participants on the basis of their health literacy and used different strategies to improve their reading comprehension, oral communication, information gathering, and judgment. The final stage was evaluated the learning goals.

### Results

Used ITT analysis data, this primary health outcome found Self-management total score have showed no significance between two groups ( $p=0.12$ ), the effect size was 0.43, in subscale symptom management ( $p<0.01$ ), environmental control ( $p<0.01$ ) and psychological adjustment ( $p<0.01$ ) all have shown significance between two groups. The secondary health outcome found no significance in acute exacerbation rates and medication adherence between two groups ( $p>0.05$ ).

### Conclusions/lessons learned

In this study, we use of health literacy strategies to improve COPD self-management has effective, especially in people with low health literacy. Health literacy strategies are leading patients get more and more learn skills and enhance self-management effectiveness.

### Contact:

LIN Sz-Ching  
Ching Kuo Institute of Management and Health  
TAIWAN  
[lingcin2001@gmail.com](mailto:lingcin2001@gmail.com)

## Intervention of walking stick exercise for elders from perspective of family support

### HUANG Chung Ted

#### Background and objective

As serving in the geriatric medicine department of MacKay Memorial Hospital (MMH), I have been in charge of many weak elderly people. Coincidentally, I encountered the walking stick exercise and witnessed that as being intervened by such exercise, the elderly people have been brought with hopes for lives and health. I am expecting to promote this exercise in hospitals.

#### Methods/intervention

In accordance with this plan, patients and their family members were invited to participate in this walking stick exercise event. On the day of the event, I provided the exercise instructors with information, such as the number of participants and whether there are special precautions to the participating patients, based on which the event of that day was planned. Both of patients and their family members were invited to learn how to do the walking stick exercise. After the event, they were further be encouraged to ask questions and provide feedbacks for reference in regard to event benefit evaluation and exercise detail modification.

### Results

The walking stick exercise was first launched for trial since August 23, 2020, totally 11 sessions thereof have been held, with 87 person-times in total. According to the research results, it has been found that during the process of the walking stick exercise, 1) interactions between the patients and their caregivers can be

increased, 2) with the companion of the family members, the patients' willingness for participation can be improved.

### Conclusions/lessons learned

According to the analysis of research results, 1) the walking stick exercise can function as family support and society support, and not only the companion of family members, but also the participation of other patients and their family members can make the patients feel better; and 2) the family members are indeed the closet information, life function and emotional support provider to the elderly, who are also able to remind the patients of what to do and keep encouraging them to persist.

### Contact:

CHUNG TED Huang  
MacKay Memorial Hospital  
TAIWAN  
[derek.E844@mmh.org.tw](mailto:derek.E844@mmh.org.tw)

## Telemedicine application in patients with chronic diseases: A Survey Study of Patient Satisfaction with Virtual Visits During the COVID-19 Pandemic in Taiwan

### LIU Chia-Hui, LIU Wen-Chi, CHU Hsi-Yin

#### Background and objective

The COVID-19 pandemic change healthcare delivery, the doctors and patients turn to telemedicine in the coronavirus outbreak, because the telemedicine provides a measure for safe social distance with chronic disease.

#### Methods/intervention

The purpose of this study during Taiwan's level 3 COVID-19 alert in Jun 01,2022- Jan 01,2023, 509 participants completed online questionnaire following a telemedicine visit.

### Results

Participants were women (66.7%), 45-65 years old, and 72% had prescriptions for chronic illness, CVD (66%), the average time of telemedicine was 13.3 minutes. customers satisfaction degree (93.46%) and patients in future used telemedicine visit (revisiting willingness) (88.8%).

### Conclusions/lessons learned

The quarantine has highlighted the necessity of telemedicine, because of the telemedicine can provide concurrent, real-time, and remote health services such as a prescriptions for chronic illness and consultation, We suggest joint promotion of the use of telemedicine through healthcare policies, hospital systems.

### Contact:

LIU wen chi  
Taipei Medical University Hospital, Chang Gung University  
[teresa0404@gmail.com](mailto:teresa0404@gmail.com)

## Implementing 'Health without doubts' campaign in the HPH Catalan Network

**FERNÁNDEZ-AGUILERA Mònica, GARCIA Laura, FONTANET Gisel, BRIANSÓ Maria, ANGUERA Marta, VICENTE Mireia, PUJULÀ Jordi, SUÑER-SOLER Rosa, CARBONELL Silvia, IBAÑEZ Rocío, GUITERAS Carme, RUIZ Joana, BLASCO Irene, SANTIÑÀ Manel, INIESTA Cristina**

### Background and objective

The Catalan Health Literacy Group (HPH Catalunya) has translated and adapted Ask Me 3® (AM3®) into Catalan language and designed multiple materials under the "Salut sense dubtes" (Health without doubts) campaign. Materials have been implemented in most of the 27 Network centres between 2021 and 2022. Our aim of this materials was to enhance communication among health professionals and, patients and families, and some centres have even evaluated the impact of the campaign.

### Methods/intervention

We translated the materials and designed the marketing campaign: "Fes sempre 3 preguntes al teu professional de la salut" (AM3®). We first taught materials to the internal public (healthcare professionals), and afterwards, to the public in general. Materials were developed on line and off line, with digital designs and leaflets to explain the campaign. We also developed different courses to our professionals to teach them how health literacy could help them in their daily jobs. Because of pandemics, the 27 centres could not spread out at the same rhythm all materials, but during 2022, many of them had deployed the campaigns. Some surveys have also been hold pre and post campaigns, in order to know about the impact of the campaign. The Group has complemented the campaign with more infographics and materials based on recommendations to enhance oral and written communication at healthcare facilities, under the "Salut sense dubtes" campaign.

### Results

All centres are more than happy to have tools and materials that can help them to enhance communication with patients and we are seeking to implement in many more centres at the Catalan Healthcare Public System. Some of the centres has also evaluated the impact of this campaigns.

### Conclusions/lessons learned

The Health Literacy Group has developed useful tools and materials. But there is a long path to improve communication between healthcare professionals and patients. We should keep working to develop more practical materials.

### Contact:

FERNANDEZ-AGUILERA Monica  
Catalan Network HPH- Spain  
SPAIN  
[monica.fernandez@csi.cat](mailto:monica.fernandez@csi.cat)

## How to improve time and effectiveness of a clinical virtual visit

**FERNÁNDEZ-AGUILERA Mònica, MOMPÓ Carme, MOLTÓ Roger, PUMAR David, RIPOLL Ruth, MILLÀ Anna, ROPERO Sandra, TEJERO Palmira**

### Background and objective

Consorci Sanitari Integral (CSI) is member of Catalan HPH Network and has adapted one it's campaigns to enhance communication during the virtual visits of his patients: Fes sempre 3 preguntes (AM3®).

### Methods/intervention

Due to pandemics, hospitals had to adapt clinical visits to new channels, with a high arise of virtual visits. At CSI we were worried about how patients could handle the clinical visits trough a telephone or a screen. That is why we worked together Communication, Quality and Clinical referents to design a document that could help patients to prepare before and during the clinical visit in order to optimize time and effectiveness. All patients with virtual visits received at home a document with the main clues to: prepare themselves for the visits. We recommend to write down the questions to do to the doctor, to have a list of current medicines handy, as well as the results of different medical tests. About materials we also recommended to have paper and a pen, enough battery on the device, and a proper connection. The environment was also very important, that is why we recommend a silent and quite place and if possible, private. And of course, during the visit we recommend that patients to ask their healthcare professionals 3 main questions to have an effective communication: based on AM3 translated and adapted for the Catalan HPH Network campaign: Fes sempre tres preguntes al teu professional de la salut.

### Results

All patients have learned through the campaigns how to improve quality of clinical visit, and they have the same instructions to prepare as well to on-site visits.

### Conclusions/lessons learned

We are proud of working to enhance communication between our professionals and our patients and families. To support our campaign, we have explained as well through our internal and external communication channels all the work we do to empower patients on their health: intranet, websites and social media, specially: Twitter and Youtube, having a 360º campaign.

### Contact:

FERNANDEZ-AGUILERA Monica  
Catalan Network HPH- Spain  
SPAIN  
[monica.fernandez@csi.cat](mailto:monica.fernandez@csi.cat)

## Lettering Network with Community Primary Care

**AHN Ju Hee, SUNG Young Hee, JUNG Yu Jin**

**Background and objective**

In Korea, patients can freely visit multiple primary and secondary medical institutions. A doctor's note, appointment, referral and re-request are important factors in the efficiency and medical costs. First-time patients need to bring their previous medical history, but the patient who easily changed doctors has no doctor's note and the previous doctor doesn't have time to write it. This results in duplicate tests and delays diagnosis.

**Methods/intervention**

There were many medical gaps due to COVID-19. Therefore, we strengthened the preparation of a written opinion summarizing past treatments. In all referral with primary, secondary, tertiary medicines, we filled out medical requests and letters of reply and delivered them through patients and received them back.

**Results**

As a result, the number of medical reports brought by patients to our hospital, a secondary medicine, has increased significantly. We were able to reduce unnecessary tests. That's why the cost of doctor's notes paid by patients is lower than before. We were encouraged by patients and then received more referral letters from local healthcare units.

**Conclusions/lessons learned**

The patient's past history and test values play a big role in establishing care plans. As a public health hospital, we need to draw up more medical briefs and referral forms. We believe that such a lettering network will empower community healthcare and communication.

**Contact:**

JU HEE AHN  
suwon medical center  
KOREA  
[cathdoc@hanmail.net](mailto:cathdoc@hanmail.net)

**Methods/intervention**

Cochrane CENTRAL, Medline/PubMed, EMBASE, KoreaMed, KMBASE, and ScienceON were searched, yielding 21 eligible studies. We used CMA 3.0 to conduct a meta-analysis of the standardized mean differences in pre-post changes between intervention and control groups. Four authors independently screened the studies based on the following criteria: 1) Randomized controlled or quasi-experimental studies presented the effect app-based intervention to increase physical activity for aged over 65, 2) Full-text original articles written in English or Korean from 2012 to 2022.

**Results**

This meta-analysis included 21 studies and 1,814 participants. Steps, 6-min walk distance(6MWD), physical activity(PA) were significantly increased and body mass index(BMI) was significantly decreased( $p<.05$ ). Causes of heterogeneity on the effect size, a subgroup analysis of steps and 6MWD was conducted. As a result, a more effective intervention components were as follows: a type of app-only or a combination of app and phone counseling, a period of more than 12 weeks, not less than 5 to less than 10 BCTs applied in combination. In particular, when self-monitoring was applied, the effect size was large, and when feedback, tailored, action or coping planning was applied, the effect size was normal.

**Conclusions/lessons learned**

This study integrated and studies that measured the effect of app-based mHealth interventions for improve physical activity in elderly and interpreted. It is meaningful in that subdivided and diagnosed the current state of intervention studies conducted.

**Contact:**

LEE Jiyoung  
Graduate School of Ewha Womans University  
KOREA  
[liy320@naver.com](mailto:liy320@naver.com)

## Mini oral session 1.4: Physical activity and healthy lifestyle I

### The effectiveness of mHealth interventions using a smartphone app to improve physical activity in elderly: a meta-analysis

LEE Jiyoung, KIM Jiye, LEE Seohyeon, LEE Sang Ah, KIM Hyekyung

**Background and objective**

As our society is rapidly approaching 'super-aged', a high burden of medical expenses caused. As the accessibility of mobile devices for the elderly has increased after the COVID-19 situation and the effectiveness of mHealth intervention in old age was verified, the need for mHealth intervention is more emphasized for the aged. The purpose of this study was the most recent evidence of the effect of mHealth interventions to improve physical activity for the elderly by conducting a meta-analysis.

## Promoting Active Lifestyle through Walking Challenge to staff

KEE Ng Teik Dicky, LEW Ya Hui, YEE Pei Ni

**Background and objective**

During the COVID-19 period, being active was a big challenge. The activities which had close contact with people were discouraged and fitness facilities were unable to operate worsening the statistic whereby hospital employees were primarily sedentary. Therefore, this workplace wellness activity was initiated to encourage the employees to move more asides from assessing their issues on their lifestyles.

**Methods/intervention**

A 2 weeks walking challenge was organized from 16th May to 29th May 2022. Participants were required to walk a minimum of 10,000 steps daily. Participants were allowed to submit 5 entries. The self-audit questionnaire on their current weight satisfaction and reasons for not carrying out physical exercises were answered. Evidence of the record needed to be recorded and uploaded.

**Results**

There were 169 employees involved. 80% of respondents were unable to achieve 10,000 steps daily and 20% of them achieved



10,000 steps more than 3 times per week. As 44.5% of respondents felt that their current weight was just right. There were only 7.7% of respondents thought that they were very overweight. Of the respondents, there were 72.9% had tried to lose weight. However, 52.3% of respondents felt that the lack of time was challenging to exercise. The second high-chosen challenge was the tired body, mind, and soul. 36.6% of respondents agreed that the tired body, mind, and soul would demotivate them from doing exercise. 22.9% of the respondents felt that nobody accompanying them during the exercise was one reason for not exercising, a comment from the participants. The majority of respondents (80%) commented similar workplace wellness activities could be organized in a more frequent basis at the workplace.

### Conclusions/lessons learned

Employees often get motivated to join physical activities in the workplace with peer support when the physical activities are organized in challenges or competitive settings. In order to ensure employees are practicing an active lifestyle, physical activities needed to be incorporated into the health promotion programs and carried out throughout the year.

### Contact:

PEI NI YEE  
Penang Adventist Hospital  
MALAYSIA  
[lifestyle@pah.com.my](mailto:lifestyle@pah.com.my)

## Employee health promotion case using mobile walking application

**KIM Hanna, KIM In-One, LEE Eun-Hee, PARK Changwoo, JOO Yunjung**

### Background and objective

According to Korea National Health & Nutrition Examination Survey, there were significant change in the increase of prevalence of obesity (11.8%p,  $p < 0.01$ ) and the decrease in aerobic physical activity (-9.5%p,  $p < 0.05$ ) in men's 30s, while the aerobic physical activity practice rate in women decreased at all ages except for their 30s and 60s. As it means they are exposed to blood pressure, type 2 diabetes, cardiovascular disease, as well as the risk of mental health degradation such as depression and dementia, the necessity of physical activity's increase like regular walking needs to be emphasized.

### Methods/intervention

The purpose of this program is to encourage increased walking and physical activity to promote the health of employees. Using a Swallaby Co., Ltd's [Walk On] application, KAHP community was created, steps were measured, and the number of steps allowed per day was limited to 12,000 steps with the goal of walking for 10,000 steps on average every day. Upon reaching 150,000 steps and 300,000 steps within a month, coffee coupons and movie tickets were provided, respectively.

### Results

Walk-on Challenge was promoted for 30 days from October 20 to November 19, 2022, with 1,823 participants. For age group, 33.5% were in their 30s, followed by 20s (24.9%) > 40s (24.6%) > 50s (15.6%) > 60s or older (1.4%). The total number of participants who walked 150,000 steps for 30 days was 1,153

(63.2%), and 335 (18.4%) of participants achieved 300,000 steps by walking an additional 150,000 steps. According to a satisfaction survey of 601 employees who participated in the challenge, Total of 93.2% responded that Walk On challenge was helpful for health promotion by responding 'very helpful' 55.7% (337) and 'helpful' 36.8% (223). When asked about their intention to participate again, 98.3% (591) responded they would participate again.

### Conclusions/lessons learned

According to [Daily steps and all-cause mortality: a meta-analysis of 15 international cohorts], mortality stagnation occur from 8,000 steps per day for both people aged 60 and under, thus 8,365.9 steps per day for the 30-day walking challenge had a significant effect on health promotion.

### Contact:

KIM hanna  
Korea Association of Health Promotion  
KOREA  
[hanna0327@kahp.or.kr](mailto:hanna0327@kahp.or.kr)

## Examination of improvements in exercise performance and motivation in Tungs' Taichung Metroharbor Hospital employees by using nudge theory to organise brisk walking competitions

**LIANG Peilun**

### Background and objective

To protect sedentary employees such as medical workers from such risks to their physical and mental health, companies have been known to organise different health activities in the workplace, such as stair climbing, or brisk walking, where the intention is to encourage employees to increase their physical activity levels. In Sweden and Nanjing, stairs were beautified into piano keys so that music is played when climbing stairs. This attracts people to climb stairs rather than using the lift, which is an example of the use of nudge theory. To encourage medical and hospital administrative staff to cultivate exercise habits and achieve weight and fat reduction, the Department of Occupational Safety organised an exercise and weight/fat reduction competition and arranged for a treasure hunt to encourage employees to search for treasure forms hidden in the hospital.

### Methods/intervention

The activity period was six months. During the competition, to increase morale and fun, bonus activities were designed in which the various exercise reward forms were pasted in different locations in the hospital. The primary purpose was to promote body weight and body fat reduction through exercises by employing the nudge theory to increase employees' exercise motivation. In this study, the modified exercise motivation scale (version 2) was used to survey the pre-exercise motivation of employees as the pre-test. When the competition ended, the questionnaire used in the pre-test was again distributed to survey growth in exercise motivation to provide reference for subsequent activities.

**Results**

In 2023, a treasure hunt will be added and the number of participants is expected to exceed 200. We hope that this competition will increase the participation and completion rates.

**Conclusions/lessons learned**

It is expected that participation and completion rates will increase compared with last year and exercise motivation will significantly increase compared with pre-competition levels. Moreover, the goals of consistent exercise and weight/fat reduction were achieved.

**Contact:**

LIANG Pei Lun  
TAIWAN  
[sandy199280129@gmail.com](mailto:sandy199280129@gmail.com)

## Analysis of health literacy concepts in hemodialysis patients

**LIAO Ling-Yu, LIN Mei-Hsiang, HSU Tzu-Chuan**

**Background and objective**

Background: Public health and medical institutions have been recognized widely and promoted health literacy. However, it has yet to emphasize in the hemodialysis community. Studies have shown that patients on hemodialysis with low health literacy are more likely to miss dialysis treatments, need emergency care, and end up hospitalized for related conditions. Purpose: This study aimed to focus on the conceptual scope of health literacy for hemodialysis patients and the health care team, based on the framework of Sørensen et al. (2012), and to analyze the conceptual content and definition of health literacy required by hemodialysis patients.

**Methods/intervention**

Method: A conceptual analysis was conducted using Walker and Avant's (2010) steps for identifying attributes, antecedents, consequences, and uses of concepts. Electronic databases were searched for literature and keywords were retrieved: (1) Hemodialysis.m title. (2) health literacy/ health promotion/ empowerment (3) 1 and 2. Search the electronic databases PUBMED (395), CINAHL (258), Cochrane (45), and search 2017-2022 for studies in English with full text, including qualitative or quantitative studies published in English and Chinese with a focus on hemodialysis health literacy were included in this study.

**Results**

Results: In hemodialysis, health awareness includes hemodialysis health issues, psychological issues, and support-related issues. In the literature search, hemodialysis health issues accounted for 67 articles, of which the most widely discussed were dialysis exercise and activity, followed by diet and water weight, then self-management, self-efficacy, blood pressure and cardiovascular disease, dialysis biochemical values, compliance, medications, vascular access, symptom management, and others. The rest are 11 psychological issues (hope for health, happiness, stress, anxiety and depression, and despair) and 2 support-related issues: society and family. The antecedents include personal characteristics that require hemodialysis treatment, the need to face health knowledge and competencies

arising from dialysis in the long term, and demographic, psychosocial, and cultural factors, while the consequences are morbidity, hospitalization, emergency dialysis use, quality of life, mortality, and kidney transplant accessibility.

**Conclusions/lessons learned**

Conclusions: Researchers will gain a better understanding of the health literacy needs of hemodialysis patients, and healthcare professionals will be able to provide patients with better care.

**Contact:**

LIAO LING YU  
Taiwan Adventist Hospital.National Taipei University of Nursing and Health Scien  
TAIWAN  
[small629@icloud.com](mailto:small629@icloud.com)

## Promoting physical activity among health professionals: intervention in a health promoting university hospital in France

**LADNER Joel, GODEFROY Clémence, RIDEL Catia, SABATIER Thibaut**

**Background and objective**

Rouen University Hospital implements a policy of health promoting hospital. The objective was to assess prospectively the impact of an intervention of physical activity promotion among hospital health workers (HW) over a period of six months.

**Methods/intervention**

HW, gathered in a team (n=4-5) measured their physical activity with a specific application on their smartphones on a six-months period (2019-20). Socio-demographic information, characteristics on type of health work, quality of life and physical activity level using the Ricci and Gagnon score were collected. The number of steps was prospectively collected by the smartphone application.

**Results**

A total of 534 HW were included in the cohort. The sex ratio M:W was 0.16. The mean age was 39.6 years (SD=9.7). Ricci & Gagnon tests showed that before the intervention, that 7.8% of HW were classified as inactive, 59.7% was active and 32.5% very active. Regarding the evolution of daily steps, there was a significant progression at M6: a mean of +1,700 steps during the study period, with an average of 6,923 steps per day at M0 and 8,626 steps per day at M6 (+1,703/day). Similarly, the part of active HW (+10,000 steps/day) increased of 20 points and the part of weakly active HW or even sedentary HW decreased of 18 points. More than 8 on 10 HW evaluated as very dynamic and attractive the intervention (Likert scale >3/5). The "team spirit" was reported as a source of motivation for 68.0% of HW; 62.7% of respondents answered favourably about the opportunity with this action to exchange more with his co-workers.

**Conclusions/lessons learned**

The study shows a significant increase in the number of daily steps measured objectively using a smartphone app during six months of intervention. The team spirit and challenge of physical activity level are source of motivation between HW and could be

an useful support. Further researches are needed to determine if these changes are sustainable over a long period of time.

**Contact:**

LADNER Joel  
Rouen University Hospital  
FRANCE  
[joel.ladner@univ-rouen.fr](mailto:joel.ladner@univ-rouen.fr)

## The benefits of therapeutic exercise during hematopoietic stem cell transplantation: Literatures review

**CHOU Chih-Liang, CHEN Chia-Hsin, TUNG Chun-Liang, HUANG Qiao-Ying**

### Background and objective

Bone marrow or hematopoietic stem cell transplantation (HSCT) is the only chance cure for high-risk leukemias or chemotherapy-refractory lymphoid cancers. The HSCT treatment itself is associated with multiple side effects, adverse events, and long-term sequelae. Moreover, prolonged isolated hospitalization required for HSCT leads to sedentary behavior, causing further numerous adverse symptoms. All side effects will have a negative effect on the quality of life (QOL) and recovery. Therapeutic exercise therapy has been shown to be a supportive strategy to minimize or even prevent these transplant-related consequences. The goal of therapeutic exercise includes: 1. reducing or avoiding functional limitations or impairment, 2. controlling risk factors for chronic disease, and 3. improving overall health.

### Methods/intervention

In PubMed.gov, we use hematopoietic stem cell transplantation, physical exercise, and quality of life as keywords to search between the duration of 2012 to 2022.

### Results

100 articles were found. The results show that exercise can benefit cancer patients by improving quality of life, but it may also prolong survival after cancer treatment. Baseline physical fitness offered significant protection against mortality. The findings suggest that improvements in muscle strength and cardiopulmonary fitness before HSCT are crucial for maintaining post-treatment physical function.

### Conclusions/lessons learned

Exercise training based on short, higher intensity intervals has the potential, which is consisted of five, 3 min intervals of walking, jogging or cycling at 65-95% maximal heart rate (MHR) with 3 min of low-intensity exercise (<65% MHR) between intervals to efficiently improve cardiorespiratory fitness. The duration of the intervention was at least 6 weeks, depending on each patient's scheduled transplantation date. Exercise prior to hematopoietic stem cell transplantation is safe and feasible, and positive trends suggest favorable preliminary effectiveness. A higher functional status at the start of hematopoietic stem cell transplantation may positively influence the level of decline and recovery. To maximizing physical capacity before HSCT could lead to better functional outcomes, as well as reduce the length of hospital stay and mortality risk.

**Contact:**

CHOU CHIH LIANG  
KAOHSIUNG MEDICAL UNIVERSITY HOSPITAL, KAOHSIUNG  
MEDICAL UNIVERSITY  
TAIWAN  
[cichou0217@gmail.com](mailto:cichou0217@gmail.com)

## Promoting adapted physical activity in pediatrics, a challenge for the Nantes University Hospital

**RABILLER Erwan, BARREAU Berangere, HAUET Quentin, CAQUARD Marylene, LACROIX Sylvie, MENUT VanessaGRAS-LEGUEN Christele**

### Background and objective

The benefits of physical activity are no longer in question, especially for children affected by a chronic disease. Numerous studies show the multiple co-benefits of maintaining or even reinforcing physical activity to reduce the impact of the disease on daily life. At the University Hospital of Nantes, the department of pediatrics provides care for children with various chronic diseases (congenital heart disease, asthma, diabetes, obesity, chronic renal failure). At the beginning of 2022, the pediatric medical team, accompanied by the « Hall santé » (health promotion structure at the University Hospital of Nantes), took on the challenge of building a project to promote adapted physical activity (APA).

### Methods/intervention

A student in master APA integrated the department of pediatrics. His missions are to acculturate the care team and to build a health promotion project around APA in a multidisciplinary approach. This is the first experiment in Nantes inspired by the experience of the Hospices Civils de Lyon. This innovative project will be evaluated with the aim of making it sustainable.

### Results

The place and the scope of action of the APA are still limited within the Nantes University Hospital (disparate status, non-permanent positions...). However, in an increasingly fast-paced care pathway, the teams have enthusiastically embraced the approach despite a blurred perception of the APA's missions. Moreover, the difficulty in finding an APA profile with pediatric expertise was the opportunity to reinforce a collaboration between 2 distinct university fields, those of medicine and physical activity. Today, the teaching of a common base by the pediatricians of the project and the reception of students within the pediatric service is the concretization of this partnership.

### Conclusions/lessons learned

This first experience is an outline for initiating future partnerships between health professionals and those of the APA. In front of the national recognition of the APA status by the French Ministry of Health and Prevention (2023), the challenge is to create, internally, spaces favorable to this practice.

**Contact:**

JOLIVET Anne  
CHU Nantes, FRANCE  
[anne.jolivet@chu-nantes.fr](mailto:anne.jolivet@chu-nantes.fr)

## ONLINE Mini oral session 1.5: ONLINE SESSION: Interventions for health promotion in the local community and for the population served

### A study of the intrinsic capacity for the elderly – Example the Changhua County, Taiwan

HSU Che-Wei, LAI Chia-Wen

#### Background and objective

Taiwan is shifting towards an aging society rapidly. In 2021, over the age of 65 accounts for more than 16.65% of the total population. The Health Promotion Administration reports nearly 80% of Taiwanese aged 54 or older have at least one chronic disease, while almost 70% of people 65 or older have at least two chronic diseases. During the rapidly aging population, chronic diseases of the elderly may lead to subsequent disability or dementia and other health problems. This causes a heavy burden on family. The promotion of healthy activities to reduce the impact of an aging population and medical resources usage is a highly important topic.

#### Methods/intervention

We evaluated 120 older adults from the community as research participants. Individuals aged over 65 years and older and lived in a community were eligible for inclusion in our study. Individuals aged  $\geq 65$  years were screened by health-care providers using the ICOPE.

#### Results

Between August 1 and November 15, 2022, 120 older people (mean age 74.49 years; 84 [70%] of whom were women) had a baseline step 1 screening done. 87 (72%) participants had a positive intrinsic capacity result during screening at baseline. 33(28%) participants were evaluated with step 2 (in-depth assessments) which were abnormal behavior (75.0%), malnutrition (60.0%), and abnormal cognition (13.6%).

#### Conclusions/lessons learned

Our research affirms that the ICOPE screening is useful and assists in early identification of patient decline and helps to slow down the functional decline in mobility, nutrition, sensory functions, cognition, and mood. This in turn is important to prevent and delay the onset of care dependence. Therefore, the follow-up of abnormal mobility requires the intervention of rehabilitation treatment. Rehabilitation combined with nutritional supplements to reduce the problem of sarcopenia and prevent falls is the primary health management method.

#### Contact:

HSU Jason  
Chang Bing Show Chwan Memorial Hospital  
TAIWAN  
[14998@cbshow.org.tw](mailto:14998@cbshow.org.tw)

## Using Zentangle Art to Reduce Anxiety for Individuals with Chronic Mental Illness during the COVID-19 Pandemic

LIN Kai-Han, HUNG Chen-Yi, LIN Linda L.,

#### Background and objective

During the COVID-19 pandemic, patients with chronic mental illness usually felt anxious due to have not seen their family members and lack of physical activities in outdoor for a long time. Therefore, this study proposed that patients with chronic mental illness reduced anxiety by participating Zentangle art program intervention.

#### Methods/intervention

Sixteen patients (mean age  $45.7 \pm 8.6$ ) with motivation but with no obvious psychiatric symptoms were recruited in the Zentangle art group. Each patient filled out Beck Anxiety Inventory before the first activity. Then the occupational therapist arranged one-hour Zentangle art activity twice a week for the following 4 weeks. Patients filled out Beck Anxiety Inventory again after finishing the last activity.

#### Results

One of sixteen patients dropped out due to discharge and the rest patients completed this trial. Patients who took part in the Zentangle art activities presented a reduction in the average score on Beck Anxiety Inventory from 15.5 points to 11 points (14.8%). Four of the participants declined their anxiety levels from moderate to mild but one participant raised anxiety level from mild to moderate.

#### Conclusions/lessons learned

Regular participation in Zentangle art activities weekly may have a positive impact on reducing anxiety in individuals with chronic mental illness during the COVID-19 pandemic. It is recommended that therapists arrange Zentangle art activities twice a week for patients with chronic mental illness alleviate stress and anxiety. Patients with stable moods can lead to better treatment compliance and social function performance.

#### Contact:

HSU Jason  
Chang Bing Show Chwan Memorial Hospital  
TAIWAN  
[14998@cbshow.org.tw](mailto:14998@cbshow.org.tw)

## Social prescribing in elderly with dementia: A preliminary study at a day care center in Northern Taiwan

CHEN Sung-Yun, TU Min-Chi, YEH Chu-  
Chuan, CHEN Ya-Fang, HUANG Shu-Ping,  
CHEN Shu-Nuen

#### Background and objective

Social prescribing is a kind of non-medical interventions, combining community resources, including art, music, sports,

nature etc., to provide treatment programs for mild to moderate dementia. The aim of this study was to explore the effect of implemented social prescription for people with dementia of day care center attached to a nursing home in Taipei City.

### Methods/intervention

The study period is from June to December 2022. Included cases are CDR of 1, MMSE of 20 points or more, ADL of 70 points or more and IADL of 8 points or more. The content of social prescription implemented activities includes five steps. First, we select a suitable art center and introduce the activity characteristics of the art center for 4 hours a week. Second, according to the life history of each case, the combination of art center and reminiscence therapy and rehabilitation training course for 2 hours a day. Third, arrange daily homework for the main caregiver to participate in the activity. Forth, after three months, arrange an on-site visit to the art center. Finally, six months after the intervention, the satisfaction and case's ADL, IADL, MMSE and CDR were collected.

### Results

A total of 32 cases were enrolled. The average age of the cases was  $81.6 \pm 5.3$  years old. After social prescribing-related interventions, although there was no significant difference in CDR and MMSE, the ADL average score increased from  $70.2 \pm 8.6$  to  $74.9 \pm 11.1$  points, and the IADL average score increased from  $8.2 \pm 3.3$  to  $10.8 \pm 4.6$  points ( $p < 0.01$ ). The average case satisfaction rate was 91.8%, and the average caregiver satisfaction rate was 84.3%. The individual interviewed cases indicated that social prescribing had a positive impact on their social interaction, physical function, family relationship and well-being.

### Conclusions/lessons learned

According to the results show the social prescribing cannot significantly increase cognitive function, but it can improve the effectiveness of mild to moderate dementia in maintaining physical functions and activities of daily living. It can also increase the interaction with family members and improve the well-being of the cases.

#### Contact:

CHEN SungYun  
Nursing, National Taipei University of Nursing and Health Sciences  
TAIWAN  
[sychen4@gmail.com](mailto:sychen4@gmail.com)

**Explore the effect of introducing community health service on spiritual well-being and disability among elderly and middle-aged in Taiwan.**

**LEE Shu-Chen, HUANG Wei-Hsin, LIANG Li-Jen, HU Nai-Fang, CHEN Yu-Hua, CHEN Chiu-Chen, CHANG Chia-Mei, SUNG Pei-Wei**

### Background and objective

Healthy ageing is an important issue for healthcare professionals promoting community health. Spirituality connects to the physical and mental health of an ageing population whereas disability is a detrimental factor to quality of life in this population. To promote health and to mitigate disability in community elderly and middle-aged, a health service with 8 weekly 2-hr sessions is delivered by community health stations of MacKay Memorial Hospital (MMH) of Taiwan. The session design is diverse with activities to enhance spirituality and physical exercise. This study aims to explore the effect on the spiritual well-being and physical conditions among the participants of the service.

### Methods/intervention

A cross-sectional study with pre- and post-test is employed. Eligible subjects of individuals 45 yrs or older are recruited with a purposively sample. For spirituality sessions, activity of Life Review Process according to Butler (1963) is applied. A questionnaire is developed to measure the study outcomes including items for self-perceived health status and from the Spiritual Index Well-Being (SIWB) scale. Physical conditions such as BMI and handgrip strength are also measured.

### Results

Of a total of 75 participants, 55 (73.3%) are female, the mean age of 73.6 yrs and the majority of married or cohabit (55.4%). Comparing posttest with pretest, handgrip strength in physical conditions and the self-perceived health status are improved significantly ( $p < .05$ ); the self-efficacy subscale of SIWB (21.47 vs. 20.47) indicates an increasing trend but with marginal significance ( $p = .056$ ) for spiritual well-being.

### Conclusions/lessons learned

Community health service prompting spiritual well-being and mitigating disability is critical for middle-aged and elderly populations. The service delivered by MMH health stations is effective. The lesson learnt by this study should provide valuable information to academia and health organizations caring for community health.

#### Contact:

CHC mmh  
Community Health Center, Mackay Memorial Hospital,  
[mmh1089@mmh.org.tw](mailto:mmh1089@mmh.org.tw)

**Clear route or just a crazy labyrinth?  
- Results of the Austrian cross-sectoral patient survey 2022**

**SANTNER Martina, TEUFL Lukas**

### Background and objective

Patients are key information carriers of the healthcare system. Their direct involvement and experiences can be used to gain insights into the strengths and optimisation possibilities of the healthcare system. Moreover, their appraisals are the central pillar for quality assessment when addressing transition processes between healthcare sectors. For this reason, we conducted the second wave of the Austrian cross-sectoral patient survey in 2022.

**Methods/intervention**

A total of 2,306 patients participated in the questionnaire survey (participation period: 1 April to 7 July 2022). The survey comprises 132 items on eight topics (health status, hospital stay, medical care, success of treatment, additional health care providers, cooperation in the healthcare system, medication, received information). The data set was weighted regarding province, age, and gender and analysed descriptively. Additionally, in-depth inferential statistics tested possible influences of demographics.

**Results**

The most important results of the respective topics are reported and compared to the results of the first wave in 2015. Special attention is given to the need for improvement in the cooperation in the health system (e.g. repeated examinations, desire for a professional contact person) and in the information received (e.g. sufficient or contradictory information). Full report with all results can be download on this side: [https://www.goeg.at/patientenbefragung\\_2022](https://www.goeg.at/patientenbefragung_2022)

**Conclusions/lessons learned**

The results underline that patients need a clear route regarding their treatment and care. They benefit from clearly defined structures, comprehensible language, and effective high-quality care. Despite many positive findings, the results also indicate where improvements are needed. Therefore, the survey supports policymakers in planning interventions to improve the quality of the healthcare system in AUSTRIA.

**Contact:**

SANTNER Martina  
Gesundheit Österreich GmbH / Austrian National Public Health Institute  
AUSTRIA  
[martina.santner@goeg.at](mailto:martina.santner@goeg.at)

## A Study on the Intervention of Western and Traditional Chinese Medical Care in the coastal rural areas of Changhua County in Taiwan

**HSU Che-Wei, LAI Chia-Wen**

**Background and objective**

According to the data from Taiwan's Ministry of Health and Welfare, under the serious shortage of medical resources in the coastal rural areas of Changhua, we aim to "safeguard and promote the holistic the health of rural areas and communities" by providing western and traditional Chinese medical care services through mobile clinics in Shengang Township, Xianxi Township, and Fangyuan Township in Changhua County. Our intervention aims to improve the health of residents and strengthen its role in providing medical care and public health services in coastal-rural area.

**Methods/intervention**

This study focuses on the intervention of medical care and health promotion services in the coastal-rural areas by allocating medical professional resources. The study examines the impact on the health of residents before and after the allocation of resources, while providing community health education and

consultation services by stationed medical professionals in the community.

**Results**

In 2022, the object was mainly elderly residents, accounting for 75% of the total population. Among them, 1,423 people (80% of the annual total) received regular medical treatment at mobile clinics. After receiving medical treatment and various health interventions, the study showed significant improvements, particularly in the improvement of chronic diseases. The actual improvement rates were as follows: hypertension (40%), eye diseases (35%), diabetes (20%), and high blood lipids (15%).

**Conclusions/lessons learned**

The results found that through the provision of professional diagnosis, treatment, health education, dietary and exercise interventions by the professional medical team by Western and traditional Chinese medicine, coastal residents no longer experience delays in seeking medical care or illnesses due to (1) lack of medical institutions and professionals, (2) online consultation service, (3) health promotion, (4) assistance with emergency medical transport, and (5) inconvenience. Therefore, it is evident that coastal-rural medical care services can effectively improve health and prevent diseases.

**Contact:**

HSU Jason  
Chang Bing Show Chwan Memorial Hospital  
TAIWAN  
[14998@cbshow.org.tw](mailto:14998@cbshow.org.tw)

## Culture or healthcare systems matter: an exploratory analysis comparing stress perception among Taiwanese and Chinese-American mothers of preterm infants

**HUANG Ya-Fang, CHEN Yong-Chuan, LEE Shih-Yu**

**Background and objective**

Stress-related symptoms, such as sleep disturbances and fatigue are prevalent among mothers with a preterm infant hospitalized in the intensive care unit (ICU). However, it is unknown among the same ethnic groups under different healthcare systems whether their perceived stress and stress-related symptoms are similar. The ICU nurse-to-patient ratio is identical in Taiwan and the United States (U.S.); however, visiting policy was 24-hour in the U.S. but limited to twice/day in Taiwan. This study explored differences in perceived stress and stress-related symptoms among Taiwanese and Chinese-Americans during early postpartum.

**Methods/intervention**

In this ongoing study currently, 41 Taiwanese and 30 Chinese-American mothers were recruited from teaching hospitals in Taiwan and the Western U.S. Mothers completed questionnaires to measure their perceived stress related to their child's hospitalization, sleep disturbances, total sleep time (TST), and fatigue severity.

**Results**

Compared to the Chinese-American mothers, Taiwanese mothers were older and perceived significantly higher stress related to their infant's hospitalization ( $t [69] = 3.10, p < .05$ ). In both groups, they expressed the most distress derived from the child's appearance, followed by the parental role alteration and the ICU environment. Both groups' mothers perceived compatible distress in parental role alternation; however, Taiwanese mothers reported significantly high-stress levels in the child's appearance and ICU environment. Regarding the stress-related symptoms, all mothers experienced a clinically considerably high level of sleep disturbances and fatigue severity. The TST in both groups was less than 7-8 hours, as recommended by the National Sleep Foundation; however, Taiwanese mothers slept more than Chinese-American mothers and had significantly fewer levels of nighttime fatigue.

**Conclusions/lessons learned**

Differences and similarities were found in maternal stress and stress-related symptoms during early postpartum before infant discharge to home. The underlying impact of cultural and healthcare systems is discussed. The implications of culturally sensitive stress coping are addressed, and a proper visiting policy is advocated.

**Contact:**

LEE Shih-Yu  
Hungkung University  
TAIWAN  
[700light@gmail.com](mailto:700light@gmail.com)

decision-making is the easiest and professional digital HL the most difficult key domain of professional HL. Good preparation through professional training and good organisational conditions for patient consultations have a positive influence on professional HL. The aim of the workshop is to 1) provide participants with an overview of the concept and measurement of professional HL, 2) present the main findings from the pilot study in the three countries and 3) discuss them with participants as well as potential next steps. Professional HL is essential to improve patients' HL. The results provide insights for improving professional HL of HP, such as promoting professional digital HL, improving professional training to be more focused towards the requirements of HP for strengthening the HL of patients, and adapting organizational conditions to support this endeavour.

**Contact:**

SCHÜTZE Denise  
Austrian National Public Health Institute  
AUSTRIA  
[denise.schuetze@goeg.at](mailto:denise.schuetze@goeg.at)

## ONLINE Mini oral session 1.6:

### ONLINE WORKSHOP:

### Professional Health Literacy in Austria, Germany and Switzerland - a pilot study among healthcare professionals

**SCHÜTZE Denise, HAARMANN Alexander,  
JAKS Rebecca, STRÄMMAYR Christa**

Studies on population health literacy (HL) show that a large part of the population has low HL. Health professionals (HP) play an important role in conveying health information to their patients. Thereby, they are in the position to contribute to strengthening the HL of their patients – provided they have the necessary professional HL, i.e., the competences and skills required to do so. A new concept of professional HL and a survey instrument were developed and applied in a quantitative pilot study in AUSTRIA, Germany, and Switzerland. In all three countries, data on the four key domains of professional HL were collected in 2022: 1) information and knowledge management, 2) conveying information and knowledge (and its five sub-domains), 3) patient involvement and shared decision-making, and 4) professional digital HL. The sample resulted in data of 3,876 nurses, physicians, and physiotherapists in AUSTRIA, 921 general practitioners and nurses in Germany, and 1,613 nurses, physicians, physiotherapists, and pharmacists in Switzerland. For all HP in the three countries, patient involvement and shared

## Mini oral session 2.2: COVID-19 lessons learnt; preparing for pandemic and crises

### Perinatal Care during the COVID-19 Pandemic

**CHENG Chih-Chien**

#### Background and objective

Following the pandemic caused by the Severe Acute Respiratory Syndrome Coronavirus-2 (SARS-CoV-2), and considering its capacity for rapid mutation, there have been many studies and articles on this novel coronavirus over the past three years. Providing knowledge and directions for management of SARS-CoV-2 for hospital staff is crucial. The objective of this study is to collect the research information from different perspectives and update the guidelines for perinatal care on the topic of SARS-CoV-2, and for possible future viral pandemics.

#### Methods/intervention

A systematic review aimed at assessing the publications providing different perspectives on the topic of perinatal care concerning SARS-CoV-2 was performed from 2020 to 2022. In addition, we summarized the guidelines from the Taiwan Association of Obstetrics and Gynecology, American College of Obstetricians and Gynecologists, Society for Maternal-Fetal Medicine, Maternal Immunization Task Force and Partners, and Academy of Breastfeeding Medicine.

#### Results

Due to physiological changes during pregnancy, pregnant patients may be at greater risk of complications, especially pre-eclampsia, affecting morbidity and mortality. Most neonates of coronavirus disease (COVID-19) infected mothers did not show any clinical abnormalities due to the infection. However, compared to the general population, infected neonates needed more invasive ventilation care, while the proportion of asymptomatic neonates was less than that in the general population. Further, long term complications are still under investigation. Evidence of vertical transmission via the placenta and umbilical cord is rare but not absent. Paxlovid (nirmatrelvir/ritonavir) can be administered to patients with comorbidities, and SARS-CoV-2 infection is not an indication for cesarean delivery. Vaccination against COVID-19 should not be delayed during pregnancy and lactation.

#### Conclusions/lessons learned

Obstetricians and gynecologists should pay more attention to pregnant women infected with SARS-CoV-2 because of the physiological changes and higher risks of complications, morbidity, and mortality. Early prevention with vaccination in pregnant women is the key to controlling the COVID-19 pandemic, from which we can learn how to manage the next pandemic.

#### Contact:

CHENG chih-chien  
TAIPEI CITY HOSPITAL  
TAIWAN  
[DXO90@tpech.gov.tw](mailto:DXO90@tpech.gov.tw)

## The impact of hospital organizational support and social value on the staff's pandemic prevention work, physical and psychological pressure during the COVID-19 major infectious disease crisis

**SU Pei-Hung, WANG Fong-Chin**

#### Background and objective

The outbreak of COVID-19 pandemic has had a great impact on the world, especially hospitals. Studies have shown that the epidemic has caused pressure on medical staff and mental health problems. However, organizational support in times of major crisis can reduce employee stress, and the sense of job accomplishment can enhance employees' self-affirmation. However, previous studies rarely paid attention to the mental health of hospital administrators. Therefore, this study draws on organizational support theory to explore the impact of organizational support and sense of accomplishment on employees' pandemic prevention work, physical and psychological stress in major infectious disease crisis hospitals.

#### Methods/intervention

The research objects are 100 administrative staff involved in pandemic prevention work. The questions include sources of stress (infection risk, job changes, and responsibility for pandemic prevention), stress levels (work, physiology, psychology), organizational support, and sense of accomplishment. Hypothesis 1: Sources of work stress are related to stress levels. Hypothesis 2: Organizational support as a coordinating factor is related to perceived stress from work stressors. Hypothesis 3: The sense of accomplishment as a coordinating factor is related to the degree of perceived stress caused by work stress sources.

#### Results

1. There is a significant positive correlation between the source of stress and the degree of stress. 2. There is a significant positive correlation between organizational support and work change as a source of stress, and a significant negative correlation with physiological and psychological stress, and the rest are not significant. 3. There is no significant relationship between the sense of accomplishment and the source or degree of stress.

#### Conclusions/lessons learned

1. The pandemic prevention work has an impact on the original work, physical and psychological aspects of employees. 2. Organizational support can relieve employees' physical and psychological pressure on epidemic prevention work. 3. The sense of accomplishment that fails to alleviate the degree of stress may be related to the importance of administrative staff being ignored in pandemic prevention.

#### Contact:

SU Pei Hung  
Kaohsiung Municipal Cijin Hospital  
[athenesue@gmail.com](mailto:athenesue@gmail.com)



## The capacity building of Operational Knowledge Management System at a Tertiary Hospital

**WU Linkun**

### Background and objective

The COVID-19 epidemic has completely rewritten the way of life that people are accustomed to. With the help of globalization and technological changes, the working mode, schedule and business mode of hospitals have also undergone drastic changes. In response to the challenges brought about by the COVID-19 epidemic and the rapid changes in the medical environment, the hospital has established a knowledge management system (KM) to share and learn the most important knowledge assets to reduce operating costs, cultivate talents, and improve competitiveness, ready for the epidemic and crisis at any time.

### Methods/intervention

Complete the construction of the KM system within the time limit by means of project management, cultivate the willingness and ability of hospital staff to share knowledge through education and training, and complete the uploading system of key documents according to the hospital knowledge map.

### Results

The hospital has saved more than 140,000 key documents, achieving the optimization of business management processes, improving the quality of clinical care and shortening the learning curve of personnel, greatly reducing the time for knowledge search and improving the timeliness of problem solving by 98%, enhancing the value of knowledge reuse and improving employee satisfaction.

### Conclusions/lessons learned

Since the experience of the hospital in responding to SARS in 2003 was not fully preserved, when the hospital responded to the COVID-19 epidemic, the tasks were re-disassembled and repeated trial and error, wasting time and resources. The hospital has fully preserved the measures and plans for responding to the COVID-19 epidemic in the KM system, which has become a sharp tool for the hospital to cultivate epidemic prevention talents and prepare for the next crisis.

### Contact:

WU Lin-Kun  
Kaohsiung Medical University Hospital  
TAIWAN  
[890005@ms.kmu.org.tw](mailto:890005@ms.kmu.org.tw)

## Effect of the Web-Based Physical Activity Program for Healthcare Providers' Steps a Day under COVID-19 Self-Quarantine

**HAM Hyung Suk, JUNG Se Hee, LEE Sang Yoon**

### Background and objective

This study aimed to examine the physical activity(PA) of healthcare workers who have experienced quarantine by COVID-19. We also analyzed the effect of the web-based Physical Activity Programs(PAP) in healthcare workers after COVID-19 quarantine.

### Methods/intervention

Healthcare providers (n=59) who worked in SMG-SNU Boramae Medical Center was voluntarily participated in this study through the groupware. A web-based survey was conducted with self-administered questionnaires using the Google form. Daily step counts were gathered before (for 5 days), during (for 5 days) and after (for 5 days) quarantine. The PAP that consists of four 30-second aerobic exercises was provided to 11 out of 59 subjects to promote PA after quarantine. Daily step counts were collected before, during and after the PAP for 3 days respectively. Heart rate(HR) data of all participants(n=11) were also collected immediately before and after carrying out the PAP.

### Results

Daily step counts decreased significantly during quarantine (1659.0±1533.8) compared to pre-quarantine (6870.6±3103.5) and post-quarantine (6914.9±2551.8,  $F = 125.5$ ,  $p < 0.001$ ) periods. Subjects who completed the PAP walked significantly more during (10378.5±2961.6) and after (9002.1 ±628.2) PAP than before PAP (5584.4±3227.4,  $F = 5.8$ ,  $p < 0.01$ ). Mean HR was significantly increased between the immediate pre (62.2±11.1 bpm) and post (130.8±34.8 bpm) PAP ( $t = -6.2$ ,  $p < 0.001$ ).

### Conclusions/lessons learned

Self-quarantine which is mandatory in the COVID-19 pandemic era has a negative impact on PA. The web-based PAP was effective in maintaining the level of PA during self-quarantine and in preventing quarantine-related deconditioning.

### Contact:

HAM hyungsuk  
SMG-SNU Boramae Medical Center  
KOREA  
[guyminam@nate.com](mailto:guyminam@nate.com)

## The impact of online and offline dual-track health promotion program on the health behavior of hospital staff during the COVID-19 pandemic

**WANG Chia-Fen, LIN Yu-Ching, CHUO Ying-Hsiang, HUANG Hui-Ting**

### Background and objective

During the COVID-19 pandemic, health care workers faced significant physical and mental pressure. The purpose of this study is to investigate how a staff health promotion plan, which provides appropriate leisure activities and online courses, can positively influence the health behavior of hospital staff during the epidemic.

### Methods/intervention

This study included 275 staff from Taiwan Adventist Hospital. Pre- and post-test data were collected through questionnaires in

March and December 2022 to evaluate the program's impact on behavior changes and participants' satisfaction. The program used social network software to offer a combination of virtual and real events, including various health promotion services such as exercise consultation, online exercise activities, online dietary guidance and trivia, stress-relief courses, etc.

### Results

Based on the analysis of pre- and post-measurements, significant improvements ( $p < 0.05$ ) were observed in the health behavior of the participants. The proportion of participants who engaged in physical activity for more than 150 minutes per week increased from 2.5% to 8.7%. The percentage of participants who consumed at least one unrefined whole grain meal per day also increased from 68.7% to 84.4%. The percentage of participants consuming three servings of vegetables per day increased from 52.0% to 72.7%, and the proportion of those ingesting two servings of fruit per day increased from 36.7% to 58.9%. Furthermore, the degree of improving staff's life satisfaction during the epidemic period was high with 87%.

### Conclusions/lessons learned

Due to the impact of COVID-19 in Taiwan, traditional health-promoting events are easily limited by social distancing regulations. This study shows that dual-track health promotion activities, both online and offline, are effective in enhancing health behaviors. Participants who engaged in the program reported significant improvements in physical activity, dietary habits, and stress management during the COVID-19 pandemic. These findings highlight the importance of implementing similar programs to support the physical and mental health of healthcare workers and maintain a healthy workforce during challenging times.

### Contact:

TAH health  
TAIWAN

[tahhealthpromotion@gmail.com](mailto:tahhealthpromotion@gmail.com)

## To Respond Covid-19 slowing down- Improving the Community Resilience of Health Stations

**CHAN Hsin-Lung , DU Yi-Jing, TIEN Jung-Chen , LI Yu-Meng, LU Ying-Wen , LAI Wan-Zhen , LU Shin-I, LU I-Jung**

### Background and objective

From 2020 to 2022, 72 Health Stations have been suspended three times due to Covid-19. To assist the recovery of Health Stations through multiple strategies to maintain the health needs of community residents.

### Methods/intervention

We provide hotlines and video consultation services for community residents to consult. Online health lectures and volunteer training is broadcasted live and uploaded those videos to YouTube for people to watch during the suspension. To establish the operational workflow for the recovery of Health Stations, assist in vaccination, improve hand-wash and put contact tracing into effect, on-site evaluation by professionals when resuming operation, and provide the contingency principle

for Covid-19 are held as the epidemic slows down to ensure the continuous operation of Health Stations.

### Results

From 2020 to 2022, a total of 1,952 people receive professional consultation via hotlines and video consultation services; the number of health promotion activities is 2,354, the number of participants is 195,406; the number taking part in volunteer training is 3,962, the satisfaction of volunteers with training has increased year by year (97.8%, 97.9%, 99.1%). The recovery rate of Health Stations reach 98.6% by the end of 2022.

### Conclusions/lessons learned

To improve the recovery capacity of Health Stations, we can still strengthen Health Literacy of community residents during the suspension. At the same time, people learn to keep in touch with science and technology. Despite the impact of the epidemic, we can still improve self-care ability of community residents. Spreading the standard of the Health Stations recovery, resuming the operation of Health Stations, so that the community can quickly restore health services.

### Contact:

LI YuMeng  
MacKay Memorial Hospital TAMSUI BRANCH  
TAIWAN  
[nana005415.D998@mmh.org.tw](mailto:nana005415.D998@mmh.org.tw)

## Actual Cases of Pandemic Virus Prevention and the Strengths of the Korean Healthcare System in Epidemic Control –

**BACK Seung Ho, KIM Kue Sook, LEE Sung Jin, LEE Yu Jeong**

### Background and objective

Actual Cases of Pandemic Virus Quarantine and Benefits of Medical System Quarantine in Korea Global quarantine against the outbreak of COVID-19 is entering the path of achieving successful goals through various forms of trial and error Before Vaccine Development Without proper medication, no protection against the spread of the explosive virus The fight against coronavirus was like finding a way in a maze It was a disaster that caused a lot of victims COVID-19 quarantine in Korea was carried out in a different pattern before and after vaccine development COVID-19 quarantine before vaccine development The purpose was to minimize victims and prevent the spread of the virus through the intervention of medical institutions.

### Methods/intervention

In Korea, at this stage It attempted to convert a general hospital with multiple beds into a hospital dedicated to COVID-19 treatment Introducing the distribution of existing inpatients was a priority Changes in the structure of the hospital room such as the remodeling front room, disinfection room, and quarantine room to improve existing facilities Installation of negative pressure facilities in all rooms Composition of the toilet in the hospital room for reduction of the movement line Establishment of CCTV installation monitoring system in the hospital room Problems such as the expansion and deployment of nursing personnel were solved.

**Results**

Since the vaccine was developed the focus of treatment was focused on the management of severe patients rather than the management of mild patients, and intervention at the level of general hospitals and university hospitals was needed. In the case of this hospital, even if it is a viral disease with a fixed fatality rate, based on the results of rapid antigen antibody tests such as PCR RAT Isolation to prevent the spread of non-virus Early Inpatient Isolation Management And it is believed that rapid response to severe patients can reduce the mortality rate.

**Conclusions/lessons learned**

This study suggests that the timely response to the new pandemic virus disease and the appropriate response of the medical system are the way to minimize the mortality rate It is introduced that the Korean medical system can be an efficient system to prevent the spread of infectious diseases.

**Contact:**

KIM KUE SOOK  
SOON CHUN HYANG. UNIVERSITY HOSPITAL (Seoul). Health Promotion Center/ KIHIP, KOREA  
[mdkimks00@gmail.com](mailto:mdkimks00@gmail.com)

## Mini oral session 2.3: Equity in health and health care

### A Study on the Stress and Coping Behavior of Family Members: In Hospitalization for Long-term Care Facility Residents

**KUO Han-Lin, CHIU Yi-Wen**

**Background and objective**

The number of long-term institutions has doubled in the past decade, and more families choose to send their elders to institutions for care. However, the stress of care the elders come back to the family members when the elders in hospitalization. This study aimed to understand the stress and coping behavior of family members for long-term care facility residents in hospitalization, and to identify relevant factors that affect and predict the stress and coping behavior of the family members.

**Methods/intervention**

In this study, a quantitative and cross-sectional survey was conducted, using a convenient sampling method, selecting applicants for family members of long-term care facility residents in hospitalization in a regional hospital in central Taiwan as the research objects, and total of 162 family members were admitted. The data were collected in the form of questionnaires, including: the basic information, stress and coping behavior of the family members. Data were collected and coded using SPSS 22.0 perform descriptive and inferential statistical analysis.

**Results**

The standard average score for family members of total stress was 57.03 points, which was moderate level. The four perception of family members of stress were in order of physiological, life, psychological and economic. Besides, family income, work status and relationship between residents of the family members and

physiological, psychological, economic, had predictive power for their problem-oriented coping behaviors, with a explanatory power of 56.9%. The life aspects, gender, marital status and the number of hospitalizations in half year had a significant predictive power for their emotion-oriented coping behaviors, with explanatory power of 19.0%.

**Conclusions/lessons learned**

The family members were highly on stress. Especially the physical stress, and the total score of stress perception is higher for those who are younger than 39 years old and have no rotating family members, and the coping behavior of the main caregiver is mainly problem-oriented. The results of this study may serve as a reference for nursing staff in clinical or long-term care facilities to provide or develop effective and individualized services for family members of facility residents.

**Contact:**

CHIA WEN Lai  
Show Chwan Memorial Hospital, TAIWAN  
[chd7203270@hotmail.com](mailto:chd7203270@hotmail.com)

## Support for hospice patients and caregivers during quarantine

**SUNG Young Hee, AHN Ju Hee, JUNG Yu Jin**

**Background and objective**

Korea's hospice care targets are expanding from terminal cancer to childhood cancer, AIDS, end-stage COPD and cirrhosis. Their isolation of infection requires a special environment. Since the caregiver's help is essential, there were concerns about the caregiver's fatigue and their infections during quarantine.

**Methods/intervention**

The covid-19 hospice patients had been hospitalized for the past three years. We analyzed the caregiver's fatigue and emotional state through a counseling call on the phone with the quarantine room. Music and Coffee, Heart Healing Kits are twice a day, direct consultation calls with doctors and hospice nurses were four times a day.

**Results**

The hospice nurse consulted by phone while grasping the patient's previous medical story. Hand-foot massage and skin hair washing were performed together for pain relief. The nurse helped check the quarantine of the patient's request and caregiver's healthy. A stress relief program for bereavement families was created in preparation for the death of patients.

**Conclusions/lessons learned**

Quarantine patients feel fear of moving away from society and approaching death. In death in quarantine, the caregiver's emotions turned into guilt, so counseling was needed. As active as possible support for the Isolated hospice patients and caregivers is essential. In addition, the ability of hospice nurses was a great help.

**Contact:**

SUNG YOUNGHEE  
SUWON MEDICAL CENTER, KOREA  
[goodhex@naver.com](mailto:goodhex@naver.com)

## Health promotion, "re-staging" and "full day care"

**SUNG Young Hee, AHN Ju Hee, JUNG Yu Jin**

### Background and objective

We created a system called "re-staging" that checks and treats the health of homeless people. Our elderly medicine team is actively helping the homeless with chronic diseases and hospice needs. They hate hospitalization or camp. Therefore, homeless patients are frequently displaced from treatment.

### Methods/intervention

When registering for "re-staging", be treated as much as possible on the day of the hospital visit. This was called "full day care". After "full day care" we refer them to the camp, a homeless officer accompanies the homeless to the hospital for several days to prevent them from leaving treatment. On the contrary, on the first visit of a homeless man, our team registers him on "re-staging". The system manages acute phase, maintenance and treatment termination.

### Results

"re-staging" and "full day care" have produced very good results for the safety and health recovery of the homeless with infections, alcoholism, mental illness, trauma, and disabilities. "Full day care" instead of hospitalization increased homeless recovery and revisiting.

### Conclusions/lessons learned

Homeless people are vulnerable to trauma, chronic diseases and can become infected or spreaders. It is difficult to diagnose and prevent them quickly because they do not have a medical checkup. This is a loss of life and property. We expect the social health impact of this "full day care" system.

### Contact:

SUNG YOUNGHEE  
SUWON MEDICAL CENTER  
KOREA  
[goodhex@naver.com](mailto:goodhex@naver.com)

## Education Program for Elderly Depression Prevention and Overcoming in Local Community Elderly Welfare Facilities

**JUNG Myungin**

### Background and objective

As the population aging rapidly progresses in South Korea, health issues among the elderly are becoming increasingly important. In particular, elderly depression is being recognized as a serious social issue that not only impairs their quality of life but also leads to economic problems such as medical expenses. Therefore, As the population aging rapidly progresses in South Korea, health issues among the elderly are becoming increasingly important. In particular, elderly depression is being recognized as a serious social issue that not only impairs their quality of life but also leads

to economic problems such as medical expenses. Therefore, prevention and measures at the community and hospital levels are needed, and it is necessary to establish a system that implements and manages various education and support programs for this purpose, prevention and measures at the community and hospital levels are needed, and it is necessary to establish a system that implements and manages various education and support programs for this purpose.

### Methods/intervention

We conducted an education and prevention program on elderly depression for seniors in the local community. We produced an educational booklet for depression prevention and distributed it to community welfare facilities so that elderly people can undergo self-examination for depression without visiting hospitals. We conducted an education and prevention program on elderly depression for seniors in the local community. We produced an educational booklet for depression prevention and distributed it to community welfare facilities so that elderly people can undergo self-examination for depression without visiting hospitals. We also provided lectures on elderly depression by a psychiatrist specializing in mental health for the elderly, and provided opportunities for them to express their emotions and heal through an art program. We also provided lectures on elderly depression by a psychiatrist specializing in mental health for the elderly, and provided opportunities for them to express their emotions and heal through an art program.

### Results

The program was conducted seven times from June to December 2022, targeting seniors at a local community welfare facility. The program was conducted seven times from June to December 2022, targeting seniors at a local community welfare facility. The education was conducted under the theme "Prevention and Management of Depression in Seniors," and the satisfaction of the participants was very high, averaging 9.6 out of 10. Through this, it was confirmed that the program had a very positive effect on improving the quality of life of seniors and preventing and managing depression. The education was conducted under the theme "Prevention and Management of Depression in Seniors," and the satisfaction of the participants was very high, averaging 9.6 out of 10. Through this, it was confirmed that the program had a very positive effect on improving the quality of life of seniors and preventing and managing depression.

### Conclusions/lessons learned

The program confirmed that educating elderly individuals in local community welfare facilities is an effective measure for preventing and overcoming elderly depression. To improve the quality of life for the elderly, The program confirmed that educating elderly individuals in local community welfare facilities is an effective measure for preventing and overcoming elderly depression. To improve the quality of life for the elderly, there is a need for hospitals and local communities to work together to provide preventive and educational measures for elderly health. there is a need for hospitals and local communities to work together to provide preventive and educational measures for elderly health.

### Contact:

JUNG MYUNGIN  
SMG-SNU BORAMAE MEDICAL CENTER  
KOREA  
[imi16239@naver.com](mailto:imi16239@naver.com)

## Advance Care Planning with Home Consultations —The experience of Taipei Medical University Hospital

LIN Tzu-Yin, CHEN Chia-Chun

### Background and objective

The Patient Right to Autonomy Act and advance care planning were promoted in Taiwan in 2019, allowing people to make advance life arrangements for themselves. Many patients and their families also expect to make advance decisions for themselves; however, many patients suffering from the inconvenience of going out, Therefore, the hospital considers the inconvenience of them, so we provide a home consultation service model of advance care planning to solve this problem.

### Methods/intervention

Our hospital-to-community provision of home consultation services since 2022. Home consultation: Home-care nurses were asked to inform patients of the Patient Right to Autonomy Act during their visits and to notify relevant departments of patients who were willing to participate in Advance Care Planning. Subsequently, the consultation team members from our hospital visited the patients' homes to implement Advance Care Planning and assist the patients in making advance decisions.

### Results

sessions, and 18 people complete AD at home in 2022; The framework for home consultations was developed on the basis of that for Uber Eats. Home consultation team members generally deliver services related to the Patient Right to Autonomy Act to the patients in their homes. This enables them to effectively discuss treatments and good death with the patients and their family members and assist family members in understanding the patients' wishes regarding advance life arrangements.

### Conclusions/lessons learned

The Patient Right to Autonomy Act came into effect in 2019 and has been enacted as law. New laws require time to implement and the development of innovation method for their promotion and implementation. In addition, this way must be established to assist people who have difficulty getting out of the house in completing advance care planning and advance decisions. And enable people to complete life arrangements for a good death in accordance with their wishes.

### Contact:

LIN Tzuyin  
Taipei medical university hospital  
TAIWAN  
[jenny66991988@gmail.com](mailto:jenny66991988@gmail.com)

## Design and implementing of home telecare service in Taiwan

LIU Wen-Chi, LIU Chia-Hui, CHU Hsi-Yin

### Background and objective

Purpose of the study/project: In 2013, the elderly population, specifically those aged 65 and over, accounted for 11.53% of the

overall population in Taiwan, which was estimated to reach 20% in 2020. In Taiwan most of the elderly choose to stay at home, thus making provision of appropriate care for the elderly at home an important aspect of government policy planning. The home care nurse reports directly to the manager. The services include: case management, home nursing, personal care, assistance with activities of daily living... In Taiwan home care nurse's the main challenges understaffing, workload, time pressures and the concern that there are barriers to providing safe, high quality care to their patients are the same kinds of pressures nurses in hospitals and long-term care facilities experience.

### Methods/intervention

We design and implementing of home telecare service with community nurse, to reduce nursing workload after visit. 4 nurses and 28 healthcare providers were visit two times over a six-month period. The sample was obtained from two hospitals, total of 28 healthcare providers. Data was analyzed by using SPSS 18.0 statistical program.

### Results

We found: (1) nurse job satisfaction: the average job satisfaction score was rate was increased from  $3.22 \pm 0.45$  to  $4.52 \pm 0.35$  (2) visit time rate was reduce from  $25 \pm 4$  to  $18 \pm 4$ \*/min.

### Conclusions/lessons learned

The home telecare service intervention improved satisfaction with nursing care, especially as it relates to care following their experience from the hospital, home telecare service can be a useful complement to traditional care.

### Contact:

LIU wen chi  
Taipei Medical University Hospital, Chang Gung University  
[teresa0404@gmail.com](mailto:teresa0404@gmail.com)

## Health literacy at work, health supporting leadership and employee wellbeing

LINDERT Lara, CHOI Kyung-Eun (Anna),  
PFAFF Holger, ZEIKE Sabrina

### Background and objective

The National Action Plan Health Literacy emphasizes the need to promote health literacy in the work environment and health literacy has been associated with psychological wellbeing in different settings. Employees' psychological wellbeing is one of the key factors to a healthy and successful organization and current studies in this context primarily focus on individual health literacy. Organizational health literacy, so far, is mainly used in the context of health care institutions. As managers function as multipliers and role models, this study also takes into account health oriented leadership and aims at investigating on the impact of organizational health literacy and health oriented leadership on the relationship between individual health literacy and employees' psychological wellbeing.

### Methods/intervention

Analyses are based on data of an employee survey in a big German company of the financial sector in October 2021. To analyze data, two mediation analyses using the PROCESS macro

by Hayes for SPSS were conducted with a total of 2555 employees.

### Results

The relationship between individual health literacy and employees' psychological wellbeing is partially mediated by organizational health literacy (indirect effect ab 0.268 – CI [0.170, 0.378]) and by health supporting leadership (indirect effect ab 0.228 – CI [0.137, 0.329]).

### Conclusions/lessons learned

Study results highlight the relevance of individual and organizational health literacy and health supporting leadership with regard to employee wellbeing and provide indications for planning and evaluating the health strategy of companies.

### Contact:

LINDERT Lara  
Medizinische Hochschule Brandenburg Theodor  
Fontane/Zentrum für Versorgungsforschung  
GERMANY  
[lara.lindert@mhb-fontane.de](mailto:lara.lindert@mhb-fontane.de)

## ONLINE Mini oral session 2.5: ONLINE SESSION: Health information and education

### Effective use of hospital information systems to manage smoking cessation cases

**TSAI Yen-Ping, WEI Fang-Chun**

### Background and objective

Smoking leads to disease and disability and harms nearly every organ of the body. Smoking seriously threatens global health, and quit smoking is the leading cause of preventable death. Use hospital information to establish a smoking cessation service system to provide a complete smoking cessation service.

### Methods/intervention

Through the integration of the hospital information systems, outpatient health screening information and hospital admission assessment, screening out cases with smoking and willingness to quit and then automatic referral to the smoking cessation case manager through system binding, the system can calculate the duration of use of smoking cessation drugs, SDM intention, health education tracking record, and finally give back to the medical staff through a two-way system to provide a complete smoking cessation service.

### Results

100% of patients who come to the hospital for medical treatment will ask if there is smoking. Smoking patients who have been referred and accepted will be established in the case management system. Record the date, time, and educational content of the tracking, let the case manager know the patient's condition, if you encounter a patient who cannot be contacted by a telecom, you can also know the time of the patient's visit through the system, and then provide face-to-face education to the clinic. This information can be used to provide a cross-team

service by returning the case to the physician using a two-way communication system.

### Conclusions/lessons learned

Through the medical information system can effectively manage smoking cessation cases.

### Contact:

TSAI yen-ping  
Cathay General Hospital, TAIWAN  
[lili390258@gmail.com](mailto:lili390258@gmail.com)

## Differences in the success rate of smoking cessation during and before the COVID-19 epidemic in a hospital in Northern Taiwan

**HUANG Wei-Hsin, CHAN Hsin-Lung, SHEN  
Yan-Ling, CHANG Yu-Ling**

### Background and objective

Smoking cessation is likely to decrease the risk of developing COVID-19 and the likelihood of developing severe COVID-19 complications. However, smokers may visit hospitals less for smoking cessation counseling during COVID-19 epidemic. Therefore, we want to compare how the success rate of smoking cessation during the COVID-19 epidemic was different from that before the epidemic and the age characteristics of the quitters.

### Methods/intervention

COVID-19 outbreak started in early 2020. We collected information of smokers who used the outpatient smoking cessation services at a medical center in Northern Taiwan from 1 January 2017 to 31 December 2019, and 1 January 2020 to 31 December 2022. The smoking cessation success was evaluated at 6 months after the smokers' first visit. We defined success by the seven-day point abstinence, where the smokers were asked whether they had smoked at all over the past seven days. The smoking cessation was evaluated till 31 August 2022.

### Results

A total of 2041 and 1708 smokers used the outpatient smoking cessation services in the 3 years before and during the 3 years of COVID-19 epidemic, respectively. Compared with before the COVID-19 epidemic, 16.3% fewer smokers used the services during the epidemic. The 6-month success rate of smoking cessation in the 3 years before the epidemic was 29.7% and it was 26.2% during the epidemic. We divided the age of quitters from 18 years old into a range of every ten years. The age characteristics of the quitters before and during epidemic were almost the same, the highest proportion was 48-58 years old, followed by 58-68 years old and 38-48 years old.

### Conclusions/lessons learned

Fewer smokers came to hospital for smoking cessation service with lower success rate during COVID-19 epidemic. Physicians should pay more attention for smokers who came for smoking cessation counseling during COVID-19 epidemic.

### Contact:

Community Health Center, Mackay Memorial Hospital, TAIWAN  
[mmh1089@mmh.org.tw](mailto:mmh1089@mmh.org.tw)

## Effectiveness of individualized health counseling in the prevention and management of metabolic syndrome in community settings.

**CHEN Yu-Hua, HUANG Wei-Hsin, LEE Shu-Chen, HU Nai-Fang, CHEN Chiu-Chen, CHANG Chia-Mei, SUNG Pei-Wei**

### Background and objective

Metabolic syndrome affects over 1 billion people globally, with 1/4 of the population estimated to be affected. This study offers lifestyle guidance to manage metabolic syndrome, including diet, exercise, weight control, and the management of high blood pressure, blood sugar, and lipids for those with abnormal levels and waist circumference and BMI.

### Methods/intervention

A total of 878 participants were recruited from community settings between January and December 2022. Among them, 263 individuals were identified as having abnormal results in metabolic indicators, such as body mass index (BMI), waist circumference, blood pressure, blood sugar, and total cholesterol. Efficient and personalized healthy lifestyle counseling was provided to them, and their progress was tracked for intervention and adjustment. All analyses were performed using SPSS 29.0.

### Results

A study of 263 participants, with an average age of 72.5 years, showed that 77.5% of them maintained or improved their overall metabolic measurements after receiving personalized health guidance. Of the 110 cases with abnormal results in three or more metabolic indicators at the initial screening, 50.9% showed improvement after receiving guidance, with the most significant improvement observed in blood pressure. The analysis showed a statistical difference in reducing abnormal metabolic indicators after receiving health guidance. The frequency of health guidance was found to be positively correlated with the improvement rate, particularly in improving blood lipid levels, with a significant difference observed.

### Conclusions/lessons learned

This study showed that individualized health counseling in the community improved metabolic syndrome-related indicators. Community screening and personalized health counseling can help individuals manage their health and reduce the risk of metabolic syndrome, aligning with the goal of primary prevention and healthcare.

### Contact:

Community Health Center, Mackay Memorial Hospital, TAIWAN  
[mmh1089@mmh.org.tw](mailto:mmh1089@mmh.org.tw)

## Efficacy of decision support measures in reducing decisional conflict and improving satisfaction with the decision for RRT in patients with end-stage renal disease

**LEE Shu Yen, WANG Tsae- Jyy**

### Background and objective

Patients with end-stage renal disease (ESRD) face complex medical decisions regarding choosing renal replacement therapy (RRT) as a treatment. Patients usually need complete information and clear communication to understand the advantages and disadvantages of different treatment options to select the most suitable RRT. To investigate the efficacy of the RRT decision support intervention on decision satisfaction in patients with ESRD and on reducing decisional conflict.

### Methods/intervention

Randomized controlled clinical trials were conducted at the nephrology clinic of a medical center in northern Taiwan, facilitating the recruitment of chronic renal failure patients who met the selection criteria for this study. The patients were randomly assigned to the experimental group or the control group. Patients in the experimental group received RRT decision support measures provided by nurses using e-books as a decision-making aid. Patients in the control group received conventional instruction regarding RRT. Data were collected in both groups using a structured questionnaire at 4 time points: pretest (T1), after explanations of the RRT options (T2), before the first RRT (T3), and 1 month after receiving RRT (T4).

### Results

A total of 68 patients participated in this study, with 34 patients in each the study group. Generalized estimating equations (GEEs) were used to analyze the interaction between group and time. Regarding decisional conflict in the experimental group were significantly lower than that in the control group at T2 and T3. One month after receiving RRT (T4), the average decision satisfaction score for the experimental group [90.59, (SD = 4.89)] was significantly better ( $t = -4.38$ ,  $p < .001$ ) than that for the control group [(81.96 points (SD = 10.38)].

### Conclusions/lessons learned

The study results support that interventional measures can effectively reduce decisional conflict and improve decision satisfaction in ESRD patients.

### Contact:

LEE Shu yen  
Tri-Service General Hospital; and School of Nursing, National Defense Medical Center  
TAIWAN  
[leey1108@mail.ndmctsggh.edu.tw](mailto:leey1108@mail.ndmctsggh.edu.tw)

## Exploring the Association between Social Media Addiction, Depressive Symptoms, and Adolescent Health Promotion: A Case Study in Taiwan

CHIEN Kuo-Lun, CHEN Fang-I

### Background and objective

COVID-19 has made social media an integral part of modern life. In Taiwan, individuals have an average of eight social media accounts and spend nearly one-third of their time online. Social media plays a crucial role in facilitating social interaction and sharing, particularly among college students for academic and leisure activities. However, excessive and unconscious use of social media can lead to addiction, adversely affecting the mental health of college students and increasing the chance of depressive symptoms.

### Methods/intervention

This study examines the potential adverse effects of social media addiction on college students' mental health and its impact on promoting depressive symptoms in adolescents. It utilizes a research framework that integrates attachment theory, uses and gratifications theory, and the theory of planned behavior. A questionnaire survey was conducted with a sample population of 220 Taiwanese adolescents to analyze and test the hypotheses.

### Results

The study results indicated a positive association between insecure attachment and social media addiction. Within the framework of the use and satisfaction theory, the study investigated the influence of needs on social media addiction. Furthermore, the causes of social media addiction were examined by employing the theory of planned behavior. Importantly, the study identified that social media addiction indirectly impacts depressive symptoms through its influence on sleep quality, thus exerting an indirect effect on the mental well-being of adolescents.

### Conclusions/lessons learned

This study aims to examine the impact of social media addiction on depressive symptoms and elucidate the detrimental effects of social media addiction on the mental health of adolescents. It contributes to enhancing our understanding of the relationship between social media usage, gratification, addiction, and mental health, thereby providing valuable insights for the development of health promotion strategies targeted at adolescents. The findings will be beneficial for formulating relevant policies and measures.

### Contact:

CHEN Fang-I  
National Chiayi University  
TAIWAN  
[c2h3.kiki@gmail.com](mailto:c2h3.kiki@gmail.com)

## Social ecological determinants of nutritional status in early childhood according to household income in South Korea

KIM Jiye, KIM Hyekyeong, KIM Yuri,  
CHUNG Seo-Jin, JUNG Seungyoun, SHIN  
Nana

### Background and objective

Early childhood is a critical period of physical growth and development that depends on nutritional status. Household income is a major factor of child health. Nutritional status of child is supervised by parents and also influenced by socio-environmental experiences. This study aimed to identify social ecological layers of nutritional status of early childhood according to household income level.

### Methods/intervention

Cross-sectional survey data were collected from 363 Korean mothers of children aged 3-5 years. Nutritional status was measured by preschool nutrition quotient. Children were divided into two groups by median household income. In each group, we analyzed the association between nutritional status and social ecological layers: child, parent and home, childcare center, community, and media environment. We used multivariate linear regression with the F change test for each layer indicating that elements in each of these layers were collectively significant.

### Results

Among median and above-median income households (N=193), layers representing parent and home characteristics ( $p<0.001$ ), childcare center environments ( $p<0.05$ ), and community health policies and programmes for children ( $p<0.05$ ) made significant contribution to predicting child's healthy nutritional status. In contrast, among below-median income households (N=165), layers representing child demographics ( $p<0.05$ ) and media environments ( $p<0.05$ ) made significant contribution, and the layer representing community health environments approached significance ( $p=0.06$ ).

### Conclusions/lessons learned

The social ecological layer makes a different major contribution to early childhood nutrition depending on their household income. Children from higher-income households can benefit particularly from their homes and childcare centers, while children from lower-income households can benefit from media environments. The social ecological approach based on household income, which can be used to design interventions or policies, is one of the most promising strategies for improving early childhood nutrition status.

### Contact:

KIM JIYE  
Department of Health Convergence, Ewha Womans University  
KOREA  
[ydgkgk@naver.com](mailto:ydgkgk@naver.com)



## ONLINE Mini oral session 2.6: ONLINE SESSION: Improving care of people with multiple health problems and comorbidity II

The short field study on infection  
prevention and control of an eastern  
Caribbean country

**TSAI Weide, CHIANG Hsiu-Tzy, HSIEH  
Shang-Lin, HSU Wan-Ti, LIN I-Chuan, LIU  
Chang-Pan, HUNG Ta-Chua, CHIU  
Michelle**

### Background and objective

Many countries have learned the importance of emergency response and infectious control from the COVID-19 pandemic. This short field study aims to understand the current status of infection control in Saint Vincent and the Grenadines, its common infectious diseases, and priorities in acute infection control measures.

### Methods/intervention

A field study was conducted during a two-week medical mission to this eastern Caribbean country from October 20 to November 2, 2022. We conducted field visits, interviewed the seed instructors for public emergency response and the officials of the health agencies, and participated in their practical education and training courses. Data collection included on-site visits to local hospitals, clinics, and national warehouses for health emergency supplies, seed instructors' interviews, and meeting minutes.

### Results

In addition to the original well-implemented epidemic prevention measures, the public must strengthen epidemic prevention and health education materials to prevent human immunodeficiency virus infection, tuberculosis, and dengue fever, and better medical material warehouse management. Furthermore, measures that require more emphasis in medical institutions include hand hygiene, cough etiquette, needle stick prevention, safe injection practices, cleaning, disinfection, and sterilization of medical items and equipment after use by patients, and the use of checklists or conducting table drills for the management of cluster outbreaks in institutions. Practical drills are a better way of learning about preventing group outbreaks and controlling infectious diseases.

### Conclusions/lessons learned

St Vincentians urgently need knowledge and behavioral change through education and practical skills training programs in infectious disease and infection control. In the future, policies and measures must be simple for the public and easily blend into day-to-day activities and residents' habits. Furthermore, seed instructors could be the powerhouse of promotion for policies and measures.

### Contact:

TSAI Weide  
MacKay Memorial Hospital, TAIWAN  
[cktsai920@mac.com](mailto:cktsai920@mac.com)

## Protein Supplement Intervention for Improving Muscle Mass in Older adults with Sarcopenia: A Randomized, Double-blind, Placebo- controlled Trial

**CHANG Cheng-Fen, KUO Tien-Ho, TSAI  
Sheng-Hua, WANG Jiun-Yi, CHANG  
Huang-Yu**

### Background and objective

Background: Sarcopenia becomes in the loss of muscle and strength during aging. Although some studies mentioned protein interventions improving the healthy index of sarcopenic older adults, the results were ambiguous. Moreover, there are limited studies conducted in daycare centers. Objective: The present study aimed to explore protein convenience packs' effect and economic benefits in improving muscle mass and physical performance among older sarcopenic adults admitted to daycare centers in Taiwan.

### Methods/intervention

The 12-wk randomized, double-blind, placebo-controlled, parallel-controlled trial was conducted in sarcopenic older adults aged 65–95 y, approved by the Ethics Committee of the Ministry of Health and Welfare at Taipei Hospital (registration ID No.TH-IRB-0019-0046). The 80 participants were announced to keep a usual diet of around 1300-1400kcal/day. The control group was suggested to have a placebo and keep a usual diet. The treatment group was arranged to have a 14g protein supplement 3-5 times per week. All participants were measured for all outcomes [Body Mass Index (BMI), Skeletal Muscle Mass Index (SMI), Hand-Grip Strength (HGS), Gait Speed (GS), Mini Nutritional Assessment (MNA)] at week 0(baseline), 6, and 12.

### Results

The treatment group had a higher protein supplement intake than the control group. The energy was isocaloric between both groups. After the 12-week intervention, BMI, HGS, SMI, and MNA scores in the treatment group were significantly higher than in the control group. Moreover, the SPPB and GS were no significant differences between the two groups.

### Conclusions/lessons learned

Sufficient protein Supplement intake could improve muscle mass and part of physical performance among sarcopenic older adults. The protein supplement convenience pack more conveniently reached protein requirements for sarcopenia older adults.

### Contact:

CHANG Cheng-Fen  
Ching Kuo Institute of Management and Health  
TAIWAN  
[cfchang222@gmail.com](mailto:cfchang222@gmail.com)

## The effect of nutritional counseling on hemodialysis patients with hyperphosphatemia

LIN Yuen-Yuen, HUANG Kuei-Ying, YANG Chwei-Shiun

### Background and objective

By 2019, the rate of hyperphosphatemia among hemodialysis patients in Taiwan has reached 29.3%. Hyperphosphatemia is a risk factor for cardiovascular disease mortality. Diet control is one of the methods to control hyperphosphatemia, however, a strict phosphorus-restricted diet may cause malnutrition. The purpose is to improve hyperphosphatemia control in hemodialysis patients through consultation with dietitians.

### Methods/intervention

Research subjects at hemodialysis unit in a medical center, between January 2021 to December 2022. Inclusion criteria : age between 20 to 85 years, maintain hemodialysis for  $\geq 3$  months, hyperphosphatemia at least once in the past 3 months. Exclusion criteria : acute illnesses or unable to communicate. Dietitians conduct personalized nutrition education to the subjects. All data are expressed as mean  $\pm$  standard deviation. Statistical method: Wilcoxon Signed Ranks Test.  $p < 0.05$  were considered significant.

### Results

Total of 23 subjects were included (male: 10, female: 13). Average age  $67.7 \pm 11.8$  years, the mean Kt/V was 1.7. The mean serum phosphorus was significantly improved (7 vs 5.6,  $p=0.001$ ), and the plasma albumin was maintained (3.9 vs. 3.9,  $p=0.34$ ), hemoglobin was increased (10.1 vs. 10.2,  $p=0.55$ ).

### Conclusions/lessons learned

A wide variety of food additives in processed foods, and the bioavailability of inorganic phosphorus is higher than organic phosphorus. Reducing consumption of processed foods and choosing fresh foods will be the focus of hyperphosphatemia control. The primary cause of hyperphosphatemia is "incorrect way of taking medicine"; grinding the phosphate binders, mixed with food, it can better control serum phosphorus, but it will have a negative impact on the taste of food. Therefore, it is necessary to rely on a good physician-patient relationship and fully communicate in order to have a good execution effect. Our results suggest that receiving regular nutritional consultation from dietitians can improve hyperphosphatemia and maintain good nutritional status in hemodialysis patients.

### Contact:

LIN yuen-yuen  
Nutrition and Health Sciences  
[dong0508@hotmail.com](mailto:dong0508@hotmail.com)

## Explore on Resilience, Anxiety and Depression in Patients with Heart Failure

HSU Shu-Fen, TUNG Heng-Hsin, LEE Chun-Wei

### Background and objective

Heart failure is a common and complex clinical syndrome. In Taiwan, more than 70,000 patients are hospitalized due to heart failure per-year. Anxiety and depression can affect functional status and quality of life. Resilience can maintain healthy functioning levels after adversity and is associated with better physical and mental functioning and self-health care behaviors. Therefore, investigate of resilience, anxiety and depression in patients with heart failure and their correlations.

### Methods/intervention

A total of 51 subjects ( $68.78 \pm 15.48$  y/o; male 68.6%) were enrolled in this longitudinal study. We investigate by means of Resilience (RS-25) and Hospital Anxiety and Depression Scale (HADS) when 72 hours of during hospitalization and one month after discharge.

### Results

The resilience of heart failure patients was low to moderate during hospitalization, and tended to be moderate after discharge. The daily regular physical activity status was an important predictor of resilience. The anxiety level was lower than that of depression, and resilience was an anxiety predictor; suspected and certain depression during hospitalization accounted for 47.1%, and live with families was the predictor of resilience. Depression after discharge decreased to 27.7%, and the caregiver by himself and the degree of anxiety after discharge was the predictor of depression.

### Conclusions/lessons learned

Heart failure patients present with high depression and low to moderate resilience. Regular activities have a positive impact on quality of life, physical function, depression and anxiety. We recommended to admission Nursing Assessment include physical activity status, family and social support systems. High-risk cases referral to transition care, and design an individual physical activity program and frequency to increase compliance and improve resilience, Reduce anxiety and depression.

### Contact:

HSU Shu-Fen  
MacKay Memorial Hospital  
TAIWAN  
[fanny@mmh.org.tw](mailto:fanny@mmh.org.tw)

## The relationships between ICOPE score and the risk of sarcopenia of older adults in a community hospital outpatients

**CHEN Hsuan-En, LIU Chien-Yu, LIN Linda, HU Yu-Wen**

### Background and objective

The World Health Organization (WHO) proposed the Integrated Care for Older People (ICOPE) screening tool to identify older people with priority conditions associated with declines in intrinsic capacity (IC). Handgrip strength (HGS) is one of the diagnostic criteria of sarcopenia and gaining attention because it is also an indicator of aging functional outcomes. Recent studies also showed that HGS is relevant to bone mineral density and osteoporotic fractures. The purpose of the study was to evaluate the relationship between ICOPE scores and the risk of sarcopenia in community hospital seniors.

### Methods/intervention

A total of 63 elderly ( $75.79 \pm 9.1$  years) who from a community hospital joined to this study in southern Taiwan. Each elderly was tested for ICOPE, HGS, and dual energy x-ray absorptiometry (DXA) by the well-trained case manager of the hospital in 2022 (COVID-19 constraint). The ICOPE scores were divided into the high-score group (HSG,  $n=31$ ) and the low-score group (LSG,  $n=32$ ). The risk of sarcopenia was assessed by HGS. Spearman's rank correlation was used to analyze the correlation between ICOPE score and sarcopenia risk. Mann-U test was used to compare the difference between HSG and LSG.

### Results

There was a significant relationship between ICOPE scores and HGS ( $p < .05$ ). The HGS was significant relative to the bone marrow density ( $p < .05$ ). The ratio of HGS in the LSG was significantly 19% higher than the HSG ( $p < .05$ ). Among cognitive items, the HGS of LSG was significantly higher than the HSG (19%,  $p < .05$ ). In the mobility domain, the LSG was significantly higher than the HSG in HGS (36%,  $p < .05$ ).

### Conclusions/lessons learned

Our research affirms the positive relationship between ICOPE scores and the risk of sarcopenia. Therefore, it is an useful screen tool that combines handgrip strength to identify the osteosarcopenic cases from the community or primary care center.

### Contact:

CHEN Hsuan-En  
KCGH-Tainan branch  
TAIWAN  
[shineenbaby@gmail.com](mailto:shineenbaby@gmail.com)

## Elderly malnutrition is significantly influenced by geriatric depression and is related to functional disability in daily life and falls

**TSENG Hsiang-Kuang, CHENG Yun Ju**

### Background and objective

Comprehensive geriatric assessment (CGA) can identify geriatric syndromes and their influencing factors. Among them, the issue of elderly nutrition, especially the risk of malnutrition, is manifested in weight loss, decreased muscle mass, and weakened muscle strength in the limbs. This study analyzes the possible influencing factors of elderly malnutrition, hoping to break the vicious cycle and provide medical staff with references on elderly nutrition care.

### Methods/intervention

This study is a retrospective cross-sectional analysis of medical records of patients aged 65 years and above who received a CGA in the geriatric medicine department and outpatient care in 2021. The contents of "CGA" include MNA-SF, Clinical Frailty Scale, IADL, ADL, visual and auditory function, sleep quality, GDS-5, SPMSQ, TUG, hand Grip, NRS for pain assessment, fall, polypharmacy, caregiver burden. Data were extracted from electronic medical records using Brio Query version 8.3 software and analyzed using SPSS 24.0 statistical software after detailed coding and review for scoring errors.

### Results

During the study period, 131 cases were collected with an average age of  $80.4 \pm 8.5$  years old. The source of enrollment was 48% outpatient and 52% from inpatient, with females accounting for 55%. The study results showed that in the stepwise regression analysis of the CGA, the ADL ( $P=0.001$ ), GDS-5 ( $P=0.001$ ), and falling twice within a year ( $P=0.008$ ) were the three critical factors that affected MNA-SF.

### Conclusions/lessons learned

In the past, when elderly patients had weight loss problems, healthcare providers were highly suspicious of cancer or gastrointestinal diseases. However, this study's data shows that malnutrition in older adults is highly correlated with elderly depression, daily life function, and falls. Therefore, by improving elderly depression and breaking the vicious cycle of malnutrition in older adults, further deterioration of daily life function and falls can be avoided.

### Contact:

CHENG Yun-Ju  
Mackay Memorial Hospital  
TAIWAN  
[dabby630311@gmail.com](mailto:dabby630311@gmail.com)

## COVID-19 Infection Control in the Community Senior Daycare Center of Taiwan

**CHEN Hsiangyi, CHANG Wenling, HUANG Deyang**

### Background and objective

In order to improve the health of the elderly and infection prevention, the Community Senior center has formulated "Infection control operating standards" and "Cluster infection handling procedures". Due to the COVID-19 pandemic, the "COVID-19 Epidemic Prevention and Control Plan" will be added,

and the elderly and caregivers will be arranged to administer COVID-19 vaccines in Daycare Center.

### Methods/intervention

1.District care and activities for the elderly,to avoid cross-contamination. 2.Strengthen the protective equipment of the staff,detect body temperature and Stocc. 3.Facilitate referrals to care providers of Home care for confirmed cases. 4.Caring for contacts when the Daycare Center is closed because of the pandemic, such as LINE,Messages,to follow up the elderly and their families.

### Results

1. Risk assessment: Complete assessment of the health status of the elders and staff in the center,vaccination situation, environmental facilities and cleaning operations. 2. Recovery plan: Those who have urgent needs for care and those who meet the conditions for accepting cases are given priority; abide by the staff's own epidemic prevention management measures, such as STOC investigation, cleaning and disinfection of objects and environments, and complete epidemic prevention equipment.

### Conclusions/lessons learned

Implement personnel monitoring and environmental clearance, and abide by epidemic prevention management regulations.Ensuring the elderly Daycare centers are healthy and safe care environments during the COVID-19 pandemic.

### Contact:

CHEN Hsiang yi  
Mackay memorial hospital tamsui campus  
TAIWAN  
[joylight722@gmail.com](mailto:joylight722@gmail.com)

## Adoption, Acceptability, and Effectiveness of Community Software LINE Official Account for Oncological Case Management of Patients with Oral Cancer

**CHANG Ying-Ying, HSIEH Ming-Hsin, WU Hsing-Ling Carol, CHOU Yu-Shu, CHANG Chia-Hui**

### Background and objective

Background: Cancer patients require cross-professional care during the diagnosis and treatment periods. Therefore, methods for effectively carrying out case management are essential to tumor care. Objective: To investigate the effects of using the community software LINE Official Account on oral cancer case management.

### Methods/intervention

Methods/intervention: An experimental design was used; 100 patients were randomly divided into two groups by using a computer-generated random number table. The experimental group used LINE Official Account, which gave them self-care information, timely messages, and one-on-one health-care consultations. The control group followed standard health-care practices.

### Results

Results: The experimental group was satisfied with the self-care information provided by LINE Official Account (86.9%), patients regularly checked the self-care information (89.4%) and would check the information when receiving a push notification (54.3%). Ten patients used the one-on-one consultation(20.0%). LINE Official Account had a significant effect on the rate of participation in support groups. Generalized estimating equations indicated a significant difference between the two groups regarding the overall quality of life over 7 days ( $P = 0.023$ ).

### Conclusions/lessons learned

Conclusion: Community software applications used in oncological case management can improve self-management and empower, also enable tracking long-term follow-up effectiveness and reinforce the case manager's role as a family therapist. Therefore, this study recommends that case manager systems be incorporated into mobile applications to increase the sustainable management, accessibility, effectiveness, and satisfaction of oncological management systems. This study also provides the value of Sustainable Development Goals (SDGs) with Good Health and Well-being, and decreased social withdrawal among patients with oral cancer.

### Contact:

HSIEH MH  
HKU  
TAIWAN  
[hsieh1979@outlook.com](mailto:hsieh1979@outlook.com)

## What is the optimal duration of antibiotic therapy in vertebral osteomyelitis?

**CHEN Changhua**

### Background and objective

Vertebral osteomyelitis (VO) commonly associated with a high burden of morbidity and costs, and recurrence or new episodes of VO occur frequently. Reducing the inappropriate use of antibiotics for VO is critical components of a strategy to control antibiotic drug resistance. The current study aimed to determine and evaluate the antibiotics duration and to describe the predisposing risk factors on VO cohorts from the longitudinal National Health Insurance Research Database.

### Methods/intervention

VO cohorts were obtained from the longitudinal health insurance databases (LHID) 2000, a sub-dataset of the Taiwan National Health Insurance (NHI) Research Database (NHIRD), which contains all claim data of one million beneficiaries who were randomly selected from the system in 2000. Patients with VO (ICD 9 diagnostic codes 721-724, and 730) who were identified were selected from the database.

### Results

The VO cohort included 12655 patients identified from 1 January 1997 to 31 December 2007. During the follow-up period, 12,434 subjects had been successfully treated and 221 subjects had failed treatment. Each patient was followed up for a minimum of 2 years. Using the Cox proportional hazard regression model for studying the critical factors that influence the failure of VO treatment, we observed that longer duration of antibiotic

treatment cohort had a higher risk of readmission (adjusted hazard ratio = 1.59, 95% confidence interval = 1.39–1.82,  $p < 0.001$ ). The receiver operating characteristic (ROC) curve analysis showing the optimal duration of antibiotics for treating VO is 38 days according to Longitudinal Health Insurance Database of Taiwan.

**Conclusions/lessons learned**

In conclusion, our analysis suggests that 38-days duration of antibiotic therapy was not related to the likelihood of treatment failure. Current study seems too preliminary to make strong conclusions, but in view of the known hazards of unnecessary prolonged antibiotic therapy for VO patients.

**Contact:**

CHEN changhua  
changhua christian hospital  
TAIWAN  
[chenchanghuachad@gmail.com](mailto:chenchanghuachad@gmail.com)

## Poster session 1: Access to services and information

### Building an automated structural information system to shorten the shift time of nursing staff and improve their satisfaction

**LEE Shu Yen, LLEE Wei Ping, CHEN Mei Jung, DING Rou Yun**

#### Background and objective

Shift is a kind of doctor-nurse communication activity, which occurs at any time every day. Therefore, how to effectively and correctly hand over to the next shift in the process of patient care not only can shorten the average shift time, but also improve the quality of patient care. This project adopted the automated structural information system for communication information to improve the satisfaction of nursing staff and thus enhance their retention.

#### Methods/intervention

The project was established by applying the concept of team resource management. The shift interface was designed using the system architecture via the ISBARD shift tool. The shift data were automatically captured and integrated through informationization, which reduced the transcription by nursing staff, and greatly decreasing the manual input error. At the same time, the issue of clicking medical systems by nursing staff was avoided. The shift process was simplified to reduce the workload. Moreover, the system was featured by (1) rapid integration of systems, providing comprehensive patient information and shortening the review time; (2) visual design, quickly grasping the shift information; and (3) automatic integration of shift data, having innovative designs to automatically collect more than 99% of the data into the system, and promoting shift effectiveness

#### Results

The average shift time of nursing staff was shortened from 61.2 minutes to 29.3 minutes; and their satisfaction of shift work was improved from 45.6% to 88.7%.

#### Conclusions/lessons learned

The automated structural information system was constructed to promote good communication and have a patient-centered thinking mode. In addition to establishing systematic shift work as a response to trends in the future, an action App could be added so that nursing staff could access to the key points of shift and ward rounds at any time, and regularly have education and training courses related to shift and information communication, so as to enhance their knowledge and skills, and maintain patient safety

#### Contact:

LEE shu yen  
Tri-Service General Hospital; and School of Nursing, National Defense Medical Ce  
TAIWAN  
[leey1108@mail.ndmctsg.h.edu.tw](mailto:leey1108@mail.ndmctsg.h.edu.tw)

## Situational analysis of medical care for heart failure patients in a regional hospital in central Taiwan

**LIN Cheng-Sheng, LIN Pin-Chun, YANG Yi-Chun**

#### Background and objective

Heart failure is a complex clinical symptom, Guideline-directed medical therapy(GDMT) for heart failure with reduced ejection fraction (HFrEF) now includes 4 medication classes that include ACE-I/ARB/ARNI,  $\beta$ -blockers, MRA and SGLT2, to improve symptoms and prevent readmission. This study retrospectively explored the profile of HFrEF patients in our hospital as a basis for future team improvement.

#### Methods/intervention

This study is a retrospective study, in a regional hospital in central Taiwan, Discharged patients with confirmed diagnosis of HFrEF by physicians, and collected data through medical records, from June 1, 2019 to September 30, 2021, a total of 101 cases were accepted. IRB certificate number: 110031.

#### Results

101 HFrEF patients were included in this study. Male comprised 71.3%, and the mean age of the patients was  $64.9 \pm 15.4$  years. The mean body mass index was  $26.4 \pm 5.6$  Kg/m<sup>2</sup>. Moreover, 89.1% of the patients had chronic diseases, such as hypertension, diabetes, and heart disease; LVEF  $27.4\% \pm 7.7\%$ . Dosing rates in hospital, 1, 6, and 12 months after discharge of ACE-I/ARB/ARNI, were 61.2%, 38.8%, 26.2%, and 22.3%; B-blocker were 64.1%, 40.8%, 27.2%, and 35.0%; MRA were 46.6%, 26.2%, 14.6%, and 17.5%; SGLT2 were 4.9%, 1.9%, 1.0%, and 2.9%. The rate of visiting the emergency room, readmission, and mortality within 1 year after discharge were observed in 18.8%, 20.8%, and 8.9%, respectively.

#### Conclusions/lessons learned

As HF is a complex composition of many diseases, it is necessary to treat the cause of acute HF, and also to rely on GDMT for HFrEF to prevent the recurrence of the acute attack. However, in this study, there is a big gap between the actual drug usage rate and the target dose according to the guidelines, which are related to various clinical factors and drug side effects, which can easily affect the patient's medication compliance. Therefore, in the future, it is more necessary to use Shared decision making auxiliary.

#### Contact:

YANG Yi-Chun  
Tungs' Taichung MetroHarbor Hospital, TAIWAN  
[milky521208@gmail.com](mailto:milky521208@gmail.com)

## Reduce the rate of HbA1C >9% in outpatients with diabetes in the hospital

**TENG Hsiu-Yun, LIN Yu-Ling, HSU Chi-Sung, CHIANG Hui-Chaun, LAY Huey-Jen**

### Background and objective

According to the implementation results of the health promotion organization, the proportions of glycated HbA1C > 9% of diabetic outpatients in our hospital were 9.5%, 10.67%, and 10.4% from 2018 to 2020. To improve the quality of diabetes health promotion and optimize by countermeasure of "reducing the rate of HbA1C>9% of diabetic patients in our hospital".

### Methods/intervention

We compared HbA1C improvement in diabetic participants between November 2020 to January 2021 and November 2021 to January 2022. Using the method of quality control circle(QCC), five countermeasures were formulated: 1. Create a multilingual creative insulin teaching material; 2. Strengthen carbohydrate awareness, 3. Home exercise process planning and training, 4. Improving physician certification and interdisciplinary care, 5. Integrating telecare platforms. The target is: reduce the rate of HbA1C>9% of diabetic patients in the hospital <9.5 %.

### Results

Tangible results were: the rate of HbA1C>9% of diabetic patients decreased from 10.4% to 8.7%, the achievement rate was 188%, and the progression rate was 16.3%. Additional benefits were : 1. The number of outpatients whose microalbuminuria >30mg/dl decreased from 332 to 192 with the improvement of HbA1C. 2. According to the statistics, the average nursing health education time reduced to 9 minutes less. 3. The medical expenses of outpatients with diabetes HbA1C>9% were reduced from NT\$18,106 per person to NT\$6,289.

### Conclusions/lessons learned

We have improved the quality of diabetes care through cross-departmental cooperation and patient-centered countermeasures. Future prospects are: 1. We hope that information optimization will cover all levels of diabetic patients. 2. We hope to combine big data and new technology to implement patient-centered personalized precision treatment and prevention.

### Contact:

SHEN HsuPing  
Feng Yuan Hospital of the Ministry of Health and Welfare  
TAIWAN  
[hph@fyh.mohw.gov.tw](mailto:hph@fyh.mohw.gov.tw)

## Suitability Assessment of Health Education Materials of Elderly Health Check-up Examinees in a Medical Center in Taipei City

CHEN Ping-An, SU Che-yi, YANG Yi-chu

### Background and objective

Health literacy represents the cognitive and social skills which determine the motivation and ability of individuals to gain access to, understand and use information in ways which promote and maintain good health. Studies have shown that the elderly with poorer cognitive functioning and stronger cognitive decline are at risk for having low health literacy, which can affect the abilities to promote health and self-care for disease. Therefore, this study revises the health education leaflets of hypertension, diabetes and hyperlipidemia in accordance with "Review Indicators and

Usage Guidelines for Health Literacy-friendly Materials" which was developed by Health Promotion Administration of Taiwan. The suitability of these leaflets are assessed by the elderly to ensure that the revised versions are appropriate for the elderly or not.

### Methods/intervention

A cross-sectional study was conducted on adults (n=93; aged 65 years and over) taking elderly health examinations, in a medical center in Taipei, Taiwan. Participants measured the suitability of the original and revised health education leaflets of hypertension (n=32), diabetes (n=31) and hyperlipidemia (n=30) with the suitability assessment that considers characteristics such as content, word choice/style, use of numbers, and visual images.

### Results

The mean suitability scores of the original and revised health education leaflets of hypertension, diabetes, and hyperlipidemia were all above 70, which indicated that both original and revised leaflets were health literacy-friendly. However, the difference between two versions reached the statistical significance difference ( $p < 0.05$ ). The suitability scores of the revised health education leaflets were significantly higher than the original ones (hypertension:  $76.84 \pm 14.23$  vs  $93.52 \pm 8.67$ ; diabetes:  $78.12 \pm 11.21$  vs  $96.07 \pm 5.76$ ; hyperlipidemia:  $77.51 \pm 11.06$  vs  $92.35 \pm 5.24$ ).

### Conclusions/lessons learned

This study found that the health education leaflets of hypertension, diabetes and hyperlipidemia, which were revised in accordance with Review Indicators and Usage Guidelines for Health Literacy-friendly Materials, were more suitable for elderly than the original one, and the results of the study can be used as a reference for the design of health literacy-friendly materials in the future.

### Contact:

CHEN Ping-An, TAIWAN  
[ann831114@gmail.com](mailto:ann831114@gmail.com)

## Dropped the nurses' medication administration errors in the emergency room

HUANG Pai-Yu, SHEN Yi-Chun, HUNG Min-Huei, WU Kai-chen, NIEN Chia-Chi, LU Tzu-Chen, CHEN Yu-Hsuan, WU Mei-Chuan

### Background and objective

Patient medication safety has always been a global issue, It is also an important index item of medical quality, Administration of medicines is the most important and frequent nursing activity for nursing staff, In the event of medication administration errors, Patient injury or even death will result. The unit's 2022 medication administration error rate is 0.25‰, ranking the highest in the hospital and exceeding the hospital's threshold of 0‰, This led the author's motivation to implement this program.

### Methods/intervention

In order to improve the quality of medical care and patient safety, the unit carried out improvement activities since April 1,

2022. We analyzed the causes according to the current situation, and we implemented strategies after literature review, including (1) Holding education and training for emergency room nurses, (2) Establish emergency room drug reminder and audit small vanguard, (3) Revise the types and quantities of medicines on hand in the emergency room, (4) Optimizing the Emergency Nursing Order Operating System, and (5) Increase the appearance recognition of the infusion.

### Results

Through the campaign, from December 1 to December 30, 2022, the medication administration error rate of from 0.25‰ to 0‰ before after improvement, respectively.

### Conclusions/lessons learned

The Research result continuous education training and check, dropped the nurses medication administration errors in the emergency room. Suggestions AI-assisted medication identification and automated dispensing cabinet have a multiplier effect.

### Contact:

HSU Jason  
Chang Bing Show Chwan Memorial Hospital  
TAIWAN  
[14998@cbshow.org.tw](mailto:14998@cbshow.org.tw)

## Implementation of the patient Navigation Encourage the treatment willingness of cancer in a regional hospital

**CHANG Tzu-Pin, CHEN Wan-Ju, HSIEH Shu-Hua, TSAI Yu-Wei, FAN Wen-Chieh**

### Background and objective

According to the latest statistics from Taiwan's Ministry of Health and Welfare in 2022, cancer has been the leading cause of death in Taiwan for 40 years, and both the incidence and number of deaths have been increasing rapidly each year. After being diagnosed with cancer, patients often refuse follow-up treatment due to work factors, old age, or other reasons, which reduces the overall survival rate and increases medical costs. Our hospital is a regional hospital in Taiwan, and in 2018 the cancer retention rate was 79%. The reasons for not receiving treatment were explored as: (1) being transferred to a medical center, (2) being transferred to another regional hospital, and (3) refusing or not having time for treatment due to age or fear of treatment. We hope that through the guidance of cancer case managers and the integration of our team, we can assess the physical, mental, and social needs of patients and refer them to appropriate care in order to provide them with comprehensive care and effectively improve their compliance with medical instructions, thereby increasing the overall survival rate.

### Methods/intervention

In order to provide a more comprehensive and high-quality cancer treatment model, our hospital has specialized physicians and oncology case managers to assist in integrating medical team resources, enhancing the quality of cancer patient care services. We proactively provide cancer treatment handbooks to patients during follow-up visits and frontline treatment and care

information so that we can reduce the probability of patients refusing treatment. We also provide multiple medical information for patients to choose appropriate treatment and introduce shared decision-making based on the guidelines. When a patient is found to refuse treatment and does not return for follow-up, we will regularly care about patient's condition according to the tracking method. An oncology case manager provides personalized assessments and cross-team referrals based on the patient's condition, such as referrals to oncology psychologists, social workers, hospice caregivers, dietitians, and radiation therapy educators. Through a comprehensive service, the manager can identify patient care issues and eliminate factors that may cause treatment refusal. Our goal is to provide high-quality patient care. Our hospital participates in the SNQ national quality certification, including the continued promotion of the Cancer Patient Navigation System, comprehensive oral care for cancer patients by an interdisciplinary team and precision radiation therapy for breast cancer. Through Cancer Patient Navigation System, we strive to improve patient retention rates and increase overall survival rates after standard treatment.

### Results

Our hospital's retention rate was 71% in 2019, which increased to 78% in 2020, and further improved to 79% in 2021. During this period, the retention rate effectively increased, and the complete treatment rate reached 100%. The satisfaction rate of our oncology case managers was over 95%. Our hospital has also been certified with the national quality label for many times, and in 2019, we were awarded the "Cancer Treatment Quality Certification," a national honor that demonstrates our hospital's high-quality cancer care and integration of high-quality medical services at various stages.

### Conclusions/lessons learned

Through the guidance of oncology case managers and the collaboration of different healthcare professionals, the needs of cancer patients can be met, which can lead to the completion of standard treatment in our hospital. We hope that by providing high-quality medical care and attention, we can effectively improve the survival rate of our patients.

### Contact:

TZUPIN Chang  
TAIWAN  
[me901133@yahoo.com.tw](mailto:me901133@yahoo.com.tw)

## The effects of integrated outpatient services for people with disabilities

**LIOW I-Hsiu, CHEN Jin-Shuen, CHEN Shu-Qi, TUAN Sheng-Hui, SUN Shu-Fen, CHANG Shin-Tsu, HUANG Wan-Yun**

### Background and objective

According to the questionnaire of ministry of interior, Taiwan, 74.83% of people with disabilities had regular visits for doctors. However, 31.82% of the population had difficulties to visit the hospital independently. They encountered problems such as registration in the hospital counter or traffic issues. In 2014, We established integrated outpatient services for people with disabilities in our hospital.



### Methods/intervention

In this service program, a case manager assessed patients with disabilities and arranged appointment to medical specialties, including internal medicine, physical medicine and rehabilitation, psychiatry and more, according to patients' needs. During the same visit, patients with disabilities could see all specialists they need in one visit session, in one clinic room. In addition, patients paid medical fees for a single visit in the integrated outpatient services, which lowers the financial burden for the patients. The aim of the service program was to improve the medical quality, to overcome the obstacles during medical visits for patients with disabilities, and to save patients' money.

### Results

From 2014 to September 2022, there were 7487 people received service counselling and 6526 people applied for the integrated system. (figure 1) For age distribution (figure 2), most patients were between 61 and 70 years of age. For disability classification, most of the patients (31%) were diagnosed with neuromuscular deficits and related disabilities (figure 3). In 2022, there were 1425 doctor visits annually. The outpatient clinic specialties patient visited was 1.33 in average. Physical medicine and rehabilitation visits accounted the most. 186 doctor (12.6%) visits were reported.

### Conclusions/lessons learned

For health-related behavior analysis in the people with disabilities, smoking accounts for 5.42%, alcohol drinking 1.5% and betel nuts 1% (figure 5). For disease analysis, metabolic syndrome accounts for 61% (figure 6). For patients' feedback, satisfaction rate was over 90% in the questionnaire of integrated system.

### Contact:

LIU I-Hsiu

Department of Physical Medicine and Rehabilitation, Kaohsiung Veterans General Hospital, TAIWAN

[bruce\\_pelagia@msn.com](mailto:bruce_pelagia@msn.com)

## Reducing the Probability of COVID-19 Infection in Elderly Community through APPs Courses

**TSAI Ming-Chi, CHENG Chin-Chia, TSAI Li-Hui**

### Background and objective

During the COVID-19 period, the government urged people to reduce their outings to lower the risk of infection. These courses plan to provide instruction on online meetings and food delivery APPs, with the aim of encouraging elderly to continue learning from home while also reducing their outings, while meeting the needs for social connections and dining. Through surveys and focus group discussions, we have obtained feedback from elderly regarding their satisfaction and concerns about the course, and we are using the PDCA (Plan-Do-Check-Action) method to make improvements.

### Methods/intervention

These courses begin with an explanation of the curriculum, followed by practice sessions among elderly, with the instructor providing guidance. At the end of the course, elderly fill out questionnaires and participate in focus group discussions to

obtain feedback. Afterwards, the PDCA method is used to improve the teaching approach. The plan (P) involves developing the curriculum to meet the needs, the do (D) stage is to teach the operation of the APPs, the check (C) stage is to review feedback, and the action (A) stage is to adjust the teaching approach based on the issues identified.

### Results

A total of 17 teaching courses were held during the period, with 162 elderly participants and 151 valid questionnaires collected. The satisfaction score for the first course was 60 points, but after continuous adjustments in the teaching methods, there were 8 courses with an average satisfaction score ranging from 80 to 95 points, and 8 courses with a perfect score of 100 points.

### Conclusions/lessons learned

In addition to the improvement of the course satisfaction of the elderly, we also summarize the two problems as follows: Regarding mobile devices: 92% of the elderly rely on family assistance to purchase and set up their mobile devices. If family members lack empathy, patience, and time, it will make it difficult for the elderly to seek help. Regarding reducing going out: 77.6% of the elderly find it convenient to go out to buy food and 72.8% enjoy chatting directly with friends and family. Long-standing habits are difficult to change. According to the above, APPs courses will continue to be held to help the elderly avoid infection during the COVID-19 period.

### Contact:

TSAI Ming-Chi, TAIWAN

[maxima.work@gmail.com](mailto:maxima.work@gmail.com)

## Discussion on the Correlation between Health Literacy of the Aged and Communication Ability

**LIU Mei-Na**

### Background and objective

To understand the effects of aging health literacy and communication on the elderly, the main purposes are as follows: (1) To understand the current status of basic information on aging health literacy and communication ability. (2) Understand the correlation between health literacy and communication skills in the elderly. (3) To explore the correlation between the health cognition and communication ability of aging health literacy. (4) Predict changes in aging health literacy health cognition and influencing factors of communication ability variability.

### Methods/intervention

This study adopts a descriptive study. The mother is a hospital institution, and the elderly over 65 years old are the research objects. The research tools are personal basic information, Rapid estimate of adult literacy in medicine (REALM), and Test of functional health literacy in adult (TOFHLA). ) And other questionnaires through self-response or question-by-question interview data collection to understand the relationship between the health literacy and communication skills of the elderly, descriptive data analysis with SPSS 22.0 Chinese version.

### Results

The sample number of the research subjects was 110, and the results were as follows: 1. The low health literacy of the elderly

was positively correlated with the communication ability. 2. The higher the health literacy score of the elderly is positively related to the written health literacy of reading the (REALM) scale and arithmetical understanding. 3. The higher the health literacy score of the elderly (TOFHLA) scale, the higher the reading comprehension and the higher the arithmetic ability score

#### Conclusions/lessons learned

You should understand the health literacy of the elderly, take some time to gradually evaluate the communication skills of elderly patients, use vernacular instead of medical terms, use pictures to enhance understanding and review, do not give too much information to each contact, and use repeated instructions to allow the elderly Patients respond to teaching, confirm their understanding, respect, care, and sensitivity to enable elderly patients to be willing to take responsibility for self-care

#### Contact:

MEI-NA Liu  
Taichung Veterans General Hospital WanCiao Branch  
TAIWAN  
[meinai@vghtc.gov.tw](mailto:meinai@vghtc.gov.tw)

## Improving the quality of telemedicine services in international medical care

**HUANG Hui-Chu, SHIH Whei-Mei, WHITE Lanny, CHANG Shu-Yi, ZENG Wei-Jie, LIU Li-Jin, LIAO Yi-Wen, CHIANG Cheng-Yen, TASI Mei-Chu**

#### Background and objective

During COVID-19 pandemic, border control policies inhibited foreigners to come to Taiwan freely to receive medical services. Through online consultation, comprehensive and immediate medical services can be provided. The purpose of this program was to improve the quality of telemedicine services for overseas patients.

#### Methods/intervention

A survey was conducted and then followed by formulated improvement measures regarding the less satisfactory parts of the international telemedicine service at the International Medical Center. These included: (1) Revised the "International Medical Center Video Consultation User Manual"; (2) Digitized the "Service Satisfaction Questionnaire" for telemedicine by replacing the paper questionnaire with an online questionnaire system to increase the response rate and immediate feedback. (3) Informatized the telemedicine "appointment system" service to provide immediate scheduling information. (4) Upgrading of telemedicine computer equipment, so that the patients' medical records can be retrieved quickly and immediately as well as saved upload time at the same time. (5) Provided online credit card payment function in addition to traditional bank transfer system.

#### Results

The results revealed as follows: (1) From 2022/01/01 to 2022/12/31, there were a total of 416 telemedicine cases, an increase of 115 cases (38.2%) compared with the same period last year. (2) Common consultation items were proton therapy,

cancer treatment, and specialized surgery (outer ear reconstruction, sympathetic nerve surgery, orthognathic surgery, among others). (3) Satisfaction with telemedicine services increased from 92.9% to 95% last year, and the questionnaire response rate reached 96.1%. Among them, satisfaction with appointment speed, payment method, and network connection for telemedicine services had improved significantly.

#### Conclusions/lessons learned

Through online consultation, international patients can be provided with complete and immediate medical second opinions. The Center continues to uphold the spirit of "Taiwan can help, and Taiwan is helping!", to provide international patients with the most appropriate and immediate high-quality telemedicine services.

#### Contact:

HUANG HUI-CHU  
Chang Gung Memorial Hospital, Taoyuan, TAIWAN  
[change1001@cgmh.org.tw](mailto:change1001@cgmh.org.tw)

## Examining the effects of tourism virtual reality on the mental well-being of long-term care residents

**YANG Cheng-Chia, CHANG Yu-Chia**

#### Background and objective

Tourism can improve the benefits of positive emotions, such as well-being while reducing stress and depression. However, for residents in long-term care facilities who are physically or mentally handicapped, disabled, or may be restricted from going out due to special circumstances, virtual reality can help improve their positive emotions and well-being. Based on process theory, this study explores how virtual reality technology can promote people's well-being.

#### Methods/intervention

The focus of this research is to investigate how virtual reality technology can enhance individuals' well-being. The virtual reality tour showcases a thoughtfully curated selection of architectural and street attractions in Taiwan, emphasizing the distinct features of the Architecture and Urban Environment. The study gathered data from 145 residents with an average stay of 1.8 years across four long-term care facilities in Taiwan.

#### Results

This research finds that the more vivid the virtual reality pictures were, the higher the users' sense of immersion and control ability and the more curious they became, which improved their sense of presence. Among the study predictors, control was the strongest predictor for presence. This study found that a higher sense of presence could help users become more involved in experiential tasks and achieve a flow state. Experiencing a state of flow was a crucial factor that contributed to the enjoyment and overall well-being of the participants. This heightened sense of flow had a significant impact on both their hedonic and eudaimonic well-being.

#### Conclusions/lessons learned

This study provides empirical evidence for virtual reality tourism's impact on long-term care residents' well-being and

promotes virtual reality's practical applications. According to the results of this study, it is suggested that VR tourism can be leveraged to provide LTCF residents with virtual travel experiences that allow them to engage in activities and visit destinations that may have been otherwise inaccessible to them. Such experiences have the potential to elevate their level of happiness and well-being.

**Contact:**

YANG Cheng-chia  
Asia University, TAIWAN  
[t44629@ms43.hinet.net](mailto:t44629@ms43.hinet.net)

## How to increase the workforce of home care services? Current situation and reflections in Taiwan.

**SU Chi-Chun**

### Background and objective

Long-term care is an important policy of the Taiwanese government, and community-based care is one of the key development goals. However, the shortage of workforce in home services has always been an urgent problem that needs to be addressed. This study focuses on the difficulties faced by the workforce of home services in Taiwan, as well as the issues of attracting, recruiting, and retaining them, in an attempt to clarify and make recommendations.

### Methods/intervention

Through a literature review from 1993 to 2022, two main directions were found: "policy and institutional" and "working conditions."

### Results

The first direction, "policy and institutional," focuses on issues such as the training of home care service personnel, regulations, and professional certification. The second direction, "working conditions," focuses on the practical aspects of the work of home care service personnel, as well as subjective factors that affect retention or resignation. Past research has mostly followed this path. Common retention factors include economic needs, flexible working hours, a sense of achievement and feedback in the job. Resignation factors include lack of respect for the profession, poor treatment, unstable income, accumulation of psychological burden and negative emotions, equal pay for different levels of case difficulty, high occupational risk, responsibility for care issues, and workplace harassment.

### Conclusions/lessons learned

Regardless of which research direction is taken, they all share a concern for promoting the health of the workforce in home care. There are many difficulties to be solved and improved in both policy and institutional settings and working conditions. The intervention of public authority is one of the important ways mentioned in relevant research to fundamentally change the current situation of long-term care through policy.

**Contact:**

SU Chi-Chun  
Kaohsiung Municipal United Hospital, TAIWAN  
[sccsafp@gmail.com](mailto:sccsafp@gmail.com)

## Reduce the repurchase rate of surgical instrument trays

**CHUNG Pei-Rong**

### Background and objective

With the advancement of medical science and technology, the operation method has changed accordingly, and the frequency of use of some instrument trays has decreased, but the cleaning and sterilization process still needs to be carried out according to the standard when it expires, which wastes manpower, time, and cleaning and sterilization costs. It is an economical and effective way to reduce the frequency of reprocessing of expired packages and improve work efficiency and quality.

### Methods/intervention

Using a case-by-case approach to cooperate with doctors in the operating room and various departments to analyze the causes, search for literature, and plan improvement plans for packages with high repurchase rates. Improvements are made by re-planning the placement location, adding a reminder hook, extending the validity period of the package, reorganizing the package to increase the turnover rate, and regularly checking.

### Results

The repurchase rate of expired instruments dropped from 9.77% to 2.44%, saving 2 hours and 47 minutes per day for processing expired instrument packages, and saving 906,915.5 yuan/year in cost.

### Conclusions/lessons learned

The hospital is limited by the fixed payment environment. It is a big challenge to control the operation cost, ensure sufficient surgical equipment and reduce the safety and injury. In addition to improving the quality of equipment supply, the supply room needs to manage surgical equipment systematically to increase the turnover rate of equipment. Save manpower and material resources in management, reduce unnecessary costs, and regularly review relevant management data to improve management quality.

**Contact:**

CHUNG Pei-Rong  
National Taiwan University School of Medicine Affiliated Hospital  
Yunlin Branch, TAIWAN  
[a222085319@gmail.com](mailto:a222085319@gmail.com)

## Poster session 2: Improving care of people with multiple health problems and comorbidity I

### Nursing Experience of Caring for a Liver Transplant Recipient

**CHEN Pei Jung, YAN I Ching**

### Background and objective

According to data from the World Health Organization, it is estimated that 820,000 people die every year. Chronic liver disease and cirrhosis are also one of the top ten causes of death

in Taiwan. Liver transplantation is the most effective treatment for the last liver disease. According to Taiwan's statistics in February 2023, the liver donation rate is only 1.1 %. In addition to long-term organs waiting for patients and their families, they also need to face body and psychological problems. It is hoped that the nursing process can be used as a reference for future care for such patients.

#### Methods/intervention

In addition to listening and encouraging patients to express pain after surgery, they also teach them how to move, avoid wound traction, and encourage them to use mobile phones or televisions to maintain communication with the outside world. In terms of infection, in addition to monitoring the signs of life, strict protective isolation measures must be taken, and their purpose and importance are explained to their families and patients. In addition, educating patients and family members to understand the symptoms of infection and increase their understanding of self-care. In terms of anxiety, in addition to actively introducing the surrounding environment and equipment into cases, you can also contact and accompany patients outside the bed to improve a sense of security. With the support and positive encouragement of the entire medical team, we provide physical, spiritual, and spiritual treatment for personal cases and their family members.

#### Results

Patients can say self-care and can share their own experiences at the patient's meeting, and finally return home smoothly.

#### Conclusions/lessons learned

For such patients, this is an important life-turning point. In addition to providing established clinical care, it is necessary to learn more about patients and their families to provide nursing guidance that meets their health needs. This time, the patient was temporarily told to accept cadaveric liver transplantation, and the author could not reduce the patient's anxiety about the operation in advance. It is suggested that while waiting for the operation, can first talk with the patient and family members to reduce their anxiety.

#### Contact:

CHEN PEI JUNG  
CHANGHUA CHRISTIAN HOSPITAL. Institute of Long Term Care,  
Chung Shan Medical University, TAIWAN  
[181841@cch.org.tw](mailto:181841@cch.org.tw)

## Healing of skin protectant on Management of Incontinence- Associated Dermatitis in adult

#### Background and objective

Incontinence-Associated Dermatitis is caused by exposure to physical or chemical stimuli for a long time. It not only makes skin barrier infiltration, erosion, and blisters but also increases the pressure injury rate. The most important is making the patient feel uncomfortable. In intense-care unit, a critical patient who has diarrhea due to the severity of the disease, continuous feeding, antibiotics, and other factors feels pain, prolongs the length of hospital stay, and increases the cost. We search for appropriate care methods for IAD by evidence-based.

#### Methods/intervention

We used PubMed and Chinese Electronic Periodical Services (CEPS) to investigate literature by using the PICO search tool.

#### Results

Yuka Kon and other scholars conducted that acrylate terpolymer and polydimethylsiloxane can form a barrier between the stratum corneum and physical or chemical stimuli, and promote the healing of IAD skin. Therefore, regular use of skin protectants can reduce skin inflammation, improve the stratum corneum and hydration reaction, and lower skin pH value. It is recommended to use structured skincare combined with skin protectants, which can improve the quality of care, increase patient comfort and promote IAD skin healing.

#### Conclusions/lessons learned

The results of the study showed that the addition of skin protectants to routine skin care can effectively promote skin healing in IAD patients. It is recommended that a structured skin care regimen can be implemented. Effective cleansing and skin protection can help prevent the deterioration of skin integrity and IAD healing. As provided below, first, Avoid repeated use of soap and water for skin cleansing of IAD patients. Second, consider using a neutral skin cleanser and conditioner. Third, it is recommended to use the Ghent Global IAD Categorization Tool (GLOBIAD) to regularly assess and report the integrity of the skin. Forth, Sufficient nursing education and training should be provided for IAD care. Fifth, Patient Decision Aids (PDAs), suggest that doctors can explain the effectiveness of skin protection to patients and families, and make decisions on medical options that suit the patient's preferences.

#### Contact:

LIN Yuchih  
CHANGHUA CHRISTIAN HOSPITAL  
TAIWAN  
[183557@cch.org.tw](mailto:183557@cch.org.tw)

## Immediate blood draw after Retrograde intrarenal surgery for early detection of signs of sepsis

### TSENG Tzu-Wei, KAO Pi-Chin, WU Chi-Hsiang

#### Background and objective

Retrograde intrarenal surgery(RIRS) reducing operation time and safety considerations, and has won the trust of patients. Return to the ward immediately after the operation to draw blood tests, by observing the hematological changes and early assessment of signs of infection, antibiotics can be given first to reduce the postoperative transfer of intensive care due to septic shock The probability of ward, and can indirectly improve patient satisfaction.

#### Methods/intervention

After RIRS patients return to the ward, and blood tests are given immediately to detect signs of infection early and administer antibiotics to reduce the chance of septic shock being transferred to the intensive care unit, reduce the pressure on the nurses in the urology ward, and reduce unnecessary Nursing hours to improve the quality of nursing care.

### Results

According to statistics, from January 2022 to June 2022, the rate of transfer of patients to the intensive care unit due to septic shock after flexible ureteroscopy is 34.6%. In July 2022, post-interventional blood sampling will be started to evaluate the signs of infection of patients, and the evaluation from July to December 2022, 34% of those with signs of infection were treated with antibiotics immediately, and the rate of transfer to the intensive care unit was reduced to 6.25%.

### Conclusions/lessons learned

Clinical nurses need to put in more hours when patients are transferred to the intensive care unit in critical condition, it also increase their workplace pressure. The interventional blood test after flexible ureteroscopy can detect the signs of septic shock in patients early, which can save nursing hours, improve work efficiency, and improve the quality of nursing care.

### Contact:

HSU Jason  
Chang Bing Show Chwan Memorial Hospital, TAIWAN  
[14998@cbshow.org.tw](mailto:14998@cbshow.org.tw)

## Reducing the Loss Rate of Lower Extremity Muscle Strength in Patients After Liver Transplantation

**WANG Chen-Ya, WU Chen-Lu, TSAI Pei-Chen**

### Background and objective

After liver transplantation, patients are restricted to stay in bed for several days due to doctor's orders. Limb immobility leads to loss of muscle mass, increases the risk of falls when getting out of bed, affects the safety of activities, and even prolongs hospitalization. The analysis identified the problem as 33.3% of patients with lower extremity muscle weakness after liver transplantation. The reasons were summarized as follows: the patient's willingness to move was affected by the pain of the wound and the pipeline on his body, the nursing staff's lack of awareness of rehabilitation exercises, the lack of rehabilitation care standards for patients after liver transplantation and the rehabilitation standards of the activation note, and the patient's rehabilitation plan not handed over between the medical teams and no rehabilitation aids. The purpose of the project is to reduce the rate of loss of lower limb muscle strength to 14.8%.

### Methods/intervention

Through rehabilitation exercise education and training for nursing staff, construction of rehabilitation nursing process in intensive care unit, rehabilitation exercise prescription paper, creative pipeline fixing belt and additional rehabilitation tools and other strategies.

### Results

After liver transplantation, the rate of loss of muscle strength in the lower limbs of patients has been reduced from 33.3% to 12.5%. The strategy has been expanded parallel to other surgical intensive care units to improve the quality of patient care.

### Conclusions/lessons learned

Nursing staffs rehabilitation exercise education and training, construction of rehabilitation nursing process in intensive care

unit, rehabilitation exercise prescription, creative pipeline fixation belt, and addition of rehabilitation tools can effectively improve the lower limb muscle strength of patients after liver transplantation.

### Contact:

WANG CHEN-YA  
Linkou Chang Gung Memorial Hospital, TAIWAN  
[wjy8548@cgmh.org.tw](mailto:wjy8548@cgmh.org.tw)

## A project to improve the rate of unplanned endotracheal tube slippage in a respiratory care unit

**LIEN Chuan-Wen, CHIEN Hsu-Min, CHAN Yun-Hsiang, HUANG Ying-Moan, DU Yuan Xi**

### Background and objective

According to the annual report of Taiwan Patient Safety Notification System in 2020, the "tube slippage" is one of the important medical accident issues. The unplanned endotracheal tube slippage will not only cause respiratory tract injury, bronchospasm, but in serious cases it even but also lead to hypoxia, respiratory failure and cardiac arrest leading to death, as well as prolong the use of respirator. The total number of beds in our station is 40, and the average bed occupancy rate in 2021 is 98%. The patients admitted to our station are mainly patients with respiratory failure, head trauma, intracranial hemorrhage, sepsis and severe pneumonia, who cannot be detached from the respirator. The unplanned endotracheal tube slippage rate by 0.43% of our station in 2021 is higher than the criteria of our hospital (0.10%). Therefore, this study aims to reduce the rate of unplanned endotracheal tube slippage and to improve the quality of medical care in the respiratory care station.

### Methods/intervention

1. The patient number of unplanned endotracheal tube slippage was 7 with a totally 14 slippages in the respiratory care station in 2021. The slippage rate is 0.43%. 2. Problem identification: Including inadvertent pulling of the tube during care activities, failure to check the tube after body turning, incorrect restraint technique leading to patient's struggle, patient's agitation and inability of cooperation. 3. Setting a target less than 0.10% by on-the-job education on demonstrating the normal placement of respirator lines, and alleviating the patients' agitation by the standardization of restraint procedures. 4. The proposed strategy was conducted from September 1 to November 30, 2022.

### Results

After 3 months, the unplanned endotracheal tube slippage rate decreased from 0.43% to 0%. The additional benefit is to reduce the medical cost on resetting the endotracheal tube, with an estimated savings of 3,535 NTD per patient.

### Conclusions/lessons learned

The results of this study demonstrates that the on-the-job education of correct respirator tubes setting, standardization of respiratory care procedures, and music listening to alleviate patient agitation can effectively reduce the rate of unplanned endotracheal tube slippage. The results of this study could be

applied to other ward stations in the future, and as a reference to clinical nurses to improve the quality of tube care and the patients' safety.

**Contact:**

LIEN Chuan-Wen, TAIWAN  
[B0438@tpech.gov.tw](mailto:B0438@tpech.gov.tw)

## Poster session 3: Improving care of people with multiple health problems and comorbidity II

### Effectiveness of Pharmacist's Medication Assessments in Perioperative Care

**LIN Wei-Ting, LAI Shu-Hui, HSIEH Yen-Yu, TSAI Chin-Yun, TSAI Yuan-Hsin, KU Ming-Chou**

**Background and objective**

With the advance of medical technology and the aging population, over half of the patients who have undergone operations take medications regularly. These medications may give rise to risks during the perioperative period, such as of surgery-related bleeding, embolism, delayed wound healing, and unexpected drug interactions. However, these risks can be reduced by the preoperative assessment, increasing the success rate of surgeries and reduce the length of hospital stay.

**Methods/intervention**

In 2022, pharmacists performed preoperative medication assessments and managed specific medications during the perioperative period for patients who underwent total hip replacement (THR) or total knee replacement (TKR) procedures. Pharmacists visited the National Health Insurance-PharmaCloud System in Taiwan to review patients' medication histories and recorded their medication-related recommendations in the electronic medical record.

**Results**

In 2022, 144 patients who underwent THR or TKR were enrolled in the project. Among them, 134(93%) patients' medications were assessed preoperatively. 106 (73.6%) patients took chronic medications. 94 (65.2%) patients' preoperative and postoperative medication assessments have been completed. 56 (38.9%) patients should stop taking the medications before the operations. 14 (9.7%) patients took anticoagulant or antiplatelet. 2 patients experienced postoperative hypertension and required further medication treatments. There were no medication errors or adverse reactions occurred.

**Conclusions/lessons learned**

Pharmacists joined the THR and TKR care teams and provided perioperative pharmaceutical care for patients. The care includes assessing medication discontinuation prior to surgeries, managing postoperative medications, and monitoring potential drug interactions and adverse reactions, providing more comprehensive and effective healthcare services for patients.

**Contact:**

CHIA WEN Lai  
 Show Chwan Memorial Hospital, TAIWAN  
[chd7203270@hotmail.com](mailto:chd7203270@hotmail.com)

## Enhancing Preemptive Kidney Disease Care With Intelligent Solutions At A Medical Center in Taiwan

**CHENG Shu-Fang, HAN Chia-Yeuan; CHANG, Ya-Ching**

**Background and objective**

The Pre-End Stage Renal Disease (Pre-ESRD) care in Taiwan aims to provide early detection and proactive treatment for high-risk chronic kidney disease. However, complex enrollment rules and manual data collection processes can be time-consuming for healthcare professionals. Therefore, this paper proposes an intelligent enrollment system that simplifies the process and assists healthcare professionals in identifying potential cases, providing complete care and regular follow-up needs, and making clinical case management faster and more convenient.

**Methods/intervention**

The study hospital has established enrollment conditions for the Pre-ESRD program, which including patients with Chronic Kidney Disease (CKD) stage and an Estimated Glomerular Filtration Rate (eGFR) who are not yet on dialysis, or those have proteinuria regardless of stage. The comorbidities, number of medications used, and whether it was referred by a physician will be considered before enrollment. The system summarizes all the conditions and integrate examination data and medical information to screen for potential cases and identify eligible patients for enrollment. Healthcare professional fill out electronic forms for care records, which include patient enrollment conditions, laboratory data, risk medications, medication consultation, handover recommendations, and more. The health educational record and appointment scheduling system are used for regular follow-up.

**Results**

Since its official launch on December 6, 2021, the system has analyzed over 19,614 cases, with 819 cases enrollment via this system. The customized form design including 5 care stages and 40 forms used. The system has recorded a total of 1,286 care records. The appointment scheduling system has booked more than 1,343 appointments.

**Conclusions/lessons learned**

The intelligent system for Pre-ESRD care program simplifies the enrollment process, reduces the manual workload of healthcare professionals, and speeds up the care process. Through digitized patient care and regular follow-up, personalized and precise care services are provided to patients.

**Contact:**

CHENG Shu-Fang  
 Kaohsiung Medical University Hospital, Kaohsiung Medical University; TAIWAN  
[ginacsfb@gmail.com](mailto:ginacsfb@gmail.com)

## Towards the safer care for the people with multiple chronic conditions: Developing the trigger tool for multimorbid patients in Estonia (MUPETT—MULTimorbid Patients—Estonian Trigger Tool).

**KANNUKENE Angela, PÕLLUSTE Kaja, ORREGO Carola, LEMBER Margus**

### Background and objective

People with multiple chronic conditions are increasingly the primary concern of healthcare systems worldwide. Their treatment is more complex, which may cause higher incidence of adverse events (AEs), too. A trigger tool (TT) is considered an appropriate method for identification of AEs to prevent them and thereby to improve the quality of care. However, such tool is not available for the multimorbid patients. This study aims to develop a trigger tool for identification and measurement of AEs in multimorbid patients in Estonia (MUPETT).

### Methods/intervention

A list of possibly relevant triggers were collected based on the literature search from years 2011-2022. Three healthcare specialists revised the list and removed irrelevant triggers. Then, two bilingual translators independently translated the triggers into Estonian. An internal medicine doctor, fluent in English, decided on the best translation. Finally, the expert panel (doctors, nurses and pharmacologist) reviewed and modified the list of triggers and chose the most relevant and applicable for the tool by consensus.

### Results

In total, 1422 triggers were found (including original IHI Global TT). After removing duplicates 289 triggers remained. From those, 51 triggers were removed as irrelevant. After the expert panels, in total 62 of 238 triggers were included in the MUPETT's five domains: General care – 11; Diagnoses – 14; Analyses – 19; Medications – 6; Other - 13. The pilot study in 90 medical records will confirm the validity of the MUPETT.

### Conclusions/lessons learned

This set of triggers is different from any of the previous TTs. The rigorous review of the triggers is essential before applying the TT on any new setting or patient group, the methodology used could be applied for other patients groups as well.

### Contact:

KANNUKENE Angela  
University of Tartu, ESTONIA  
[angela.kannukene@gmail.com](mailto:angela.kannukene@gmail.com)

## Reducing post-dialysis arterial fistula osmosis rates in haemodialysis patients

**CHANG Pei-Chen, TSAI Wan-Yi, WU Jung-Chen, HSIEH Chiu-Ping**

### Background and objective

Vascular access is the lifeline of dialysis. Bleeding from fistula after dialysis causes problems and aggravates the patient's anemia problem affecting the quality of dialysis. This project aims to reduce the rate of fistula bleeding after dialysis in order to improve the quality of care for patients on haemodialysis. The statistics show that in November 2022, the fistula bleeding rate reached 17.2%, the mean Hb value was 9.99 mg/dl and the patient satisfaction score was only 48, thus triggering an incentive for improvement.

### Methods/intervention

1. A task force was formed, consisting of a nephrologist, a nurse practitioner and a nurse practitioner. A current situation analysis and literature review were used to complete the content. 2. Analysis of the causes: 32.4% did not press the bleeding point, 24.3% did not have enough knowledge of haemostasis, and 16.2% did not have a tourniquet that met their needs. 3. Development and design of a haemodialysis puncture site bleeding checklist, haemodialysis nursing staff haemostasis awareness test and patient satisfaction with haemostasis after dialysis. 4. Education and training: Use of google online education and training and online group meetings during the December 2022 group outbreak. 5. Implementation of fistula solutions: weekly group meetings, joint development of standard procedures for haemostasis, improvement of haemostasis aids, production of health education leaflets and videos, seminars. During implementation, problems are discussed and corrected to reduce unintended blood loss and injury and to improve patient safety.

### Results

1. December 2022-February 2023 implementation outcomes; total of 1104 AVF and 240 AVB visits. 2. During dialysis treatment, the nurses conducted one-on-one explanation, discussion and health education for 15 minutes each time, but most of them were elderly people, who were shown a video to understand the content; 21 people used paper books and 35 people used video + paper health education. 3. Health education leaflets and posters to be released on 14 January 2023. 4. Post-hemodialysis fistula awareness test improved from 50 to 90, with 100% correctness rate in the use of tourniquet. 5. The bleeding rate decreased from 17.2% to 6%, an improvement rate of 155.5%, a target achievement rate of 53.4% and an increase in hematocrit (Hb) to 10.37mg/d. 6. 15 pairs of individualised tourniquets were issued for use on overweight and underweight patients with 100% patient satisfaction.

### Conclusions/lessons learned

The prevention of arterial haemorrhage is one of the most important measures to ensure patient safety. There is a correlation between arterial haemorrhage and patient safety in dialysis patients, and therefore dialysis patients should be examined regularly and follow medical advice to take the necessary precautions to reduce the risk of complications and ensure treatment outcomes and patient safety.

### Contact:

CHANG PEI CHEN, TAIWAN  
[changpcchang@gmail.com](mailto:changpcchang@gmail.com)

## Improve the effectiveness of itinerant visits in geriatric care institutions

**CHEN Wen-Chieh, FANG Jui-Lan, HUANG Su-Fang, LAI Hsiu-Chun, HUANG Ming-Ren, YEN Chia-Chi**

### Background and objective

We found in clinical care that the elderly residents sent to the hospital by the pension institutions are often in very poor physical condition. As a result, we need to put more time and energy to restore their original health condition.

### Methods/intervention

In July 2020, we started to implement the institutional caring program. 1. Joined special healthcare institutions to help provide medical services for pension institutions. 2. Sign contract with the pension institutions, welfare organizations for physical and mental disabilities and nursing homes registered in Kaohsiung City that are willing to cooperate with our hospital, and establish a strategic alliance to provide one-stop services from the clinic to the hospital. 3. Each nursing institution will be equipped with a fixed visiting physician and nurse. 4. Provide one or two touring visits to contract agencies every month. 5. Provide blood testing, pharmaceutical services and drug integration according to the conditions of residents, and enable them to go to the hospital for examination or medical treatment if necessary. 6. Set up touring visit records and backup for selection. 7. From May 18, 2021 to 2022, due to the severity of Covid-19, the visits were changed to video diagnosis twice in succession for a total of about 6 months, and the on-site touring visit was officially resumed August 1, 2022.

### Results

In July 2020, we started the visiting tour in 9 pension institutions, and the number increased to 29 in June 2021, and 52 in December 2022, with a growth rate of 577%, so that more institutional residents can be provided with medical care.

### Conclusions/lessons learned

After signing a contract with the institution, we would provide visiting tours including family medicine and neurology. Through monthly tours, we can meet the needs of residents for seeking medical treatments in the institution, avoid frequent visits to the hospital for treatment and collecting medicines, so as to improve the quality of caring for residents in the institution.

### Contact:

CHEN Wen-chieh  
Kaohsiung Municipal Min-Sheng Hospital, TAIWAN  
[yokokimo9496@gmail.com](mailto:yokokimo9496@gmail.com)

## Prospective of Regional Hospital Setting Case Management Care Integrated System for Patients Care in Taiwan

**CHEN Kuan-Hung, CHEN Anthony, CHOU Tien-Hung**

### Background and objective

In the last few years, patients of multiple and chronic disease kept growing that case management nurse must have more tools to care and educate for patients. After we set up the information system of integrated medical records will be more convenient for case management care.

### Methods/intervention

At first, we planning the patient case management system for patient's basic data to link hospital information system, and set multiple diseases search engine page of drug, bloody exams data among recently about six months through upload and link. Second, we records the number of times, cross disease case management nurse to follow up disease situation on this system.

### Results

We expect to see patients can be care totally, even about patients from acute care to home care or long term care. It will be called "holistic health care". This program at 2023/6 will be began. When this system will be done, integrated system will be usefully linked and supported most diseases case management subsystem when nurses educated patients. In addition, we are going to combine case management care service to provide assistive devices, nutrients, extra phone consulting, after patient go home.

### Conclusions/lessons learned

In Taiwan, most patients have multiple, chronic diseases, especially elder. Almost they don't understand to care by themselves when got diseases. So, we must educated them how to positive with diseases in life easily, friendly. Only if we develop integrated diseases case management system completely, patients care will be fine.

### Contact:

LEE Pei Hsuan  
DITMANSON MEDICAL FOUNDATION CHIA-YI CHRISTIAN HOSPITAL, TAIWAN  
[cych13199@gmail.com](mailto:cych13199@gmail.com)

## Gender Differences in Body Constitution and Risk of Rheumatoid Arthritis

**HSU Yu-Ying, PAN Tzu-Cheng, TANG Pei-Ling**

### Background and objective

Rheumatoid arthritis (RA) is a systemic autoimmune disease with increased risk factors including hormones, heredity, environment, infections, and lifestyles. As most patients take medication, some serious adverse reactions slowly begin to occur, increasing numbers of people use complementary and alternative medicine. Therefore, this study explores gender differences and the correlation between body constitution and RA.



### Methods/intervention

Data for this study were obtained from the "Taiwan Biobank" and examined 2760 participants enrolled in the Taiwan Biobank study from 2012 to 2017. The questionnaire survey includes sociodemographic characteristics, personal chronic diseases, lifestyle behaviors, and the use of the Body Constitution Questionnaire, with a total of 44 questions. A multi-regression analysis was used to explore the correlation between the body and RA of different sexes of body constitution.

### Results

Unbalanced constitution of female subjects (adjusted odds ratio (AOR): 1.81, 95% CI: 1.21–2.69), with age growth (AOR: 1.10, 95% CI: 1.06–1.13) and a reverse flow of the gastroesophageal tract (AOR: 2.104, 95% CI: 1.36–3.27), colorectal impatience (AOR: 2.99, 95% CI: 1.39–6.42) or depression (AOR: 2.28, 95% CI: 1.13–4.61) The risk of arthritis is higher. (AOR: 2.15, 95% CI: 1.23–3.77), with age (AOR: 1.05, 95% CI: 1.02–1.09) and people with peptic ulcer (AOR: 1.76, 95% CI: 1.03–3.00) or depression (AOR: 3.01, 95% CI: 1.13–7.98) has a high risk of RA.

### Conclusions/lessons learned

The influence of body constitution on RA is different due to gender. Women and boys are susceptible to RA, compared to 1.81 times for women and 2.15 times for men. It is expected that further individualized advice and treatment will help improve or alleviate RA pain and discomfort.

### Contact:

YU-YING HSU  
Kaohsiung Vetrians General Hospital. TAIWAN  
[vyshin@vghks.gov.tw](mailto:vyshin@vghks.gov.tw)

## The effect of correct posture on the accuracy of bone density test

**WANG Yi-Fang , CHEN Zi-Qi, WANG Shi-Yang, CHEN Ren-Chich, YEN Chia-Chi, HUANG Ming-Ren, CHANG Ko**

### Background and objective

With the aging of the population, osteoporosis has become a major issue in geriatrics. Therefore, bone density measurement is particularly important for the follow-up prevention and treatment of the population with high prevalence of osteoporosis. Many elderly people from the nursing homes are treated in our hospital, and most of them are unable to cope with the standard posture. This study will discuss the importance of correct posture for measurement results.

### Methods/intervention

100 elderly patients, with an average age of 70.4 years. The instrument used was produced by Hologic. The examination procedure was as follows: after the patient changed to the examination suit, the left hip joint without deliberate rotation was scanned, and then the patient was asked to pose the standard examination position: the feet were rotated inward 15 to 25 degrees, the images of under-rotation or over-rotation were excluded, then the qualified images were analyzed according to the standard method provided by the manufacturer of the instrument. Statistical results were analyzed by SPSS24 version, and two-tail test was adopted with p-value<0.05 as statistically significant difference.

### Results

The internal rotation posture can not only eliminate the little rotor that does not need to be analyzed, but also obtain the maximum area of interest and the lowest BMD. In this study, the values of femur neck reported were used. Whether viewed by the whole group or by gender, the results of using internal rotation compared with non-intentional internal rotation were much less than 0.05, indicating a significant difference between the two.

### Conclusions/lessons learned

Proper positioning and analysis must be done to obtain a high quality DXA report. This study showed that getting the position right can make a big difference in follow-up tests, and the standard deviation of the data obtained using the standard internal rotation position is smaller. it will help to obtain a result of better stability and closer to the average value for statistics.

### Contact:

WANG Yi-Fang  
Kaohsiung Municipal Min-Sheng Hospital, TAIWAN  
[forever2005s@hotmail.com](mailto:forever2005s@hotmail.com)

## Identifying High-Risk Older Patients for Admission in the Emergency Department: a hospital-based cohort study

**PENG Yu-Ting, LIAO Mei-Chen, TZOU Li-Ping, HUANG Fong-dee, LIANG Chih-Kuang, CHOU Ming-Yueh**

### Background and objective

Older patients often visit the emergency department (ED) more frequently, have longer stays at the ED, and are more susceptible to hazards within the ED. Their complex needs are often under-recognized by traditional triage methods. The study aimed to identify high-risk older patients for admission by using a self-reported questionnaire and to promote age-friendly care in the ED.

### Methods/intervention

The hospital-based cohort study was conducted between March and August 2020. Patients aged 65 and above who presented to the ED in a medical center in Taiwan were enrolled. Patients and their caregivers answered a self-reporting questionnaire regarding cognition, mobility, function, care needs, eyesight, nutrition, medical utilization, and polypharmacy. The route of transport, length of stay in the ED, and subsequent disposition (admission or discharge) were also recorded. Multivariable logistic regression analysis was used for investigating the predictive risk factors for admission.

### Results

A total of 854 older patients (56.2% male) aged 78.96±8.76 years were eligible for data analysis. Among them, 682 patients (79.9%) were subsequently admitted. Compared to the discharged group, patients who were admitted were significantly older, had longer ED stays, need more ambulance transport, more likely had previous and recent functional decline, and poor appetite. In the multivariable analysis, length of ED stay (OR 1.02;

95% CI 1.01-1.03), ambulance transport (OR 1.92, 95% CI 1.27-2.90), previous functional impairment (OR 1.75, 95% CI 1.12-2.75), recent functional decline (OR 1.60, 95% CI 1.01-2.55), and poor appetite (OR 1.49, 95% CI 1.01-2.22) remained as significant predictive factors for older patients at risk for admission.

#### Conclusions/lessons learned

Early identification of older patients at risk for admission helps to improve age-friendly care at ED and alleviate ED crowding.

#### Contact:

PENG YUTING

Center for Geriatrics and Gerontology, Kaohsiung Veterans General Hospital, TAIWAN

[susan200190719@gmail.com](mailto:susan200190719@gmail.com)

## The Comparison between Two Cardiovascular Risk Assessment Tools in Prediction of Subclinical Coronary Artery Disease

**SHIH Yu-Cing , CHANG Betty Chia-Chen, HWANG Lee-Ching**

#### Background and objective

Over 40,000 people in Taiwan die of cardiovascular disease every year, and early intervention and treatment can prevent death. This study aims to investigate the comparison of the predictive ability of atherosclerotic cardiovascular disease (ASCVD risk score) and Taiwan's chronic disease risk assessment platform in predicting cardiovascular diseases and demonstrate which one is more suitable for risk prediction model.

#### Methods/intervention

The subjects of the study were 40 to 70-year-old participants in the health examination center. The data of height, weight, waist circumference, blood test reports and personal medical history were registered, and the coronary artery calcification examination of computed tomography was performed. The data were calculated using the ASCVD risk score and the Taiwan chronic disease risk assessment platform to calculate the subject's 10-year cardiovascular disease risk, and stratified analysis was performed according to the degree of coronary artery calcification, and multiple logistic regression analysis was performed using SAS Enterprise Guide 7.1 .

#### Results

A total of 1,104 participants were enrolled and were divided into three degree categories: without calcification (n=602), mild calcification (n=368) and moderate to severe calcification (n=134). The results showed that for every 1% increase in the ASCVD risk score, the risk of having a higher degree of coronary artery calcification increased by 1.09 times; For each 1% increase in the assessed risk of heart attack, stroke, and major adverse cardiovascular event (MACE) based on the ten-year risk calculated by the Taiwan Chronic Disease Risk Assessment Platform, the ORs for higher coronary artery calcification also increased, but were lower than the ASCVD risk score.

#### Conclusions/lessons learned

The risk calculation results of both assessment methods are related to the degree of coronary artery calcification. The results

showed that the ASCVD risk score was better at predicting the degree of coronary artery calcification.

#### Contact:

HWANG Lee-Ching

Mackay Memorial Hospital, TAIWAN

[hlc@mmh.org.tw](mailto:hlc@mmh.org.tw)

## Poster session 4: Mental health and psychiatric care

### Two-year follow-up: Improving complete oral hygiene practices with psychiatric inpatients

**LIN Li-En, CHANG Y.-H., CHANG C.-H.**

#### Background and objective

The provision of routine oral hygiene care to chronic psychiatric inpatients is a key issue, as the long-term use of psychiatric medications causes xerostomia and changes in saliva secretion, resulting in susceptibility to oral diseases and other potentially severe complications, such as functional decline.

#### Methods/intervention

By referring to clinical guidelines for oral hygiene care by nursing homes and relevant evidence-based literature, as follows: (1) organization of study groups for nurses and revisions to clinical operating procedures, (2) diversified oral care activities, (3) creation of a supportive environment and enhancement of peer support and health education of family members, and (4) revisions to the incentive method based on the current implementation status.

#### Results

The periodontal screening index (PSI) decreased from 94.4% to 38.9% for a 55.5% level of improvement. Further, dental coverage increased from 33% to 98% for a 65% level of improvement.

#### Conclusions/lessons learned

The completeness of oral hygiene practices in patients was enhanced. Additionally, the PSI decreased, and the number of emergency external medical consultation events due to toothache decreased from 22 to 8, effectively reducing medical and intangible costs arising from the emergency response of nursing personnel. This activity increased the completeness of oral hygiene practices, decreased plaque count, reduced the number of visits due to toothache from 22 to 6, and decreased patients' medical costs.

#### Contact:

LIN LI-EN

Bali Psychiatric Center, Ministry of Health and Welfare, TAIWAN

[rainny660096@gmail.com](mailto:rainny660096@gmail.com)

## The Health Belief Model of COVID-19 Vaccine for the Psychiatric Patients and The Relative Factors

LEE Szu-Wei, HSU Hui-Min, CHIEN Ying-Pei, CHOU Shu-Ping

### Background and objective

There is a consensus among scholars that psychiatric patients should get vaccinated due to their high risk situation during the pandemic period. We aimed to explore the Health Belief Model (HBM) of the COVID-19 vaccine for psychiatric patients and the relative factors to help them get vaccinated smoothly.

### Methods/intervention

This is a cross-sectional study. The psychiatric patients in a regional hospital were the subjects between Nov. 2021 to June 2022. We investigated the behavior of the vaccination for the psychiatric patients via a questionnaire of the HBM for COVID-19.

### Results

70% of the subjects were schizophrenia patients. 47% were male and 53% were female. The average age of the subjects was 48 years old. For demographic variables, there were significant differences for knowledge for COVID-19 (diagnostic,  $p < .01$ , education level,  $p < .01$ ), the perceived severity of health belief (education level,  $p < .05$ ), and the preventive behaviors for COVID-19 (age,  $p < .01$ ). Factors such as mental illness, age, education level, etc affected the psychiatric patients perception of the COVID-19 vaccine efficacy. We should encourage the psychiatric patients to get vaccinated to decrease the severity and death from COVID-19.

### Conclusions/lessons learned

We can provide appropriate in person health resources and public education to prevent the psychiatric patients affected by COVID-19.

### Contact:

HUNG TSUI-MEI  
Taipei City Hospital, TAIWAN  
[B1512@tpech.gov.tw](mailto:B1512@tpech.gov.tw)

## Applying Yalom's Therapeutic Factors to Examine Effects of Participation in Interpersonal Relationship Growth Group on Schizophrenia Residents at a Psychiatric Nursing Home

YANG Hsin-Ju

### Background and objective

The study aimed at exploring the effects of participation in interpersonal relationship growth group on the schizophrenia residents of a psychiatric nursing home from the perspective of Yalom's therapeutic factors.

### Methods/intervention

8 schizophrenia residents at a psychiatric nursing home, including 3 males (27.5%) and 5 females (62.5%), were recruited to participate in the study. With an average age of 55.1 years and an educational level of high school/vocational school, the participants were introduced into a highly structured and closed interpersonal relationship growth group designed based on the Yalom interaction model composed of the following three cores of interpersonal interaction: achieving self-awareness, understanding others by listening to them, and learning emotion management. The group met once a week for 8 weeks with each session lasting 60 minutes. Yalom Therapeutic Factors Inventory was used to assess the effects of the interpersonal group as an intervention on the schizophrenia participants.

### Results

Of the items included in the inventory, No.14 "Helping others makes me value myself more" scored the highest with  $4.3 \pm 1.0$  points. In terms of individual therapeutic factors, the highest score went to "altruism" (with an average score of  $8.4 \pm 1.9$  points), followed respectively by "interpersonal learning-output" ( $8.2 \pm 1.9$  points) and "family reenactment" ( $8.2 \pm 1.4$  points). On the other hand, "guidance" and "identification" tied at a lowest score of  $7.6 \pm 2.0$  points. Analysis results indicated that the interpersonal relationship growth group exerted significant influence on the three therapeutic factors of "altruism," "development of socializing techniques," and "family reenactment."

### Conclusions/lessons learned

Patients with schizophrenia are prone to experience conflicts with others as they tend to withdraw themselves from social contact due to inability to initiate effective interpersonal communication. As revealed by the study, intervention in the form of an interpersonal relationship growth group helps the schizophrenia residents at the nursing home achieve improvement in the three therapeutic factors of "altruism," "development of socializing techniques," and "family reenactment."

### Contact:

HSINJU Yang  
Tsaotun Psychiatric Center, TAIWAN  
[hsinruyang@gmail.com](mailto:hsinruyang@gmail.com)

## Effectiveness of Front-line Personnel Etiquette Training on Interpersonal Communication Skills of People with Chronic Mental Illness: A Pilot Study

LU Chia-Chih, WU Wei-Hsin, LI Ling-May, CHEN Wei-Ta, LIN San-Chi

### Background and objective

Front-line personnel etiquette training is widely used in many fields. In the hospital field, professionals of various professions receive training, from etiquette to mentality, to shape a professional image, show confidence, and strengthen their professional literacy and response ability. This study aims to explore the effectiveness of frontline personnel etiquette training on improving the interpersonal communication ability of people with chronic mental illness.

### Methods/intervention

This study used a quasi-experimental research method and takes convenience sampling. We recruited participants from a day-ward of a teaching hospital in northern Taiwan. The treatment group (TG) consists of cases willing to receive frontline personnel etiquette training (N=9). The study was executed from June to August 2022, twice per week, each at least 60 minutes, with a total of 16 sessions; The control group (CG) were the cases in the same ward who did not receive training but still received other day ward routine services (N=9). The interpersonal communication scale was used to perform pre and post-tests to observe the changes in the total scores of interpersonal communication skills between the two groups.

### Results

Eighteen people with chronic mental illness participated in this study (mean age: 46.56±9.54; 9 males; 16 people with schizophrenia). Comparing the pre and post-test scores changes in the interpersonal communication skills test in the treatment group and the control group, we found that the difference in scores between the pre and post-test, in the treatment group is higher than that of the control group, and reached statistically significant differences ( $p=.041$ ).

### Conclusions/lessons learned

Frontline personnel etiquette training has quite effects to improve the interpersonal communication skills of people with chronic mental illness. In the future, Frontline personnel etiquette training could be included in the courses of vocational rehabilitation training or interpersonal interaction skills courses to improve the interpersonal communication skill of people with chronic mental illness.

#### Contact:

MINISTRY OF HEALTH AND WELFARE Keelung Hospital  
Keelung Hospital, TAIWAN  
[chingfeng01@gmail.com](mailto:chingfeng01@gmail.com)

## How to help the family member to deal with their grief

**CHEN Pei Chi, YUAN Ping-Fang**

### Background and objective

In May 2021, Taiwan had broken out of COVID-19, according to the Taiwan Centers for Disease Control (CDC) guidelines and the policies of quarantine, the infected person would be isolated in hospitals, hotels, or houses by different severely symptoms. That caused the family members separated to different places. Because of that, I wanted to know how to help the families of the patients in ICU (Intensive Care Unit) went through it, and helped their life went back to the normal.

### Methods/intervention

Based on the Worden grief four tasks theory, I used the case study to analyze 8 families of patients in ICU. Those patients' inpatient date was in the 1 May to 30 July 2021.

### Results

(1)The first task To explain of illness by telephone was very important to the families. It could let the family know the patient's condition, treatment planes, especially help them to accept the patient's condition. (2)The second task Vent the emotion out by telephone, or by video accompany the families

to farewell to the patients. It's a vital process to help the families to experience the bereavement. (3)The third task Because the whole family was scattered and the patient was passed away, it's more critical to find family helpers and available social resources as soon as possible. That could help the life of family go on. (4)The forth task In the following-up call, the social worker discussed with the family how to plan the funeral to the deceased, or which rituals could arrange to help them connect with the deceased.

### Conclusions/lessons learned

(1)Close interdisciplinary cooperation The social worker in ICU should take the initiative to learn about the patients' disease treatment from the staff, vice versa, and then provide care and companionship for the families at the first time. (2)Continuous improvement of practical skills Because of the epidemic regulations, the social workers couldn't evaluate the non-verbal messages of the families. Therefore, the assessment process of social workers using skills is more important. (3)The importance of individualized accompany Although this study shows that the theory is applicable to the families in ICU, I believe that the theory is only to provide a principle, we couldn't force the theory to the cases.

#### Contact:

CHEN peichi, TAIWAN  
[chenpeichi770316@gmail.com](mailto:chenpeichi770316@gmail.com)

## Effects of Short-Term Dance Group Intervention on Improving Self-Efficacy in People with Chronic Mental Illness: A Preliminary Study

**LEE Chen-Yoy, WU Wei-Hsin, LI Ling-May, CHEN Wei-Ta, LIN San-Chi, LU Chia-Chih**

### Background and objective

Background: Dance can be a means to enhance self-efficacy. However, individuals with chronic mental illness often experience the negative effects of symptoms and social stigma, resulting in poor self-efficacy. This study aimed to investigate whether a short-term dance group intervention could improve self-efficacy in people with chronic mental illness.

### Methods/intervention

The study was designed as a quasi-experimental design with convenience sampling. Participants were recruited from the day ward of a teaching hospital in northern Taiwan. The experimental group (EG) consisted of day ward patients who had no severe motor performance impairments and had an interest in dance. The control group(CG) consisted of patients who did not participate in the dance group but still received other day ward services. The intervention period was from October 3, 2022, to January 9, 2023, with one session per week for 60 minutes, totaling 13 group sessions. The General Self-Efficacy Scale (GSES) was used to measure changes in self-efficacy in both groups before and after the intervention.

### Results

Nineteen patients with chronic mental illness participated in this study (9 in the experimental group and 9 in the control group, mean age: 46.89±6.90; 9 males and 17 people with

schizophrenia). The experimental group had a higher difference in pre-and post-test scores than the control group (EG: +11.35% ; CG: +0.03%), but the difference was not statistically significant ( $p=.088$ ).

### Conclusions/lessons learned

Short-term dance groups may improve self-efficacy in people with chronic mental illness, but the sample size was too small to achieve statistical significance. Future research should increase the sample size to examine the effectiveness of short-term dance interventions in improving self-efficacy in people with chronic mental illness.

#### Contact:

MINISTRY OF HEALTH AND WELFARE Keelung Hospital  
Keelung Hospital, TAIWAN  
[chingfeng01@gmail.com](mailto:chingfeng01@gmail.com)

## The effect of intensive care unit diary on incidence of anxiety and depression of intensive care unit survivors: A systematic review.

**WU Jyun-Sian, WU Chao-Yen, YEH Han-Wen**

### Background and objective

After critically ill patients were admitted to the intensive care unit (ICU), they could experience discomfort from intubation, and the threat of death. Painful memories can be brand into the patient's mind, leading to emotional problems after they discharged from ICU. However, more and more studies used the ICU diary to promote patients' mental health. We aimed systematically to evaluate the effect of intensive care unit diary on the patients's anxiety and depression after discharge from intensive care unit.

### Methods/intervention

Literature search was conducted in databases, including PubMed, Cochrane Library, Embase, and Airtiti Library using the keywords, "critical illness", "intensive care unit survivor", "depression", "anxiety", "intensive care unit diary". Finally, six randomized controlled trials were included in the review. We used the The Centre for Evidence-Based Medicine (CEBM) Random Control Trial Critical Appraisal Sheet tool for quality assessment. Two reviewers independently evaluated the quality of the six literature. If there is any disagreement between two reviewers, mutual consensus met on discussions with the third reviewer.

### Results

In the six randomized control trials (Level 2), a total of 985 patients received ICU diary review intervention. The results indicated that four studies were not significant difference in improving depression and anxiety for the experimental group who received ICU diary intervention. However, two studies showed that ICU diary review intervention significantly improved depression and anxiety for the experimental group. The further studies with larger sample sizes and longer follow-up periods were needed to evaluate the effectiveness of ICU diary.

### Conclusions/lessons learned

The results of this systematic literature review suggest that using the ICU diary as a nursing care may reduce patient's incidence of anxiety and depression, but the evidence is insufficient. It is recommended that future studies use long-term follow-up study designs, blinding, and large-scale randomized controlled trials to verify and update these evidence based result.

#### Contact:

WU jyun-sian  
LinKou Chang Gung Memorial Hospital, TAIWAN  
[wujyunsian@cgmh.org.tw](mailto:wujyunsian@cgmh.org.tw)

## Expressive Arts Activities for Spiritual Care of Patients in Psychiatric Day Care Wards

**CHEN Tsui-Chi, SHAO Shu-Ling, CHOU Wei-Yu**

### Background and objective

This article describes the process of spiritual care for patients (schizophrenia, bipolar disorder) in psychiatric day care wards through expressive arts activities. Psychiatric patients have less connected with the outside world, slower reactions, poor expression and lack self-confidence. Therefore, expressive art activities enhance their self-worth, self-affirmation, sublimate the relationship with the Most High and increase spiritual well-being.

### Methods/intervention

Spiritual counselors use expressive art activities to guide, assist, stimulate and help patients to express deep emotions, unspeakable conflicts and providing communication opportunity. For example, the patients make unique Thanksgiving cards for medical staff and express gratitude. And before the end of the activity, the spiritual counselors will "bless and pray" for them to increase spiritual comfort.

### Results

Through expressive art activities once a week for 3 years, and the patients changed from fear and rejection to courageous attempts which improves the ability of self-expression and enhances self-confidence. For example, the patients can't express thanksgiving for the medical staff, but now they design a card and write blessings to the medical staff.

### Conclusions/lessons learned

Through expressive art activities the patients have more opportunities to express their inner voice, find the meaning and motivation of life. The spiritual counselor assesses the spiritual needs of the patient's "heaven, human, thing, and self" and gives appropriate care. It is expected that this experience of spiritual care can be a reference for clinical treatment of patients in the future.

#### Contact:

CHEN TSUI-CHI  
MacKay Memorial Hospital, TAIWAN  
[sptracy0702@gmail.com](mailto:sptracy0702@gmail.com)

## Comparison of EEG and pulse wave stress results for employees in the first and second half of the year

**KIM Hanna, KIM In-One, LEE Eun-Hee, PARK Changwoo, JOO Yunjung**

### Background and objective

According to the 「2019 Mind Share Partner」, 61% of workers responded that their mental health had a positive or negative impact on their work productivity, and 37% responded that the workplace environment had an impact on their personal mental health. This suggests that the necessity for employee's mental health management is becoming increasingly important, so KAHP conducted EEG and PPG stress screening for employees and tried to use them as a basic data for developing effective employee health promotion programs.

### Methods/intervention

The purpose of this program was to contribute to creating a health-friendly culture and environment in the workplace through mental health management of employees tired from the prolonged COVID-19. In addition, this program tried to support the employees themselves to identify their mental health status and actively perform health management through the EEG and PPG stress screening. For EEG and PPG stress screening, OMNIFITOC-MKLN10 was used.

### Results

Following details are the results of the EEG and PPG stress screening for 1,829 people in the first half of 2022 and 1,278 people in the second half. For [Brain stress], [High] accounted for 72.7% in the first half and [Strongly high] accounted for 78.5% in the second half, indicating that two-thirds of employees had high brain stress. [Autonomous Neural Health] refers to the health status of the autonomic nervous system, which is responsible for metabolism such as heartbeat, digestion, and breathing, and employees in [Good], [Healthy], and [Very healthy] levels were mostly normal with 95.7% in the first half and 97.8% in the second half.

### Conclusions/lessons learned

As a result of EEG and PPG stress screening, most of them showed a normal level in physical stress, but brain stress were generally found to be abnormal and its risk was higher in the second half than in the first half. This seems to have been the main factor in line with the period when the workload increases as the number of customers increases.

### Contact:

KIM hanna

Korea Association of Health Promotion, KOREA

[hanna0327@kahp.or.kr](mailto:hanna0327@kahp.or.kr)

## Effects of different breathing exercises on anxiety patient

**LIN Yi-Chun**

### Background and objective

Anxiety patients have a considerable impact on life adaptation and sleep quality due to their emotional, physical and cognitive characteristics. Breathing exercises play an important role in improving the physiology of anxiety. However, not all anxiety patients can relax through breathing training, so we try to explore different benefits through different breathing training.

### Methods/intervention

Anxious patients have a pattern of over-effort when engaging in work. This makes them unable to relax even with the breathing exercises they do to relax. Research on mindfulness-based interventions has increased over the past decade, and there is empirical support for their use in reducing anxiety. In this study, in addition to slow breathing, mindful breathing exercises were added to individual psychotherapy to explore the curative effect of different breathing exercises on anxiety patients.

### Results

Findings from case feedback in individual psychotherapy. 1. The patient used to suffer from insomnia because she was always worrying and ruminating before going to bed. She focused on her breathing by closing eyes, and focused on the process of inhaling and exhaling. Her mind was quieter, mood was calmer, and it became easier to fall asleep. 2. She found that when she opened eyes and needed to focus on work, it was difficult to focus on using mindful breathing, but using slow breathing in a counting way, her attention was more focused, mood was more relaxed, and her work efficiency was also improved.

### Conclusions/lessons learned

From this patient's experience we found that different breathing exercises can be used in different situations. In this case 1. Mindful breathing can effectively improve insomnia caused by rumination before going to bed. 2. Slow breathing can effectively improve the anxiety of decreased work efficiency. We believe that the benefits of different breathing exercises vary with the context in which they are used, and may vary from person to person, with subtle individual differences. Therefore, it is necessary to carefully observe the patient's experience and feelings during treatment, and adjust the intervention strategy at any time in order to enhance the effect of breathing exercises.

### Contact:

YI-CHUN Lin

Taiwan Adventist Hospital; TAIWAN

[yichun@tahsda.org.tw](mailto:yichun@tahsda.org.tw)

## The Effectiveness of Optimizing Preoperative Counseling Value Stream and delivering Health Literacy in Anesthesia to Improve the mental Health Status of Patients before surgery

## KU Chia-Ling, HUANG Tuz-Wen, TSAI Hsaio-Wen, LU I-Cheng

### Background and objective

Providing rigorous anesthetic risk evaluations and health education knowledge to patients is an essential safety procedure before surgery. Long waiting times of preoperative counseling and preoperative anxiety might affect mental health negatively. This improvement program was aimed to provide anesthesia health literacy information by value stream reconstruction and multi-strategy to improve preoperative mental health.

### Methods/intervention

We initiated eleven improvement measures from October, 2021 as follows; 1) Setup a preoperative counseling platform. 2) Promote accountability program for staff responsible for preoperative counseling. 3) Optimize and flip preoperative counseling process. 4) Control patient counseling order by remote vibration device. 5) Integrate inquiry platform to monitor preoperative preparation completion. 6) Implement Shared Decision Making (SDM) of anesthesia to enhance recovery. 7) Upload mobile anesthesia health education to social media app "LINE@". 8) Use guided video. 9) Provide multiple anesthesia health education. 10) Send reminder message at the night before surgery. 11) Setup an elderly friendly space. The primary outcomes were evaluated by waiting time and anxiety during preoperative counseling. The anxiety degree was measured by the Amsterdam Preoperative Anxiety and Information Scale (APAIS) with a score of 4-20.

### Results

It took averaged 40.9 minutes from hospital admission to complete preoperative counseling compared to 173 minutes before program. The PCE improved from 6.4% to 31.5%. The averaged waiting time for preoperative counseling decreased from 23.8 to 12.5 minutes. Preoperative anxiety degree assessed by APAIS decreased from 16.3 to 7.1 points.

### Conclusions/lessons learned

Appropriate waiting time and anesthesia health education minimized preoperative anxiety. This program improved health literacy in anesthesia might also improve mental health.

### Contact:

KU chialing  
Kaohsiung Municipal Hsiao-Kang Hospital, TAIWAN  
[kuchia8888@yahoo.com.tw](mailto:kuchia8888@yahoo.com.tw)

## The Effectiveness of Aromatherapy on the Stress Adjustment and Relief of Medical Personnel under The COVID-19 Epidemic – Take a Southern Taiwan Hospital for Example

HU Yi-Fen, CHOU Chien-Chi, HUANG Wen-Ho

### Background and objective

Under the COVID-19 epidemic, in the practice environment, the physical and mental occupational hazards which medical personnel face lead to occupational stress, chronic exposure to high levels of stress can lead to physical and mental fatigue and affect the quality of care. Aromatherapy promotes physical and mental health that essential oil is used and absorbed through breath and skin through massage, inhalation. This study evaluates the effectiveness of aromatherapy courses on the stress adjustment and relief of medical personnel.

### Methods/intervention

Purposive sampling was adopted to collect medical personnel from several hospitals in southern Taiwan who join 5 aromatherapy courses held from January 2020 to June 2022 as our study samples. In the aromatherapy courses, we use 3% Ylang – Ylang, lavender & sweet orange essential oil for inhalation and 10% compound essential oils (wintergreen, lavender, melaleuca, hyssop, juniper, lemongrass, peppermint) for massage. Demographic variables are collected and we use Chinese 14-item Perceived Stress Scale for stress relief evaluation.

### Results

We have 101 effective samples in total that complete the courses with 98% female. 33.7% work in shifts and 66.3% are day shifts. We can see effective improvements ( $P < .05$ ) on stress adjustment that those who pre-test "NORMAL" is 48.5% and it raises to 67% after intervention; those who pre-test "LITTLE STRESSFUL AND NEED RELIEF" is 51% and it drops to 33%. Those who work in shifts have better improvement ( $P < .05$ ) than those who work day shifts.

### Conclusions/lessons learned

The conclusion was that the Aromatherapy inhalation and massage could provide the medical personnel a way to decrease the stress in work. We recommend that medical institutions provide aromatherapy courses for staff health promotion. We can see significant improvements for those medical personnel who work in shifts. However, the findings shouldn't be over-inferenced due to limited samples. We think the better solution for the further research is to expand the study scope to different groups.

### Contact:

HU YI-FEN  
Tainan Municipal Hospital (Managed by Show Chwan Medical Care Corporation), TAIWAN  
[n71760@gmail.com](mailto:n71760@gmail.com)

## Perceptions and attitudes of interdisciplinary healthcare professionals of different faiths towards therapy dogs in a hospice unit

HU Lien-Fen, HUNG Ling-Chun, TSENG Hsiang-Kuang

### Background and objective

The results of this study on therapy dogs revealed positive perceptions and attitudes toward therapy dogs among interdisciplinary health professionals in the hospice unit, with slightly different perceptions and attitudes among interdisciplinary health professionals of different religions. The results of this study provide insight into the resilience of interdisciplinary medical professionals of different religions in providing spiritual and psychosocial care when conducting therapy dog assisted therapy in hospice units in the future.

### Methods/intervention

Through descriptive research design, this paper finds that professional medical personnel's views and attitudes towards therapy dogs are the key factors, so 170 medical personnel are invited as research objects, according to Yordy (2020) developed the Chinese version of the Brisbane AAT acceptability modified version (BAATA test), which was classified into four factor dimensions, and the data were statistically analyzed with SPSS 22.0.

### Results

It was found that the perceptions and attitudes towards therapy dogs scale contains four factors: 1. atmosphere; 2. negative effects; 3. hidden worries; and 4. acceptability, among which the hospice ward's multidisciplinary medical professionals are more worried about the barking and defecation of therapy dogs in hospitals or clinics than Taoism and Christianity. Table 1 (BAATA test) Chinese version of the scale statistics Table 2 Perceptions and attitudes of interdisciplinary medical professionals of different religions towards therapy dogs (N=170)

### Conclusions/lessons learned

It was found that the perception and attitude scale towards therapy dogs contained four factors: 1. Atmosphere; 2. Negative influence; 3. Hidden worries; 4. Acceptance. The dog barks and defecates in the hospital or clinic, but this part is more worried. Table 1 (BAATA test) Chinese version of the scale statistics Table 2 Perceptions and attitudes towards therapy dogs among medical professionals of different religions and beliefs

#### Contact:

HU LIEN FEN

MacKay Memorial Hospital, TAIWAN

[hlfabcd@gmail.com](mailto:hlfabcd@gmail.com)

## Poster session 5: Patient and staff empowerment

**In space no one can hear you scream. On Creating an Attractive Work Environment for Healthcare Professionals.**

**KERR Christine, NAVARA Eduard, LAQUA Franziska, LAHLAL Mina, KERZENMACHER Tobias**

### Background and objective

The healthcare sector is facing a global shortage of workers, and hospitals are struggling to attract and retain qualified staff. This poster identifies pull factors and push factors that influence healthcare workers' decisions to work in a particular hospital.

### Methods/intervention

We explore a range of factors that prioritize the well-being, growth, and inclusivity of staff members, demonstrating the hospital's commitment to creating an exceptional workplace. This is crucial for the success of any hospital.

### Results

Push factors include unhealthy food, unavailability of scrubs, basic human needs not met, high-temperature work spaces, contaminated buildings, long-lasting sleep deprivation, no historical awareness (gender/discrimination/World War II), unreflected copy-paste mainstream systems and paper- instead of patient-centered care. The hospital's emphasis on staff well-being is exemplified by the provision of healthy, organic, and high-quality food at reasonable prices, reminiscent of the approach taken in Swiss hospitals. Dedicated rest areas for faster recovery underscore the hospital's recognition of the importance of rest and relaxation, promoting a conducive environment for recharging health resources. Efficient computer systems and elderly care showcases the hospital's meaningful use of technology and dedication to exceptional care beyond its premises. Organizational efficiency is evident through hospital bed assignment covered by administrative staff, which fosters a smooth work environment. A culture of skill and knowledge sharing is central for a learning curve and quality care.

### Conclusions/lessons learned

The authors suggest that hospitals implement a metric to record the health of doctors/medical personnel especially the amount of severe diagnoses at the time of retirement or end of career as a marker of employer or department performance.

#### Contact:

LAHLAL Mina, AUSTRIA

[minschi@posteo.de](mailto:minschi@posteo.de)

## A Nursing Experience of Caring a Patient with Coronavirus Disease

**CHEN Pei Jung, YEN I Ching**

### Background and objective

The ongoing coronavirus disease-2019 epidemic continues to have a global impact. This article describes the author's experience providing nursing care to a female patient who was diagnosed with COVID-19. During the isolation, the author used Watson's human caring theory to perform holistic physical, psychological, and social nursing assessments and collected health-problem information using face-to-face interviews and observations via a remote monitoring system. The author hopes that this experience may be used as a reference for caregivers.

### Methods/intervention

Due to the special nature of the isolation ward, the author used a remote physiological monitoring system to monitor the vital signs, fever, and shortness of breath status of the patient to quickly decrease her physical discomfort and to improve her self-care ability during hospitalization. Environmental cleanliness was



strictly maintained to reduce the risk of cross-infection and ensure patient safety. To alleviate patient anxiety, the author established a good therapeutic interpersonal relationship with the patient by making 10-60 minutes of caring calls to her each day, by providing individual care measures, and by using the Internet to play audio and video to teach mindfulness meditation.

### Results

Use Watson's humanistic care theory to understand patients' feelings, encourage participation in the treatment process, increase autonomy, and reduce anxiety. Use the multimedia health education system to let patients understand the importance of isolation and protection. And through communication software and video care, guide patients to face the disease with a positive attitude. Allow patients to face the disease with confidence and reduce the negative emotions of being isolated.

### Conclusions/lessons learned

Based on this experience, it is recommended to arrange moderate physical activities in a limited space, and through living Promote patients' sense of positivity through activities, encourage patients to reduce negative feelings of social isolation, apply intelligence, and influence. Audio-related facilities assist nursing care, reducing people's anxiety about diseases. expect to take this Nursing experience provides a reference for future care in the face of emerging infectious diseases.

### Contact:

CHEN PEI JUNG  
CHANGHUA CHRISTIAN HOSPITAL. Institute of Long Term Care, Chung Shan Medical University, TAIWAN  
[181841@cch.org.tw](mailto:181841@cch.org.tw)

## Effect of Geriatric Training Program in Enhancing Geriatric care Competencies of Hospital nurse.

**HSU Pei-Jung, CHIANG Hui-Shan, LIN Jing-Yi, CHENG Wan-Yi**

### Background and objective

Hospital nurses often take care of elderly patients due to growing elderly population. The health problems of hospitalized elderly patients are complicated. A working knowledge of geriatric care competencies is necessary for nurses to provide high-quality care to older patients and their families. It is unclear how nurses who work in acute care hospitals self-evaluate their geriatric care competencies and how these self-evaluated abilities differ from the objective abilities of these nurses. The study is to develop a geriatric training program and objective measures for certification to evaluate the effects of the training program.

### Methods/intervention

The subjects of this study are the nursing staff of a hospital in Taipei City. The nurse in hospital can take 6 hours geriatric care classes online and use the exam to certify.

### Results

A total of 845 nurses (799 /94.6% female, 46/5.4% male, average age :33.3 years old )completed the training program and test

certification. After 6 hours geriatric care classes, the proportion of people with full marks in the test increased from 7.2% (61 people )to 76.9% (650 people ).

### Conclusions/lessons learned

As indicated by the study results, the Geriatric training program developed by this study could increase care competencies of hospital nurse. Therefore, this program can continue to promote in the future. Improve the Geriatric care competencies of staff lead high quality care. The prospect to build an age-friendly health care hospital.

### Contact:

CHENG Wan-Yi, TAIWAN  
[wanyicheng@gmail.com](mailto:wanyicheng@gmail.com)

## Investigate the task-centered model for the patients who are living alone, disabled, non-elderly, and having difficult hospital discharge: a case study

**LIN San-I, YANG Tsung-Hsien, TSAI Meng-Hsia, TSAI Xin-Ting, SHIH Jia-Yin**

### Background and objective

Patients who are difficult to be discharged from the hospital will cause unnecessary health care, and become a common service for medical social workers in recent years. To avoid wasting healthcare resources, discharge planning, provided by the hospital professionals work with patients' families, is very important.

### Methods/intervention

This case study aimed to utilize the task-centered model which is a problem-solving and short-term approach to social work practice. Aiming at discharge, medical social workers communicate and coordinate with patient and family members of relationship conflict, and discuss specific executable tasks with patient based on the patient's diseases and executive ability. By applying the task-centered model, medical social workers can help the patients and families to solve their problems, respect their rights, and coordinate with interdepartmental personnel to ensure successful implementation of discharge planning.

### Results

The results reveal that those patients who are living alone, disabled, non-elderly, difficult hospital discharge and families of relationship conflict can focus on actionable solutions to specific problems to deal with the discharge problems when medical social workers apply the task-centered model. To connect social resources properly, medical social workers need to gain the trust of the medical team. There will be more challenges for medical social workers about that serve those patients and families, work with interdepartmental personnel in order to ensure successful implementation of discharge planning.

### Conclusions/lessons learned

By task-centered model, medical social workers can obtain medical team's recognition and trust through the interaction with team members and the effectiveness of difficult cases

handling. Medical social workers also can deal with difficult discharge cases more smoothly in the future. To discharge difficult patient, medical social workers could utilize the task-centered practice to communicate with the involuntary family members and seek various interdepartmental cooperation.

**Contact:**

HSU Jason  
Chang Bing Show Chwan Memorial Hospital, TAIWAN  
[14998@cbshow.org.tw](mailto:14998@cbshow.org.tw)

## Improving the self-care effect for diabetic patients through telecare

**TSAI Mei-Yueh, CHANG Li-Yin, HSIEH Hui-Chun, HOU Chi-Chun, LO Hsin-Yi, WANG Ching-Hui**

**Background and objective**

Diabetes is one of the top ten causes of death in Taiwan. Nearly 6,000 patients joined diabetic care in our hospital in 2021. Among them, the patients with HbA1c >9.0% accounted for 12.48%, and patients only receive individual care and education when they come to the hospital. Therefore, it is expected that through integrating information, patients can also receive relevant health education at home, and we can strengthen patients' health behavior and self-care ability.

**Methods/intervention**

Using the "Telecare" model as a nursing thinking framework, it breaks through geographical restrictions and allows patients to continue to receive uninterrupted care. The methods are: (1) Utilizing the information linking function and combining the data of patients with abnormal glucose (blood) to conduct the telephone visit function, so case manager can view and record the patient's problems and conduct health education under the same computer page, and (2) increasing the remote input Transferring files to the hospital medical system through the "Cloud System", patients can use their information equipment and 3C products to upload their personal ID, vital signs, and blood glucose values at home. Case manager can view the patient's relevant laboratory examination and home monitoring data while interacting with the patient through video conference in order to conduct online health education and consulting services.

**Results**

The results from 2021 to June 2022 show: 1. The diabetic patients with HbA1c >9.0% dropped from 12.48% to 8.8%. 2. The diabetic patients with HbA1c <7.0% increased from 66.3% to 74.1%. 3. Compared with the initial onset, eGFR improved from 45.95% to 50.88%.

**Conclusions/lessons learned**

In conclusion, the use of "Telecare" combined with the hospital information system allows case managers to understand patients' problems through telephone and video conference in the hospital, and proactively provide comprehensive and continuous care; therefore, it plays an important role in disease control.

**Contact:**

CHIA WEN Lai  
Show Chwan Memorial Hospital, TAIWAN  
[chd7203270@hotmail.com](mailto:chd7203270@hotmail.com)

## Empower the Supporting Group for Breast Cancer Patients to establish an association: an experience of a regional hospital in Middle Taiwan

**TSAI Xin-Ting, LIN San-I, YANG Tsung-Hsien, TSAI Meng-Hsia, SHIH Jia-Yin**

**Background and objective**

The high prevalence breast cancer causes physiological impact on patients and affects patient's quality of life. Through the social support of self-help groups for patients, positive forces can be enhanced to warm their traumatized physical and spiritual levels.

**Methods/intervention**

To regain patient's confidence and return to their normal life, they set up the association since 2014 and provided better support services such as health lectures, social activities, patient care visits and wig rental services. Through organized activity plans, and used the relevant experience within the patients to provide emotional supports, and new medical knowledge for patients and their families.

**Results**

The association hosted the events more than 29 activities average per year since 2014. Initially the activities were planned and executed by staff, but now could be performed by the members of the association. After joining the association, these members regained their confidence in life, returned to social group life, and improved their ability to help each other. The association has already service the members over 2600 person-times until now.

**Conclusions/lessons learned**

The association continues to arrange the members, who had educated, to ward visits for breast cancer patients in the hospital, provides emotional supports, shares theirself experience among breast cancer patients and their families, empowers the members of the association to let them guide independent operations and host related activities. The members attend the activities of the association who could be discovered their own advantages and empowered their abilities, so that they have a greater sense of accomplishment and regain their self-worth and self-identity.

**Contact:**

HSU Jason  
Chang Bing Show Chwan Memorial Hospital, TAIWAN  
[14998@cbshow.org.tw](mailto:14998@cbshow.org.tw)

## Health literacy and quality of conversation: Say - Ask - Understand

**STROZER Clara**

### Background and objective

Good quality of conversation between health professionals and citizens is crucial to strengthen health literacy. Investing in optimizing the quality of conversations and focusing on patient-centered communication has a positive impact on both patient and staff health and satisfaction. Therefore, Vienna Health Promotion, a non-profit organization of the City of Vienna, implemented a project to increase the quality of conversation and health literacy in hospitals and long-term-care (2018-2021).

### Methods/intervention

Staff was trained in communicating complex medical content in an easy-to-understand manner. Patients, residents and relatives were encouraged by easy-to-read and understand guides to prepare for conversations with healthcare staff and to ask questions. Forums for the participating pilot units supported exchange of experiences and advised local projects for organizational improvement. In addition, standardized self-assessments were collected at the beginning and end of the project.

### Results

The evaluation results show that awareness raising to health literacy and quality of conversation has taken place. This led to an improvement in patient-centered communication as well as to a multiplier effect.

### Conclusions/lessons learned

Measures to strengthen health literacy and patient-centered communication are important, which is why Vienna Health Promotion will continue to implement measures even after the project has ended.

### Contact:

STROZER Clara  
Wiener Gesundheitsförderung – WiG, AUSTRIA  
[clara.strozer@wig.or.at](mailto:clara.strozer@wig.or.at)

## Exploring the Effects of Applying Shared Decision Making on the Health Literacy of Cancer Patients at a Regional Hospital in Taiwan

**CHEN Wan-Ju, LIU Hui-Lin, FAN Wen-Chieh**

### Background and objective

With the rapid advancement of science and technology, there are now more options for cancer treatment. Therefore, how to choose the appropriate treatment plan has become an important issue. To enhance patient safety and autonomy, shared decision making (SDM) has been promoted internationally with the patient-centered. According to research, this process can improve the doctor-patient relationship and consensus on medical decisions. This analysis aims to explore the

impact of implementing SDM on health literacy and compliance with treatment decisions.

### Methods/intervention

We have developed "Patient Decision Aids" (PDAs) for common types of cancer in our hospital (breast, colon, lung, liver, and prostate cancer), and utilized "Shared Decision Making Effectiveness Questionnaire" provided by the Health Promotion Administration to analyze the feelings of cancer patients after using the PDAs for SDM. Additionally, each cancer patient who used the PDAs will be individually reviewed to determine their adherence to the treatment decision resulting from the SDM process.

### Results

After using the PDAs, the level of anxiety that cancer patients faced when dealing with medical issues decreased from 72.3% to 37.3%. 90.7% of the patients believed that there was sufficient information provided regarding treatment decisions, while 92.4% understood the advantages and disadvantages of various treatment options. 95.8% of patients believed that the PDAs helped them make the most appropriate medical decision. Overall, 98.3% of patients were satisfied with their experience of participating in the SDM process. Furthermore, upon reviewing the adherence of patients to their treatment decisions, it was found that 90.1% of patients followed the treatment decision made.

### Conclusions/lessons learned

Through SDM, it is possible to reduce anxiety levels experienced by cancer patients, facilitate patient understanding of the knowledge and advantages and disadvantages of medical decisions, improve health literacy, and help patients make appropriate treatment choices, thereby enhancing adherence to treatment decisions. It is hoped that this will contribute to the effectiveness of disease control and medical care.

### Contact:

CHEN Wan Ju, TAIWAN  
[looy3058@gmail.com](mailto:looy3058@gmail.com)

## Using a Flipped Classroom to Reduce New Staff's Stress on Disconnecting Patients from Ventilators for Bathing in the Bathing Room

**TING Hsiao-Chen, LIN Pei-Ying, HUANG Ya-Jing, HUANG Hsiao-Ling, CHEN Shu Nuan, HO Hsuan**

### Background and objective

This is the pediatric respiratory care unit and chronic respiratory failure is the number one disease diagnosis in our unit while disconnecting the patient from the ventilator for bathing in the bathing room is a priority in the care of the unit. The percentage of nursing staff with less than 2 years of experience in the unit was 27.2%, and it was found from the survey that the staff had no experience in handling disconnecting the patient from the respirator for bathing in the bathing room. The junior nursing staff said that they had little experience with ventilators and no procedure for bathing in the bathing room for reference, so they were often overwhelmed when encountering this problem,

which led to great psychological stress. It is expected that through this teaching, new nursing staff will be able to make the correct clinical management when they are disconnecting the patient from the ventilator for the patient to take a bath, so that they can make the patient comfortable and safe.

#### Methods/intervention

The study period was from March 1 to August 31, 2022, and the following strategies were implemented. 1. Pre-teaching and post-teaching tests were conducted. 2. Stress was measured by the Anxiety Self-Assessment Scale, which was used to measure the stress before and after the teaching. 3. The simple formula flow chart of A.B.C. (A-Ambu, B-Body Wash, C-Clothes) before the bath and 3S (Suction, SpO2, Stand by) during and after the bath was adopted. 4. Video recording of the bathing process. 5. Participation in the bathing process in the field.

#### Results

The pre-test and the post-test showed that the mean score increased from 58 to 93, the satisfaction increased from 54% to 95%, and the stress level decreased from 15 to 9 on the Anxiety Self-Assessment Scale. There was no respiratory distress during the study period when the patients were taken to the bathing room for bathing.

#### Conclusions/lessons learned

The use of a flipped classroom enhanced the learning effect of new nursing staff, built a sense of accomplishment for new nursing staff, stabilized nursing manpower, and improved the quality and safety of care as well as patient safety in turn.

#### Contact:

TING Hsiao-Chen  
Hospital, TAIWAN  
[jean032720001@gmail.com](mailto:jean032720001@gmail.com)

## The Effect of the Medical Mode of Using the Patient Decision Aid in the Case of Terminal Illness Patients with Ventilator Dependence

**WANG Ya-Hui, TSAI Yen-Ping**

#### Background and objective

The Hospice Palliative Care Act in Taiwan regulate that terminal illness patients can be withdrawn from life-sustaining treatment for reducing ineffective medical practitioners, healthcare insurance expenses during the last stage of life. Withdrawal of life-sustaining medical treatment must be discussed between medical staff and family members. Through patient decision aid (PDA), family members can efficiently choose medical models according to their needs and wishes, reduce anxiety and stress, and allow patients to die with dignity in the last stage of life. Our hospital formulated the "End-of Life Patient Withdrawal Life-Sustaining Medical Examination and Procedures" to assisted in the withdrawal of life-support medical treatment. Among them, ventilators were the main removal items, and the number of withdrawals increased year by year.

#### Methods/intervention

Through needs assessment, the hospice share care team produced a PDA for terminal illness patients withdrawing

ventilators on 2022/01/05. The title of PDA is "My family is terminal illness patient and relies on ventilator to maintain life, what should I do next?" The content includes medical options, survival time, complications, and care. Medical staff can go through the consultation with the hospice share care team to discuss follow-up medical decisions. PDA were added to the hospital Information system (HIS) and the hospital website, making QR code for using it. It has been used clinically on 2022/01/10. It is hoped that the process of assisting the patients in the last stage of life to remove the ventilator through hospice share care team intervention will be smooth.

#### Results

In 2022, there were 48 patients discussing withdrawal of ventilator, 27 males and 21 females. There were 37 patients in Emergency Room (ER) and Intensive Care Unit (ICU) (77.1%). The top three departments are 16 patients of neurosurgery (33.3%), followed by 12 patients of oncology (25.0%), 6 patients of cardiology (12.5%). 39 patients chose to withdraw the ventilator (81.2%). The ratio of death time after removal of the ventilator were 14 patients over 24 hours (35.9%), 13 patients within 1-24 hours (33.3%), 3 patients within 30-60 minutes (7.7%), 4 patients under 30 minutes (10.2%) and 5 patients without death (12.8%). After using PDA, the average time to decide whether to withdraw the ventilator is 57 hours, which is 47 hours shorter than the average 104 hours in 2021. And the difference is statistically significant ( $t=-2.115$ ,  $df=49$ ,  $p=.04$ ); PDA can also effectively reduce the anxiety of family members in the decision-making process ( $t=2.742$ ,  $df=31.147$ ,  $p=.01$ ), which can effectively make medical decisions.

#### Conclusions/lessons learned

Through PDA on whether to remove the ventilator, family members can reduce anxiety, shorten the time and make medical decisions smoothly. Terminal patients can avoid prolonged death and suffering and make life and death at peace for patients and their families. The ER and ICU of intensive care can be effectively used to take care critically ill patients and reduce health insurance expenses for ineffective medical treatment, so that patients and their families can live and die in peace.

#### Contact:

WANG Ya Hui  
CGH, TAIWAN  
[cgh263490@cgh.org.tw](mailto:cgh263490@cgh.org.tw)

## Using empowerment to increase the activity participation rate of patients in chronic psychiatric wards

**CHIN Mei-Hui, SHEN Yu-Chun**

#### Background and objective

Background: Chronic mental patients have low stress tolerance, poor interpersonal relationships, and difficulty adapting to work. Arranging rehabilitation activities can help patients recover their health, improve their work ability and sense of social participation. The statistics of case participation from January to December 2021 in this ward The average attendance rate of functional activities is only 49 % because of " lack of diversity in activities " and " no incentives " . Objective: To increase the

participation rate of patients in chronic psychiatric wards from 49% to 80%.

#### Methods/intervention

Method : Firstly , discuss and design activities with patients through the empowerment plan, increase patients ' autonomy and decision-making on activity arrangements, and enhance patients ' motivation to participate in activities . Work together to build a joyful and diverse platform to jointly plan activities 3. Design exclusive festival activities every season: Christmas activities, spring tourism, Mid-Autumn Festival barbecue activities, birthday parties, etc. 4. Make "event invitation music " and play it before the event "Recording files of doctors inviting patients to participate in activities" 5. Develop a "token system" to collect points for redemption to encourage patients to participate in activities.

#### Results

Results: The activity participation rate increased from 49% to 80.2%, the motivation to participate in the activity increased from 50% to 80%, 6 new activities were added to the curriculum, 5 external lecturers were invited, and 25 external resource courses were arranged.

#### Conclusions/lessons learned

Conclusion:Through the empowerment , token system, cross-team external resources to cooperate, increase patients' autonomy and decision-making in activity arrangements, can indeed improve patients' participation in activities.

#### Contact:

CHIN mei-hui  
Department of Nursing, National Taiwan University Hospital  
Yunlin Branch, TAIWAN  
[may611108@gmail.com](mailto:may611108@gmail.com)

## Poster session 6: Promoting healthy behavior and self-management

### Using case management to reduce the rehospitalization rate of asthmatic

**TSAI Mei-Yueh, KUO Ya-Ling, HUANG Yu-Hui, CHEN Hui-Fei**

#### Background and objective

Asthma is a chronic disease influenced by both genetic and environmental factors, and the onset of asthma can appear very quickly or slowly, usually not very severe, but acute exacerbations can be very serious and can be fatal if not effectively treated. In 2020, the rehospitalization rate due to asthma attacks was 7.5%, and the rate of emergency department visits was 0.87%, resulting in complaints from family members and patients, and even some conditions did not improve. It is hoped to reduce the rate of rehospitalization due to environmental factors and improve the quality of life of patients.

#### Methods/intervention

The concept of case management and care is divided into four care modes: assessment and education, case management, exception management and home care through information automation, active follow-up management and active provision. Implementation strategy: 1. Assessment and education: Reformulate the care and visit tracking process, change the original assessment and education process, strengthen the health and education part of the assessment of patients, and statistically analyze the most common problems of patients by the information system. 2. Case management: active reminder, statistics and analysis of patient information.3. Abnormal management: computer monitoring of patients who have not returned to patients for more than three months, which is convenient for personal managers to quickly and proactively provide personalized health education. 4. Home care care: use the patient's 3C product to introduce the electronic visit system function5. Planning lung rehabilitation exercises and acute attack management skills workshops.

#### Results

Statistics on the results from 2021 to June 2022: 1. The number of emergency visits due to asthma attacks decreased from 0.87% to 0.56%. 2. The rehospitalization rate due to asthma attacks decreased from 7.5% to 4.16%.

#### Conclusions/lessons learned

Providing comprehensive and continuous care can not only improve patients' self-care capabilities and team service efficiency, but also play a role in disease control.

#### Contact:

TSAI mei-yueh  
show chwan memorial hospital, TAIWAN  
[taiemeijue@gmail.com](mailto:taiemeijue@gmail.com)

## Improve the retinal screening rate of diabetic patients by using AI software and hardware integration scheme in ophthalmology

**SU Ching, TSUN Hsiang-Lei, YANG Yu-Chun, PAI Chen-Ni**

#### Background and objective

In Taiwan, about 3.5 out of every 10 diabetics over the age of 40 have retinopathy. Affected by COVID-19, the willingness of diabetics to undergo ophthalmic mydriatic retinal examination has decreased, and the examination rate of our hospital in 2020 was 36.16%, which decreased by 1.6% after the outbreak of the epidemic. In order to achieve early detection of lesions and timely treatment, the goal is to increase the fundus examination rate of diabetics by 40%.

#### Methods/intervention

The use of pupil dilation-free fundus photography equipment is performed by Certified Diabetes Educator who have completed the instrument training. Diabetics can go directly to the Diabetes Clinic to complete the examination after the same-day consultation, and the Certified Diabetes Educator uses AI-assisted analysis of the results to explain to the patient the necessity of referring for an eye examination.

### Results

In 2021, the fundus examination rate was 28.6%, and in 2022, the fundus examination rate was 40.8%, and the growth rate reached 42.66%, achieving the planned target.

### Conclusions/lessons learned

Through the software and hardware integration solution, the "AI fundus examination" not only provides safe, simple and acceptable examination methods for diabetics under the influence of the COVID-19 epidemic, but also improves the fundus screening rate of diabetics and intelligently interprets the system. It can also assist non-ophthalmic medical staff to initially and quickly screen patients with possible vision lesions, and effectively refer high-risk eye disease patients to ophthalmology for follow-up treatment.

### Contact:

SU ching

Taipei Municipal Gan-Dau Hospital, TAIWAN

[spig1237@gmail.com](mailto:spig1237@gmail.com)

## Using self-management to reduce the hospitalization rate of patients with chronic obstructive pulmonary disease

**CHEN Hui-Fei, CHO Mei-Ling**

### Background and objective

Chronic obstructive pulmonary disease is chronic and irreversible. The hospitalization rate of chronic obstructive pulmonary disease patients in our hospital in 2020 is as high as 16.7%, causing complaints from patients and their families, and even some patients' conditions were not improved. Therefore, this study aims to use self-management to reduce the hospitalization rates for patients with chronic obstructive pulmonary disease and improved their quality of life.

### Methods/intervention

Through the case management information system, the hospitalization rate of patients joining the chronic obstructive pulmonary disease care network in 2020 were as high as 16.7%. The countermeasures were as follows: 1. Developing a disease care system and visit tracking process, 2. planning lung rehabilitation exercise and acute attack management skill workshops, 3. planning the patient self-care training, and 4. producing the customized health education manuals and videos.

### Results

The results of the self-management of the patients with chronic pulmonary obstructive disease from 2021 are: 1. Patient cognition increased from 44.5% to 91.5%, 2. the hospitalization rate was reduced from 16.7% to 8.7%, and 3. the continuous follow-up in June 2022 revealed that the hospitalized rate was 5.7%, so the effect was maintained well.

### Conclusions/lessons learned

In conclusion, formulating nursing systems and tracking procedures, organizing workshops and training, and producing manuals reduced the hospitalization rate of the patients with chronic obstructive pulmonary disease, improved patients' self-

management ability and quality of life and finally improved overall service efficiency.

### Contact:

CHIA WEN Lai

Show Chwan Memorial Hospital, TAIWAN

[chd7203270@hotmail.com](mailto:chd7203270@hotmail.com)

## Factors Associated with Sarcopenia in Community-Dwelling Middle-Aged People

**HONG Wei-Wei, LU Chu-Yun, HUNG Wei-Chieh, CHIN Wei-Leng, LIN Chi-Wei, LEE Han-Chen**

### Background and objective

Sarcopenia is a condition in muscles gradually losing mass, strength, and function, which would lead to losing the independence for daily activities. Muscle mass and strength would decline significantly, beginning in middle age or early. This study is aimed to analyze the associated factors of sarcopenia in middle-aged populations.

### Methods/intervention

This study is a secondary data analysis design, using adult health examination data from hospitals in southern Taiwan between August 1, 2018 and March 31, 2021. The criteria for the sarcopenia according to the Asian Working Group for Sarcopenia (AWGS) are: (a) low muscle strength, handgrip strength <28 kg for men and <18 kg for women; (b) low physical performance, six-meter walking speed < 1.0m/s; and (c) low muscle mass, muscle mass examined by dual-energy X-ray absorptiometry (DXA) <7.0 kg/m<sup>2</sup> in men and <5.4 kg/m<sup>2</sup> in women. Low muscle mass with at least one condition of low muscle strength and low physical performance was classified as sarcopenia.

### Results

A total of 1033 subjects with age between 50 and 65 years old were included in the final analysis. The mean age was 57.06 ± 4.31 year and 590 (57.1%) were males. For the three criteria for sarcopenia, there were (1) 158 subjects (15.3%) with low muscle strength; (2) 561 (54.3%) with low physical performance, and (3) 594 (57.5%) with low muscle mass. There were 359 (34.8%) subjects met the criteria of sarcopenia. Older age (Odds ratio (OR):1.05; confidence intervals(CIs): 1.01-1.08), higher educational level (OR: 1.15; CIs: 1.03-1.29), and larger smoking amount (OR:1.04; CIs: 1.01-1.07) were significantly associated with sarcopenia. Higher body mass index (BMI) was found to inversely associated with sarcopenia (OR:0.73; CIs: 0.69-0.77).

### Conclusions/lessons learned

The prevalence of sarcopenia in middle-aged people who used out-of-pocket health examinations is considered high. Risk factors to sarcopenia were increasing age, decreasing BMI, smoking. For preventing sarcopenia in middle-aged populations, the educations for the patients about smoking cessation and adequate nutrition could be implemented.

### Contact:

HONG wei-wei, E-Da hospital, TAIWAN

[mm19910315@gmail.com](mailto:mm19910315@gmail.com)

## Survey of Cognitive Status in Hemodialysis Patients

TSAI Wan-Yi, KUO Hui Yu

### Background and objective

This analytical report examines the cognitive impairment status of patients in a certain region's dialysis center. The study shows that people with chronic kidney disease may be at increased risk of cognitive impairment, and dialysis treatment may have a negative impact on cognitive function. Therefore, this article aims to understand the cognitive status of patients in the dialysis center, in order to provide relevant intervention measures, to detect and delay the decline of cognitive function at an early stage.

### Methods/intervention

The NPI and AD-8 assessment tools were used in the study. Before each hemodialysis session, a facial recognition system was used to predict the NPI score, and the AD-8 scale was also used for assessment. If the patient was over 65 years old and had an AD-8 score of more than 2, they were referred to a neurology clinic for further evaluation. In this study, a total of 40 patients participated in the evaluation.

### Results

The results of the study showed that 20% of the patients had an NPI score of less than 10, indicating normal cognitive function; 80% of the patients had a score between 10 and 30, indicating mild impairment; and no patients were diagnosed with severe impairment in this study. Further evaluation using the AD-8 scale found that 55% of patients had an AD-8 score of  $\geq 2$ . In addition, the average AD-8 score for patients over 65 years old was approximately 3.6 points, and 74.2% of patients had a score of  $\geq 2$ . Among them, 19 patients were referred to specialty clinics, and 4 received dementia care services. The dementia care services included disease explanation and prevention of disability health education, anti-wandering measures (such as facial recognition and fingerprinting), and social activities.

### Conclusions/lessons learned

The study results showed that most participants had some degree of cognitive impairment and needed further evaluation and intervention measures.

#### Contact:

TSAI WAN YI  
Taipei Municipal Gan-Dau Hospital, TAIWAN  
[debra671@yahoo.com.tw](mailto:debra671@yahoo.com.tw)

**Improve employees' awareness of high risk of chronic diseases and the reduction rate of high risk employees after intervention**

LAI Jin Lien, LIN Hui-Ying, KO Chial I, LIU Jin Ming

### Background and objective

Workplace health promotion to enhance employees' health awareness of chronic disease prevention. Intervention in health promotion activities. Improve employee self-health management. Improve employees' high risk of chronic diseases.

### Methods/intervention

The object is to complete the healthy lifestyle questionnaire and health checkup in 110 years. Check data: blood sugar before meals (AC), triglycerides (TG), total cholesterol (TC), high-density cholesterol (HDL), low-density cholesterol (LDL), blood pressure (BP), waist circumference. There were 34 hospital staff with more than three abnormalities. 34 employees participated in the health promotion activities implemented by the hospital for five months. Content of health promotion activities: Hold a comfortable diet to shrink your waist, reduce stress and eat healthily. Guided by a nutritionist on food selection and intake methods of the DASH diet, as well as personal daily calorie intake. Carry out the rewarding activities of "healthy feet" ten thousand steps to promote health. Encourage employees to walk independently at least three days in a week, more than 7000 steps per day. Walk for more than 1 hour. Walking distance of more than 3.5 kilometers. Invite yoga teachers and aerobic fitness teachers to shoot short videos of home stretching and weight loss aerobic exercises. Allow employees to exercise at home.

### Results

Comparison of pre- and post-test data for 34 employees' health checks the pre-test and post-test ratio of the number of abnormal health check data and the ratio of the number of people who improved before and after the test. Check data

normal	BP>130/80	AC<100	TC<200	HDL>50
	LDL<130	TG<150	Pretest anomaly ratio	26.41%
47.37%	47.37%	26.31%	26.31%	36.84%
Posttest anomaly ratio	14.73%	42.10%	31.58%	
15.78%	21.05%	21.05%	Improvement rate	
11.72%	5.27%	15.79%	10.53	5.26%
15.79%				

### Conclusions/lessons learned

Organize employee health behavior development related activities through workplace health promotion. The participating employees have significantly improved their self-health management knowledge in their healthy lifestyle. Abnormal values in health check data have also improved due to actual participation in activities. Continue to promote health promotion related activities in the future and extend the activity time to track the improvement continuously.

#### Contact:

CHIN LIEN lai  
cheng ching hospital, TAIWAN  
[lien4329@gmail.com](mailto:lien4329@gmail.com)

**Readmission Rate of Patients with Acute Coronary Syndrome after an Interventional Self-Management Program**

YANG Yi-Chun, CHIANG Tsay-I, WANG Hsiang-Ping, WU Bao-Tzung

### Background and objective

According to clinical statistics, 80% of Acute Coronary Syndrome (ACS) patients are suffering for the first time, and professionals need to provide self-management and continuous tracking to provide a basis for improvement.

### Methods/intervention

This quasi-experimental study used purposive sampling. IRB Certificate No.: 108066. The study was performed from January 20, 2020, to December 31, 2021, and involved 97 cases. Case manager used the self-management program, using self-made "Acute coronary Syndrome Self-management questionnaire (ACS-SMQ)" before and after hospitalization blood tests and medical records for each participant.

### Results

ACS-SMQ ( $p < 0.001$ ), LDL levels ( $p < 0.001$ ), and HbA1c levels ( $p = 0.048$ ) were evaluated before and after the intervention program. The number of patients with LDL of  $< 70$  mg/dL increased from 12.4% to 23.7%, and participants with LDL levels of  $< 100$  mg/dL increased from 36.1% to 56.7% before and after the intervention, respectively. The readmission rate was 4.1%, 11.3%, and 3.1% at 1, 6, and 12 months. The LDL level during hospitalization was negatively correlated with 1, 6, and 12-month readmissions rates ( $p < 0.05$ ).

### Conclusions/lessons learned

The readmission of patients with ACS is related to LDL during hospitalization, so individual intervention management program should be followed to control risk factors. In this study, 96% of the patients were taking lipid-lowering drugs, but none reached high-intensity doses. If the guidelines are met, the doses will inevitably be increased, which will easily affect patients' compliance with medications. This is a clinical application that needs to be carefully considered. The small number of test samples is also related to the fact that the doctor did not issue a doctor's order. Future, team meeting will reach consensus and aided by information.

### Contact:

YANG Yi-Chun  
Tungs' Taichung MetroHarbor Hospital, TAIWAN  
[milky521208@gmail.com](mailto:milky521208@gmail.com)

## Using Social Media to reduce the readmission rate of patients with Acute Coronary Syndrome

**YANG Yi-Chun, WU Bao-Tzung, YEN Mei-Hua**

### Background and objective

The recurrence rate of Acute Coronary Syndrome (ACS) is increasing year by year because the risk factors are not controlled. In clinical care, it is often encountered that patients cannot track the effectiveness of risk factor control due to returning to work. Therefore, this study explores whether the use of social media can reduce the readmission rate of ACS patients.

### Methods/intervention

This study is a quasi-experimental study, divided into experimental group (self-management program and social

media) and control group (self-management program and telephone interview). The case acceptance period is from November 1, 2020 to November 30, 2022. Both groups used the self-designed "Acute coronary syndrome Self-management questionnaire, ACS-SMQ" to conduct pre- and post-tests on disease cognition and behavior compliance, and through social media or Telephone visits to track readmissions, IRB certificate number: 109032.

### Results

A total of 184 cases were enrolled in this study, which were divided into experimental group ( $n = 84$ ) and control group ( $n = 100$ ). There was no significant difference in the ACS SMQ pre-test between the two groups ( $p = .275$ ); but significant difference in the ACS SMQ post-test ( $p = .026$ ). There were significant differences ( $p < .000$ ) between the two groups before and after the ACS SMQ. There was no significant difference between the two groups in the rate of regular return OPD, visiting the emergency room and readmission at 1, 6 and 12 months after discharge.

### Conclusions/lessons learned

In this study, there were significant differences in the pre- and post-tests of the ACS SMQ between the two groups. Although there was no significant difference in the readmission rate between the two groups, the 1-month readmission rate in both groups (2.4% vs 4.1%) was better than the 12% reported in the 2019 systematic review. Said that its self-management program is beneficial to patients and should be actively promoted to reduce readmissions. There was a significant difference between experimental and control group in the ACS SMQ posttest, it shows that the intervention of social innovative media is still helpful, and because of the younger age of ACS, this will be a future trend.

### Contact:

YANG Yi-Chun  
Tungs' Taichung MetroHarbor Hospital, TAIWAN  
[milky521208@gmail.com](mailto:milky521208@gmail.com)

## Using interdisciplinary team collaboration to enhance the effectiveness of basal insulin therapy for newly diagnosed type 2 diabetes patients.

**CHEN Jo-Fan, CHANG Hao-Chih, HSIEH Fang-Pei, HSU Yi-Chen, CHEN Yueh-Hao**

### Background and objective

Diabetes prevalence in Taiwan has exceeded 9.32%, with over 2.2 million patients. Active blood glucose control can reduce complications and improve patient-centered medical decisions. Insulin therapy is essential in treating type 2 diabetes, as some patients require it to achieve blood glucose control goals. This study investigated the effectiveness of basal insulin therapy for one year in newly diagnosed type 2 diabetes patients using a cross-disciplinary team collaboration model.

### Methods/intervention

Between January 2020 and May 2021, newly diagnosed type 2 diabetes patients with a Glycosylated Hemoglobin (HbA1c)  $\geq 9\%$



were recommended to use basal insulin therapy and offered a health lecture activity developed by the team. The activity used peer group teaching, with physicians explaining insulin therapy, diabetes educators demonstrating insulin injection and self-monitoring of blood glucose, and nutritionists teaching healthy meal planning. The activity provided individualized education to correct daily eating habits and increase the effectiveness of blood glucose control.

### Results

Out of 136 newly diagnosed patients, 54 received basal insulin therapy. The team invited 75 patients to participate in a cross-team health lecture, and 43 agreed to receive basal insulin therapy. After one year, patients who used basal insulin had an average HbA1c of (6.8±1.1)% at 3 months, (6.0±0.6)% at 6 months, (6.3±1.0)% at 9 months, and (6.7±1.2)% at 12 months. Of those who used basal insulin, 27 stopped using it within a year, and three used it for 1 to 1.5 years. All patients who achieved good control, with HbA1c ≤ 7%, met the standard.

### Conclusions/lessons learned

The use of interdisciplinary teamwork and encouragement of a healthy lifestyle can help achieve treatment goals for newly diagnosed type 2 diabetes patients who undergo basal insulin therapy. Some patients are able to maintain good blood sugar control even after discontinuing basal insulin. The use of a healthy plate concept with visual and quantitative design can also help adjust dietary habits and self-management, effectively aiding newly diagnosed diabetic patients in achieving good glycemic control.

### Contact:

CHEN Jo-Fan  
Kaohsiung Municipal Siaogang Hospital, Kaohsiung Medical University, KMUH, TAIWAN  
[renee4088@gmail.com](mailto:renee4088@gmail.com)

## Exploring the Effectiveness of Clinic Intervention on Home Blood Pressure (HBP) Management Model: A pilot study

HU Yi-Chun, LIU Yu-Fen, CHENG Hao-Min, WU Chien-Yuan, JOU Yann-Yuh, WEI Shi-Lun, WU Chao-Chun

### Background and objective

Regular blood pressure measurement is key to detecting and controlling hypertension (HTN). Due to the lack of knowledge, skills, and motivation among the public, promoting HBP management is highly challenging. To overcome these obstacles, a model of HBP management has been developed, and a pilot study has been conducted through primary care clinics to investigate healthcare providers' acceptance and the effectiveness of people's awareness and self-management behavior after 1 month of intervention.

### Methods/intervention

This study enrolled patients aged 18 and above who visited primary care clinics. Home-based blood pressure education was provided, including 722 protocol, correct BP measurement techniques, and lifestyle recommendations. Patients tracked

their blood pressure and used an app to consult with doctors within a month. The study assessed the model's impact on doctor identity/satisfaction and patient knowledge/behavior using questionnaires.

### Results

A total of 198 patients enrolled in 11 clinics. Physician acceptance rate was  $4.4 \pm 0.66$  & overall satisfaction rate was  $3.75 \pm 0.78$ . Public awareness of hypertension intervention increased significantly from  $8.33 \pm 1.32$  to  $9.10 \pm 0.94$  ( $p < 0.05$ ). Self-management behavior score increased significantly from  $36.10 \pm 11.03$  to  $40.05 \pm 8.77$  ( $p < 0.05$ ).

### Conclusions/lessons learned

The study shows that physicians agree the HBP management model is more effective in controlling patients' BP. The model also improves people's awareness and behavior towards managing their BP. Future plans include expanding coverage and providing regular monitoring for long-term effectiveness and sustainability.

### Contact:

LIU Rachel, TAIWAN  
[fenliu@hpa.gov.tw](mailto:fenliu@hpa.gov.tw)

## Improving the quality of comprehensive oral care for inpatients in the rehabilitation department

XIAO Jia-Ying, LI Shu-Zhen, LI Yi, LIU He-Zhen, CHIANG Hui-Chaun, LAY Huey-Jen

### Background and objective

The World Health Organization (WHO, 2020) pointed out that oral health is the foundation of overall health, and also one of the health indicators. Poor oral hygiene accumulates numerous bacteria in the oral cavity, and faces many life-threatening diseases, such as bacterial endocarditis, aspiration pneumonia, sepsis, etc.

### Methods/intervention

A cross-team quality control circle is composed of nurses, doctors, oral dental hygienists and case management nurses, and using the quality control methods of Task-Oriented. (I) Daily cleaning is essential. Cognition and cleaning skills can effectively reduce the plaque index and reduce the occurrence of periodontal disease. (II) Professional medical has a set. (III) Back to the clinic.

### Results

There are 111 patients received in the rehabilitation department of the comprehensive oral care project. The paired t-test found that the oral health status (the lower the OHAT score, the better the health status) was 4.37 points on admission and 2.80 points before discharge. The overall The reduction rate was 35.9%, P value  $< 0.01$ , and the improvement rate of oral hygiene decreased from an average of 75.12% of dental plaque index at admission to 24.85% before discharge, an overall decrease of 66.9%, P value  $< 0.01$ . The results reached a statistically significant difference.

### Conclusions/lessons learned

Establishing the Oral-Care-Process and including it in the ward routine is helpful for the clinical patients of oral health care. This improvement activity provides comprehensive oral care for patients in the rehabilitation department through cross-team care, improves the oral health status of patients, and enhances caregivers' awareness of oral care.

#### Contact:

SHEN HsuPing  
Feng Yuan Hospital, Ministry of Health and Welfare, TAIWAN  
[hph@fyh.mohw.gov.tw](mailto:hph@fyh.mohw.gov.tw)

## Investigation of the Relationship between the Health Status of Adults and Sarcopenia.

**HSU Shan-Chiao, CHEN Shueh-Fen, LI Ling-May, CHEN Wei-Ta, LIN San-Chi**

### Background and objective

Taiwan is facing challenges in caring for its aging population, making adult health increasingly important. Sarcopenia affects 7-10% of those aged 65 and above in Taiwan, equivalent to almost 300,000 individuals, and muscle mass decreases 3-8% per decade from age 30. Individuals over 70 may lose up to 15% of muscle mass per decade. Among those aged 60-70, 10% may experience muscle loss, increasing to around 30% for those over 80. This study aims to investigate the relationship between adult health and sarcopenia and implement preventive measures to reduce the risk of weakness and disability caused by age-related muscle mass changes.

### Methods/intervention

The study used DXA scans of 30 adult patients at a northern Taiwan teaching hospital from May 2017 to Nov 2022. Data collection included age, gender, height, weight, BMI, FMI, VAT, and chronic diseases. Excel was used for data organization, and SPSS software was used for statistical analysis, including descriptive and inferential statistics.

### Results

The article examines factors affecting T values of the lumbar spine and hip joints. Results show age and BMI are positively correlated with T values of the lumbar spine, and BMI is positively correlated with T values of the hip joint. Chronic diseases are positively correlated with T values of the lumbar spine, while muscle mass is positively correlated with T values of the hip joint. Height, weight, FMI, VAT, gender, and chronic diseases do not have significant correlations with T values of the lumbar spine or hip joints.

### Conclusions/lessons learned

This study analyzes the link between bone density and sarcopenia in adults, especially those with chronic diseases. Results suggest regular bone density screening to understand bone health and support early intervention measures to prevent disability caused by sarcopenia. This promotes preventive medicine and helps clinicians provide precise medical treatment.

#### Contact:

MINISTRY OF HEALTH AND WELFARE Keelung Hospital, TAIWAN  
[chingfeng01@gmail.com](mailto:chingfeng01@gmail.com)

## Related experience of outpatients using Question Prompt List

**SHIH Ai-Wei, LIN Hung-Yu**

### Background and objective

The discrepancy in communication between doctors and patients is often an obstacle for patients to obtain information. This study aimed to reveal the experience of using the Question Prompt List (QPL) to gain a further understanding of the public's needs for medical treatment and the direction of communication.

### Methods/intervention

The quantitative research method is based on the registered patients in the outpatient network of a regional hospital in central Taiwan from April 2020 to August 2022. We used 1) "Health Promotion Administration, Ministry of Health and Welfare Announcement Version - QPL", 2) poster promotion, 3) establishment of QPL active reminder function, 4) import the filled-in QPL form consultation system. Data were analyzed by descriptive statistics.

### Results

In the collected 4,429 QPLs, female outnumbered male (61.9% vs. 38.1%), 21-30-year-old accounted for the majority (20.3%), and obstetrics and gynecology, orthopedics, and cardiology represented top three departments (11 %, 9.3% and 7.7%, respectively). The most asked question was "handling of new health problems" (54%). Three most frequent sub-questions: "What is the doctor's diagnosis?" (36%), "What symptom stage is my disease?" (14%), and "Do I need further examination?" (7.0%).

### Conclusions/lessons learned

Outpatient clinics see many patients with new health concerns seeking information on disease diagnosis. Providing patients with a department-specific health education manual can improve communication and satisfaction between doctors and patients.

#### Contact:

CHIA WEN Lai  
Show Chwan Memorial Hospital, TAIWAN  
[chd7203270@hotmail.com](mailto:chd7203270@hotmail.com)

## Poster session 7: Food, nutrition and diet

### Nutritional care for cancer cachexia

**KAO Hui Shan, CHEN Yu Hua**

### Background and objective

Cancer cachexia is a common symptom in cancer patients, and cachexia is a progressive condition that causes skeletal muscle loss, fat decomposition, weight loss, anorexia, and fatigue, which often leads to physical decline, reduced treatment effect, and even accelerated death. Nutritional support is very important to avoid the occurrence of cachexia, because cancer tumor itself will also lead to malnutrition, about 50% of cancer patients will

have cancer cachexia, if the nutritional care is not in place, it will affect the effect of chemotherapy and radiotherapy later, so nutritional supplementation can alleviate the risk of cachexia.

#### Methods/intervention

1. Provide case nutritional assessment, provide personalized diet design and food portion recommendations. 2. Cooperate with nutritional product manufacturers to provide suitable nutritional supplements for individual cases. 3. Develop take-out or convenience store menus to provide reference for cases or family members who choose to buy out their diets. 4. Conduct nutrition surveys. 5. Publish cancer nutrition health education manuals. 6. Organize training courses related to cancer malignant disease to enhance the awareness of cancer malignant disease among medical staff in the hospital.

#### Results

Among the 46 cases admitted, 72% of the cases had insufficient protein intake and 78% of the cases had insufficient caloric intake, indicating that all patients had a need for nutritional intervention. After the nutrition and health care intervention, 61.9% of the cases had weight gain, 4.76% had the same weight, and 33.33% had weight loss. The questionnaire survey showed that 100% of the patients and their families considered nutrition education to be very helpful and were 100% satisfied with the service.

#### Conclusions/lessons learned

About 50% of cancer patients will develop cancer cachexia, which causes general discomfort. If the nutritional care is inadequate, the effect of chemotherapy and radiotherapy will be affected. After the diagnosis of cancer cachexia, we focus on nutrition as an interventional care for pre-cachexia cancer patients. We provide personalized diet planning and regular monitoring of weight change through nutritional support, hoping to improve the quality of care for terminal cancer patients and prolong their survival.

#### Contact:

HUI SHAN Kao, TAIWAN  
[kao998265@gmail.com](mailto:kao998265@gmail.com)

## Message strategies to increase fruit and vegetable intake in adults with cardiovascular risk factors: Application of Taylor's six-segment message strategy wheel

**JO Hwayeon, LEE Sang Ah, LEE Jaewon, KWEON Sujeong, LEE JiHyun, KIM Hyekyeong**

#### Background and objective

Fruit and vegetable have important health promoting properties. This study aims to develop a messaging strategy that encourages fruit and vegetable intake.

#### Methods/intervention

To increase fruit and vegetable intake, health communication theory was employed to develop a promotion strategy that

aligns with Taylor's six-segment message strategy wheel. Based on this, effective messages were developed.

#### Results

In the Ego segment, based on the Diffusion of Innovations theory, it is recommended to select appropriate opinion leaders for delivering favorable messages about vegetable and fruit consumption. For example: "Feel amazing with the power of vegetables! Transform your health one bite at a time." Based on the Theory of Planned Behavior, a message was developed for the social segment that reads, "Love your family? Love vegetables! Make them a part of your daily meals for a healthier you." Based on the Humor Appeal theory, a message was developed for the Sensory segment that reads, "Feel lighter with every vegetable bite! Try them now for a healthier you." Based on the Health Literacy theory, a message was developed for the Routine segment that reads, "Nature's candy for a nutritious snack! Choose fruit for a healthy and delicious treat." Based on the Social Marketing theory, a message was developed for the Acute Need segment that reads, "Lower your blood pressure deliciously! Choose fruits and vegetables, rich in fiber, vitamins, and minerals." Finally, a message was crafted for the Ration segment, grounded in the Health Belief Model, which states, "Fruits and vegetables are rich in dietary fiber, vitamins, potassium, and magnesium, which can help lower blood pressure."

#### Conclusions/lessons learned

Tailored message strategies can promote healthy behaviors and improve health outcomes. These findings can lead to more effective health campaigns and better individual health.

#### Contact:

JO HwaYeon  
 EWHA WOMANS UNIVERSITY, KOREA  
[hyjo@ewhain.net](mailto:hyjo@ewhain.net)

## Nutrition Education and Exercise Program to Prevent the Risk Factors of Developing Metabolic Disease

**LIN Fang-Yu, LIN Shu-Chi, HUANG Hui-Ting**

#### Background and objective

Obesity has a high risk of developing metabolism disease and related complications. Therefore, reduce obesity are the most important issue in public health. This study aims to understand the changes in biochemical analysis, body composition and blood pressure of the participants after this lifestyle intervention. Also, we observed the correlation between changes in body weight and body fat to make sure that it is a healthy plan for weight management.

#### Methods/intervention

This study was conducted by Taiwan Adventist Hospital, the participants recruited from 2019 to 2020 (n=51). Each participant participated in an 8-week lifestyle intervention, including weight loss knowledge courses, nutrition education, exercise classes, and diet modification by dietitian. They were also required to exercise for at least 150 minutes and 3-day food records per week. The body biochemical data were collected at the beginning and end of the course. Body composition were

evaluated by the Body Composition Analyzer. Statistics software was by SPSS Statistics 26.

### Results

After 8 weeks of course, we revealed that waist circumference reduced 4.5 cm, body weight was reduced by 2.1 kg, body fat percentage decreased by 1.1%, body fat mass decreased by 1.6 kg, fat removal mass decreased by 0.5 kg, muscle mass decreased by 0.5 kg, and body water percentage increased by 0.7%, systolic blood pressure decreased by 4.4 mmHg, and diastolic blood pressure decreased by 2.5 mmHg. Changes in body weight and body fat mass after the lifestyle interventions showed a linear relationship ( $R^2 = 0.875$ ,  $p < 0.001$ ).

### Conclusions/lessons learned

In this study, we found that after an 8-week nutrition education and exercise program, the waist circumference, body weight, body fat percentage, body fat mass, and blood pressure all decreased significantly. Furthermore, we revealed that every 1 kg of weight loss can reduce about 0.7 kg of body fat, we speculated the exercises. This result can be used as a reference goal for medical workers successfully in performing to help people getting healthy weight control in the future.

### Contact:

LIN Fang-Yu, TAIWAN  
[b506104080@tmu.edu.tw](mailto:b506104080@tmu.edu.tw)

## Healthy eating lifestyle promotion - Employee health workplace activities during the epidemic

**LIN Yu-Ting, CHANG Huang-Yu, LIN San-Chi, CHEN Wei-Ta, LI Ling-May**

### Background and objective

Follow the purpose of health promotion hospital, to take care of the physical and mental health of employees, and promote a healthy diet. Use different themes and implement them in a way that strengthens personal skills to motivate employees to make healthy meals. The purpose of the project is to improve the healthy eating and living habits of medical staff through empowerment.

### Methods/intervention

The course is taught by a chef and taught by a nutritionist. Due to the epidemic during the event, some sessions were conducted by recording teaching videos and distributing teaching recipes. From 2021 to 2022, a total of 5 activities will be held, the themes include: "Introduction to Healthy Meals and Healthy Food Choices": Guide buffet on how to choose food correctly. "DIY Low-Calorie Light Food Cuisine-Tainan Snacks": Guidance on low-fat cooking methods at home. "DIY Low-Calorie Light Food Cuisine-Italian Paper Wrapped Chicken": Guidance on the selection of spices. "Enjoy Health - Burritos": Guide how to quickly prepare simple healthy dishes during the epidemic. "Cardiovascular Prevention Diet-Mediterranean Diet": Guide the principles of the Mediterranean diet. The goal of this project is to enable employees to increase homemade healthy meals and reduce the frequency of eating out. And through media marketing, enhance people's concept or skills of healthy eating and self-control.

### Results

A total of 223 people participated in the 5 activities. In the satisfaction survey results of "healthy meal introduction and healthy food selection", all indicators reached 100%. The average score of the pre-test on the "Cardiovascular Prevention Diet-Mediterranean Diet" was 77 points, and the average score of the post-test was 96 points, with an improvement rate of 25%.

### Conclusions/lessons learned

Healthy workplace activities can effectively improve the healthy eating and living habits of medical staff, and enhance the public's concept or skills of healthy eating and self-control.

### Contact:

MINISTRY OF HEALTH AND WELFARE Keelung Hospital  
 Keelung Hospital, TAIWAN  
[chingfeng01@gmail.com](mailto:chingfeng01@gmail.com)

## Using Aggressive Nutritional Therapy to Improve the Quality of Nutritional Care for Critically Ill Patients

**YANG Chih-Kai, CHANG Huang-Yu, LIN San-Chi, CHEN Wei-Ta, LI Ling-May**

### Background and objective

The ESPEN (2019) guidelines recommend giving medical nutrition therapy to all ICU patients. Studies show that early enteral feeding can decrease hospital stay and save money. It also found that it can reduce mortality and pneumonia rates. ASPEN (2009) suggests providing 50-65% of the target caloric intake during the first week for better outcomes. This study aims to set this as a quality control target and improve patient care while reducing expenses. Results will guide future quality management goals.

### Methods/intervention

From June to December 2022, ICU patients received nutritional assessment and care within 24 hours of admission. The target caloric intake was calculated for each patient, and daily records were kept. Follow-up assessments were conducted every two days as required by the National Health Insurance. The ICU Nutrition Assessment form was used to track progress and complied with the NCP adopted by the American Dietetic Association. After 6 months of continuous intervention, the study analyzed if patients achieved the recommended target caloric intake during the first week of admission.

### Results

From June 2022 to December 2022, the total number of cases admitted was 544, excluding a small number of cases with more severe illness or deaths. Among them, 536 patients had a caloric intake of 50-65% of the target caloric during the first week of admission to the ICU, accounting for 98.5% of the total number of cases admitted.

### Conclusions/lessons learned

This study finds that the use of this method for quality control of critical care nutrition not only increases the proportion of critically ill patients receiving sound medical nutrition therapy, but also ensures quality of care in conjunction with the health insurance review system. The results of the research were used to set the target for future routine quality management. The

target value was set as "to achieve 100% of ICU cases with a caloric intake of at least 50-65% within the first week of admission". In this way, the quality and quantity of nutritional care for critically ill patients will be improved.

**Contact:**

MINISTRY OF HEALTH AND WELFARE Keelung Hospital  
Keelung Hospital, TAIWAN  
[chingfeng01@gmail.com](mailto:chingfeng01@gmail.com)

## The Sharing of the Cooperation Model between Dietitian, Home Care Team and the Discharge Preparation Service Team with the Personal Feeding Health Education Sheet

**YANG Chih-Kai, CHANG Huang-Yu, LIN San-Chi, CHEN Wei-Ta, LI Ling-May**

**Background and objective**

The discharge preparation service (DPS) team's dietitian creates personalized health education leaflets for patients and their caregivers to engage in Shared Decision Making (SDM) about post-discharge nutrition therapy. This collaborative approach highlights the importance of nutrition in DPS and home care and promotes whole-person health care through a good doctor-patient relationship.

**Methods/intervention**

The dietitian assesses patients with nasogastric tube feeding (NTF) at DPS and designs an individualized at-home feeding health education leaflet before discharge. The leaflet includes suggestions on calorie and protein intake, recommends 2-3 special disease formulas based on physiological and economic conditions, and provides colorful illustrations to reduce the risks of selecting the wrong formula. The leaflet also marks the quantity of each meal and suggests the brewing and NTF time to match the patient's schedule. Other NTF precautions such as water intake and oral hygiene are also included. Home nurses make regular visits after discharge and contact the dietitian via LINE if there are nutrition-related problems or biochemical changes. Monthly cross-team meetings are held to follow up on the patient's progress and ensure they receive continuous professional care for optimal health and quality of life.

**Results**

In May 2020, this model was implemented with DPS and Home Care teams. Feedback was collected from two case managers and nursing directors, resulting in a significant increase in the proportion of cases using appropriate diets.

**Conclusions/lessons learned**

The dietitian's personalized nutrition education, in collaboration with DPS and home care teams, enhances the team's professionalism and provides comprehensive nutritional care to patients. This approach, along with interdisciplinary collaboration, reduces uncertainty and anxiety for both cases and caregivers during home care, providing holistic care to address physical, psychological, social, and spiritual needs.

**Contact:**

MINISTRY OF HEALTH AND WELFARE Keelung Hospital  
Keelung Hospital, TAIWAN  
[chingfeng01@gmail.com](mailto:chingfeng01@gmail.com)

## Effect of Nutrition Intervention Using a Social Media Campaign to Reduce Added Sugar Consumption Among Community Residents in Taiwan

**LIN Yan-Ju, OU Yun-Ning, HSIEH Yun-Chen, CHAN Lin-Chien**

**Background and objective**

Sugar-sweetened beverage (SSB) consumption is associated with obesity, diabetes, and other metabolic risk factors. According to the Taiwan National Nutrition Survey, approximately 40% of adults in Taiwan consumed SSB at least once per day. LINE and Facebook (FB) are two of the most popular communication channels in Taiwan, therefore, this activity aimed to reduce the consumption of SSB by using sugar-reduction music video propaganda on Facebook and a 30-day sugar-reduction campaign in LINE. The goal was to establish a behavior of lowering sugar intake.

**Methods/intervention**

We launched a 30-day sugar-reduction challenge in LINE, promoted on Facebook where fans could join by scanning a QR code. Participants collected points by sharing daily photos of their sugar-reducing efforts, with completion requiring 30 points. During the campaign, sugar-reduction music videos were broadcast on Facebook to educate participants on the benefits of reducing sugar. Pre- and post-event questionnaires were used to assess changes in SSB consumption, body weight, and sugar-reduction knowledge.

**Results**

390 participants (mean age  $42.5 \pm 12.0$  years, mean BMI  $25.3 \pm 4.2$  kg/m<sup>2</sup>) participated in our 30-day SSB reduction challenge. The intervention increased participants' knowledge of sugar reduction and decreased SSB consumption frequency from  $2.0 \pm 0.7$  to  $0.9 \pm 0.8$  times per day, resulting in an average weight loss of 1.5 kg. Overweight and obese participants lost even more weight ( $P < 0.001$ ). Impressively, 99.3% maintained their reduced sugar intake three months later.

**Conclusions/lessons learned**

Our findings demonstrate the efficacy of a social media-based nutritional intervention in reducing added sugar consumption and promoting weight loss among community residents. The use of popular social media platforms like LINE and Facebook are accessible and convenient means of promoting healthy behaviors and improving community health.

**Contact:**

LIN Yan-Ju  
Tri-Service General hospital, TAIWAN  
[jinstar6666@gmail.com](mailto:jinstar6666@gmail.com)

## Hospital staff reduce their consumption of free sugars after a novel health promotion program

HSIEH Yun-Chen, LIN Yan-Ju, OU Yun-Ning, CHAN Lin-Chien

### Background and objective

The World Health Organization (WHO) recommends reducing the intake of free sugars to less than 10% of total daily energy intake for health benefits and decreasing metabolic risks. According to our previous research, 83.3% of hospital staff drink sugar-sweetened beverages every day. Therefore, series of "Slogan poster", "Reducing sugar consumption endorser", "Activity quiz" and "Reward program" activities were made to reduce sugar-sweetened beverages consumption.

### Methods/intervention

Sugar reduction posters were posted in every ward and on e-bulletin boards. Every dietitian act as an endorser with sugar reduction badges and propagate the program. Activity quiz was held on learning system online. Also, we encouraged participants to collect at least ten pictures about free or less-sugar beverages and rewarded them with free charge of body image assessment. At last, consumption of sugar-sweetened beverages and body weight follow-ups were made in the following year.

### Results

375 hospital staffs were recruited in our program. The percentage of participants having sugar-sweetened beverages was decreased from 72.0% to 45.9%, and selecting water as alternative choice increased from 10.1% to 17.6%. In addition, the mean body weight loss was  $1.33 \pm 2.40$  kg ( $p < 0.01$ ). With promoting program, the correction rate of post-activity quiz about "Reducing daily consumption of free sugars less than 10% of total energy intake." recommended by WHO were up to 97.7%.

### Conclusions/lessons learned

Through "Slogan poster", "Reducing sugar consumption endorser", "Activity quiz" and "Reward program" activities, our staff significantly lost their body weight and reduced the consumption of sugar-sweetened beverages. This program offered a friendly and health-promoted workplace, and encouraged the staff to pay attention on their own health.

### Contact:

HSIEH Yun-Chen  
Tri-Service General Hospital, TAIWAN  
[shirley5580@hotmail.com](mailto:shirley5580@hotmail.com)

## Using mobile APP to increase the accessibility and effectiveness of employees' weight loss and health promotion

LEE Pei-Hsuan, TSAI Pao-Ping, YANG Hui-Fei

### Background and objective

In the employee health questionnaire survey in 2021, 82% were losing or maintaining weight, and 69.1% of them used self-diet control to lose or maintain weight. In 2021, employees with a BMI value over 24 are more than 30%. Therefore, we want to increase the accessibility of employees' participation in health promotion through the existing mobile applications. In addition, our nutritionists will provide professional nutrition advice to improve employees' nutritional knowledge and help them lose weight healthily.

### Methods/intervention

The course lasted for 8 weeks, including physical course and daily mobile application interaction. The application interaction uses a group method to allow participants to take pictures and record each meal photo in a specific album. The nutritionist gives feedback twice a week, all participants must record the changes in body weight and body fat percentage before and after the course and in the third month after the course.

### Results

Employees with BMI>27 are given priority. There are 18 participants in total, with an average weight of 74.4 kg and an average body fat rate of 39.5%. Participants can interact with nutritionists and partners in the mobile application group, and use the power of the group to give each other continuous motivation during the weight loss process. After the 8-week course, the average weight of the 18 participants was 71.49 kg, a decrease of 2.54 kg, and the average body fat rate was 37.5%, a decrease of 1.6%. Three months after the course ended, 3 participants continued to lose weight and body fat rate, one of the participants lost a total of 10.4 kg of body weight and 7.1% of body fat before and after the course.

### Conclusions/lessons learned

Through this course, in addition to the physical course, mobile phone application assistance is added to increase the accessibility of participants' health promotion, and share daily meals and exercise skills with each other through the power of the group, integrate health knowledge into life, and develop good habits for health promotion.

### Contact:

LEE Pei Hsuan  
DITMANSON MEDICAL FOUNDATION CHIA-YI CHRISTIAN  
HOSPITAL, TAIWAN  
[cych13199@gmail.com](mailto:cych13199@gmail.com)

## Early Nutritional Intervention for Cancer Patients at Risk of Malnutrition: Improving Nutritional Status and Quality of Life

WU Hung Hsuan, HOU Yi Cheng, CHIANG Cheng-Yang, WU Jing-Hui

### Background and objective

The study aimed to investigate the effectiveness of individualized nutritional intervention on the nutritional status and survival rate of cancer patients, specifically those with head and neck cancer, esophageal cancer, gastric cancer, and pancreatic cancer.

**Methods/intervention**

The study was conducted from January 2022 to December 2022 at Taipei Tzu Chi Hospital and involved free nutrition assessments, grip strength tests, bioelectrical impedance analysis (BIA), albumin monitoring, and quality of life questionnaires.

**Results**

The study found that individualized nutritional intervention significantly improved the nutritional status of cancer patients and reduced complications, leading to improved quality of life and survival rates. In the year 2022, 62% of patients maintained or gained weight, 90% had normal baseline albumin levels, and 93% reported an improvement in their quality of life based on the Short Form Health Survey questionnaire.

**Conclusions/lessons learned**

These findings suggest the importance of early identification and intervention of malnutrition or patients at risk of malnutrition in cancer patients and highlight the effectiveness of individualized nutritional intervention in improving the nutritional status and overall well-being of cancer patients.

**Contact:**

HUNG HSUAN WU  
Taipei Tzu Chi Hospital, TAIWAN  
[dora7962@yahoo.com.tw](mailto:dora7962@yahoo.com.tw)

## Discussion on improving nutrition awareness of community by nutrition group health education

**LIN Yu-Hui, HUANG Ming-Ren, YEN Chia-Chi**

**Background and objective**

Nutrition is an essential element of health. Insufficient awareness of nutrition can lead to unhealthy eating habits, chronic diseases and all sorts of health problems. By means of community nutrition education, nutrition group health education can be extended from hospitals to communities to provide common folks with correct nutrition knowledge and integrating it into their lives, and establishing good eating behaviors.

**Methods/intervention**

Conduct nutrition group health education courses for the public in the community. Pre-test shall be conducted in written form before the start of the course. Dietitians will then introduce the key points of the course through narration and interaction. After the course, a post-test and satisfaction survey will be conducted to find out whether the nutritional knowledge of the public is improved after the course.

**Results**

Held 2 nutrition group health education courses, a total of 50 people participated. According to the statistical results of the pre and post test, the average score of nutrition knowledge increased from 65.1 points before the health education course to 88.9 points afterwards, and the awareness of nutrition and health increased by 36.6%. The average satisfaction of the health education activities was 95.8%.

**Conclusions/lessons learned**

Nutrition and health education is one of the important measures for dietitians to help the public take care of themselves and provide health promotion information or skills. Dietitians conduct nutrition education in the way of group health education in the community to help the public establish the correct concept of healthy diet, which can significantly improve the public's nutrition and health awareness and satisfaction.

**Contact:**

LIN yu-hui  
Kaohsiung Municipal Min-Sheng Hospital, TAIWAN  
[l810853@yahoo.com.tw](mailto:l810853@yahoo.com.tw)

## Effects of Using Nutrition Education for Body Weight loss in Psychiatric Day Care Center Patients

**CHANG Pei-Tzu, YANG Yu-Ru, CHEN Ming-Jen, HSU Shu-Fen**

**Background and objective**

According to the Nutrition and Health Survey in Taiwan (NAHSIT 2017-2020), more than 50% of men and 40% of women in the adult population were overweight or obese. The prevalence of obesity for individuals living with chronic mental illnesses, in particular, was 2.06 times more than that of the general population. For instance, in Taiwan, 16.4% of inpatients with schizophrenia were afflicted by obesity. Noting the need to reverse and prevent obesity and overweight in the aforementioned group, we aim to design a series of courses, providing essential nutritional knowledge, as well as promoting healthy dietary guidelines for individuals suffering from psychiatric disorders.

**Methods/intervention**

A series of experimental lessons (January 8, 2021 to May 26, 2021; once per week) were given on the 19 patients participated in this program. Throughout the program, guidelines on body control, eating principles, eating behaviors (my plate), food record, and handy guides to portion size were introduced. The participants were also required to exercise for 30 minutes in each lesson. Of all the lessons given in this program, two of which were hands-on activities — in a simulated in-classroom cafeteria, we prepared rice and three dishes for participants to learn to properly identify food portion size.

**Results**

Of the 19 patients participated in (9 men and 10 women; mean age 44.6±12.6 years; mean height 162.3±9.2 cm), their mean body weight reduces from 76.35±19.03 kg to 75.06±18.39 kg, a reduction which results in their mean BMI dropping from 28.68±4.91 kg/m<sup>2</sup> to 28.23±4.53 kg/m<sup>2</sup>. One patient even reports a reduced body weight of up to 7.25 kg. The overall mean score of participants' nutritional knowledge is also evaluated: 83.4 out of 100 after the proposed education intervention. As per the experimental program, the participants respond positively and enthusiastically to the materials given in the lessons, especially to the handy guide to portion size.

**Conclusions/lessons learned**

The proposed pedagogical method is effective in helping patients manage food portion size and correct eating behaviors. Through

the series of nutrition education courses and cafeteria simulations, patients had learned more skills to enhance eating behaviors and control body weight.

**Contact:**

CHANG Pei-Tzu, TAIWAN

[mnolsj@gmail.com](mailto:mnolsj@gmail.com)

## Promoting Assessment and Counselling for Low Salt Diet among Stroke Patients in Hospital

LEE HeyJean, LEE SunHee, SIM YoungEun

### Background and objective

Koreans show relatively high salt intake as much as 2.5 times of salt intake which is recommend by World Health Organization. Low salt diet is one of recommended lifestyle among stroke patients but it's difficult to change spontaneously because the sense of salty is subjective. We design nutrition class consisted with salt taste testing, self check of salt taking habit, showing cooking, and tasting with nutritionist in hospital.

### Methods/intervention

We design a low salt diet class with showing cooking and tasting by nutritionist. We also assess 'Do you know how salty you take?' using salty taste test and self check of taking salty food. We collect data from 52 patients who participate the class from 2020 to 2022 and analyze data of 38 patients which are without missing nor error.

### Results

Salty taste test shows the mean as 0.61%(range from 0.3% to 1.3%) and 8 patients(21.0%) in low salt group, 25 patients(65.8%) in moderate salt group, and 5 patients(13.2%) in high salt group. Self check of taking salty food shows the mean as 5.71(range from 1 to 10, max 12) and 1 patient with good habit, 17 patients with noticeable habit, and 20 patients with risky habit. We also show frequently cited salt taking habit using self check of taking salty food as follows; "taking Kimchi more than fresh vegetables"(68.4%), "taking dried or salted fish"(68.4%), and "taking soup to the last drop"(63.2%). Patients show satisfaction score as 4.44 of 5 and high level motivation to change salt taking habit among 37 of 38(97.4%) patients.

### Conclusions/lessons learned

This study shows that more than half of stroke patients still have risky salt taking habit. It seems necessary to target "taking Kimchi more than fresh vegetables", "taking dried or salted fish", and "taking soup to the last drop". Patients show high satisfaction to class and high level motivation to change salt taking habit. It also shows that self check of taking salty food is related with salty taste test. It is consisted of 12 items so we can use this tool conveniently.

**Contact:**

LEE HeyJean

Kangwon National University Hospital, KOREA

[vishue@gmail.com](mailto:vishue@gmail.com)

## A Comparative Analysis of Cancer Risk between Percutaneous Endoscopic Gastrostomy (PEG) and Nasogastric Tubes (NG) in Taiwan

LIN Chiao-Chuan, HSU Hua-Yin, TSENG Yuan-Tsung

### Background and objective

The objective of this study is to compare the potential cancer risks between Percutaneous Endoscopic Gastrostomy (PEG) and Nasogastric Tubes (NG) in patients receiving enteral feeding in Taiwan. Our goal is to estimate the cancer risks associated with each feeding method and contribute to a better understanding of the potential cancer risks in patients with swallowing difficulties using PEG and NG feeding methods.

### Methods/intervention

We conducted a retrospective analysis of outpatient claims data from the Taiwan Cancer Registry databases, focusing on patients aged 50 to 80 years who received either PEG or NG feeding between January 2002 and December 2018. A 2-year wash-out period was implemented to exclude individuals with pre-existing cancer and identify new cancer cases. The control group (NG) was matched with PEG patients in a 1:1 ratio using propensity score matching with logistic regression, considering variables such as age, sex, and Charlson comorbidity index (CCI). The initial analysis aimed to calculate the related risk (RR) as a measure of cancer risk.

### Results

A total of 1070 patients receiving PEG and 1070 patients receiving NG were included in the study. The crude relative risk (RR) for overall cancers was 0.82 (95% CI 0.71-0.95). There was a significant association between the use of PEG and a reduced risk of certain cancers, including rectal cancer (RR 0.18 [0.07-0.47]), liver cancer (RR 0.21 [0.10-0.41]), lung cancer (RR 0.38 [0.23-0.63]), and stomach cancer (RR 0.45 [0.21-0.98]).

### Conclusions/lessons learned

This study examined the association between PEG and NG usage and the risk of single-site cancer. The individual risk of digestive cancer in elderly individuals receiving PEG feeding was lower compared to the NG group. These findings can serve as a reference for healthcare institutions and caregivers of tube-fed patients in long-term care settings.

**Contact:**

TSENG Yuan-Tsung

Tainan Municipal Hospital(Managed By Show Chwan Medical Care Corporation), TAIWAN

[b891040733@yahoo.com.tw](mailto:b891040733@yahoo.com.tw)



## Poster session 8: Physical activity and healthy lifestyle

### Satisfaction and Effectiveness Analysis on Staff Weight Reduction Program Using Online System under COVID-19 Pandemic - An Example of a Hospital in Southern Taiwan

**CHOU Chien Chi**

#### Background and objective

To respond to the pandemic, the COVID-19 alert has been raised to Level 3 nationwide in May 2021. Physical courses on workplace health promotion face great challenges due to social distancing, quarantine and isolation measures. In this study, Information Technology is adopted to replace physical courses, using Google Classroom for weight reduction program. We would like to evaluate the satisfaction and effectiveness of distance learning.

#### Methods/intervention

Purposive sampling was adopted from April to June, 2021, and those who have been defined overweight, waist circumference  $\geq 90$  for men and  $\geq 80$  for women and with metabolic syndrome were our main objects with 64 in total. The objects must join Google Classroom. Besides distance nutrition and home exercise courses, assignments were given additionally for more interactions. The outcome is checked through Google Forms, creating online quizzes and giving real-time feedback. The satisfaction and weight are what we evaluated the effectiveness.

#### Results

The effectiveness of the weight reduction program was shown by significant improvements in the objects' weight. The average weight reduction of the objects was 2 kg, dropped from 65.26 kg  $SD \pm 13.95$  to 63.22 kg  $SD \pm 13.01$  and "Overall Satisfaction" was scored the highest at 88.6 in the satisfaction analysis. There were 47 objects using Google Classroom for distance learning and "Convenience-online exercise courses allow me to manage time and venue freely" got the highest score at 84.7 in the satisfaction analysis. The reasons of the rest 17 without using distance learning are mainly because of the laziness and the screens of the mobile phones are too small, preference for physical courses and not being available stand the rest places.

#### Conclusions/lessons learned

In order to reduce the risk of cluster infection, it is a trend to use the Internet or Cloud for distance learning. Google Classroom can be used for data consolidation, syncing up emails of the administrator and the objects, notification and assignments. Learning through this platform provides an innovative weight reduction management model during the pandemic, which can be promoted in the workplaces in the future.

#### Contact:

CHOU CHIEN CHI  
Tainan Municipal Hospital, TAIWAN  
[bosmin110@gmail.com](mailto:bosmin110@gmail.com)

## The benefits of therapeutic exercise during hematopoietic stem cell transplantation: Literatures review

**CHOU Chih-Liang, CHEN Chia-Hsin, HUANG Qiao-Ying, TUNG Chung-Liang**

#### Background and objective

Bone marrow or hematopoietic stem cell transplantation (HSCT) is the only chance cure for high-risk leukemias or chemotherapy-refractory lymphoid cancers. The HSCT treatment itself is associated with multiple side effects, adverse events, and long-term sequelae. Moreover, prolonged isolated hospitalization required for HSCT leads to sedentary behavior, causing further numerous adverse symptoms. All side effects will have a negative effect on the quality of life (QOL) and recovery. Therapeutic exercise therapy has been shown to be a supportive strategy to minimize or even prevent these transplant-related consequences. The goal of therapeutic exercise includes: 1. reducing or avoiding functional limitations or impairment, 2. controlling risk factors for chronic disease, and 3. improving overall health.

#### Methods/intervention

In PubMed.gov, we use hematopoietic stem cell transplantation, physical exercise, and quality of life as keywords to search between the duration of 2012 to 2022.

#### Results

100 articles were found. The results show that exercise can benefit cancer patients by improving quality of life, but it may also prolong survival after cancer treatment. Baseline physical fitness offered significant protection against mortality. The findings suggest that improvements in muscle strength and cardiopulmonary fitness before HSCT are crucial for maintaining post-treatment physical function.

#### Conclusions/lessons learned

Exercise training based on short, higher intensity intervals has the potential, which is consisted of five, 3 min intervals of walking, jogging or cycling at 65-95% maximal heart rate (MHR) with 3 min of low-intensity exercise (<65% MHR) between intervals to efficiently improve cardiorespiratory fitness. The duration of the intervention was at least 6 weeks, depending on each patient's scheduled transplantation date. Exercise prior to hematopoietic stem cell transplantation is safe and feasible, and positive trends suggest favorable preliminary effectiveness. A higher functional status at the start of hematopoietic stem cell transplantation may positively influence the level of decline and recovery. To maximizing physical capacity before HSCT could lead to better functional outcomes, as well as reduce the length of hospital stay and mortality risk.

#### Contact:

CHOU CHIH LIANG  
KAOHSIUNG MEDICAL UNIVERSITY HOSPITAL, KAOHSIUNG  
MEDICAL UNIVERSITY, TAIWAN  
[clchou0217@gmail.com](mailto:clchou0217@gmail.com)

## The telecoaching of nutrition education could focus on portion control plate and walking exercise to reduce weight during the COVID-19 pandemic.

**CHEN Yu-Chun, LIN Shu-Ch, HUANG Hui-Ting, WANG Chia-Fen**

### Background and objective

During the COVID-19 pandemic, it can be challenging to maintain a healthy weight as many people are spending more time at home and may have limited access to exercise facilities and healthy food options. We study the purpose nutrition education focuses on a portion control plate and daily step counts by telecoaching program conducted possible to lose weight.

### Methods/intervention

The program of this study is based on 4 weeks per session, total 12 sessions have taken in 2020. Participants have been practiced "My Plate Six Slogans" to control diet through the online courses, and to use line system recording their daily diet, and their paces for 8000 per day as well as their weight. The registered dietitian will track the participants' diet and activity every week. The weight of numbers are pending on before and after the courses, and to analyze it by paired t-test the difference. In addition, this study is divided into groups according to the number of sessions participated, a difference in weight change in one session and over two sessions, which use the t-test test to analyze it.

### Results

There were 43 participants at average age about  $42.8 \pm 12.0$ , and 74.4% participants were static characteristics, 76.7% exercise were insufficient less than 150 mins, BMI averaged  $27.2 \pm 0.68$ . Those weight lose differences were statistically significant in program (estimated weight  $-2.97\text{kg}$ ,  $p < 0.001$ ). Also, the results showed that those who participated over two sessions slimming significantly than one session (estimated  $-4.12\text{kg}$ ,  $p < 0.001$ ).

### Conclusions/lessons learned

We found the dietitian used telecoaching program of nutrition education was beneficial to track the diet and physical activity of the participants slimming significantly, which may be related to the participants' behavior changes to comply with the program.

### Contact:

CHEN Yu-Chun  
Taiwan Adventist Hospital, TAIWAN  
[winniechun8139@gmail.com](mailto:winniechun8139@gmail.com)

## Using group dynamics to reduce the average weight of female employees with metabolic syndrome

**WANG Chin-Hui, HU Shu-Chen, TSAI Mei-Yuen, YU Tzu-Ying, KUO Ya-Ling, CHEN**

**Hui-Fei, CHIEN Meng-Fen, HUANG Yu-Hui, HUANG Wen-Hui**

### Background and objective

According to the Nutrition and Health Survey in Taiwan (NAHSIT) by Health Promotion Administration, Ministry of Health and Welfare, up to 30% of people over the age of 19 suffered from metabolic syndrome in Taiwan. Furthermore 44.7% of people had the body mass index (BMI)  $\geq 24 \text{ kg/m}^2$ . In 2022, 253 (15.2%) employees were found to have metabolic syndrome in 1,667 employee in our hospital, and 791 employees (47.5%) had the BMI  $\geq 24 \text{ kg/m}^2$ , of which 64.8% were women. Therefore, we set the goal of reducing the average weight of female employees with metabolic syndrome by 1 kg to achieve health promotion.

### Methods/intervention

Using the effect of group dynamics, we set up a LINE group and invited 30 employees to join the group to improve metabolic syndrome caused by cognitive deficiency, poor eating habits, and insufficient exercise. The methods were: (1) Establishing a small class: we irregularly provided the knowledge websites, promotion posters, and health education seminars, (2) Establishing a sugar reduction club: we set "eat less lose weight" as the slogan, shared calorie calculations online, and uploaded personal diet photos. Dietitians provided advice on dietary content and gave lectures on dietary health, and (3) online aerobic courses: "zack" aerobic courses were played at 17:30 every Monday, Wednesday, and Friday.

### Results

Applying this activity, the average weight of employees dropped from 78.19 kg to 76.37 kg, waistline reduced from 95.45 cm to 93.60 cm, BMI reduced from 30.75  $\text{kg/m}^2$  to 30  $\text{kg/m}^2$ , and all results were statistically significant with  $p < 0.01$ .

### Conclusions/lessons learned

In conclusion, by the power of group dynamics, it was helpful to improve employees' awareness of health, improve diet and maintain exercise. In addition to achieve effective learning and improve self-care ability and confidence, we also achieved weight loss. It is suggested that hospital can increase the frequency of health examinations from once every three years to once every year. Regularly provide employees with free aerobic exercise courses in order to improve employee health.

### Contact:

CHIA WEN Lai  
Show Chwan Memorial Hospital, TAIWAN  
[chd7203270@hotmail.com](mailto:chd7203270@hotmail.com)

## Enhancing the quality care of the diabetes team through multi-specialty participation in Diabetes Shared Care Network

**LO Hsin-Yi, TSAI Mei-Yueh, HUANG Ling-Ting, WANG Chin-Hui, HSIEH Ming-Chuan, HOU Chi-Chun**

### Background and objective

Diabetes is one of the most rapidly increasing chronic diseases in the 21st century, if blood sugar is not well controlled, it will produce many complications, such as retinal lesions, cerebrovascular diseases, neuropathy, cardiovascular diseases, kidney lesions and amputations and other complications, Improving multi-specialty participation care and education is urgent for diabetes care.

### Methods/intervention

1. Invite different specialists to join the care of Shared Care Network.
2. Use the information system to prompt the whole hospital to accept diabetes cases.
3. Set up diabetes patient groups and according to the most common problems, relevant courses in various specialized fields are arranged.
4. Rehabilitation therapists are invited to arrange sports education to increase sports skills and methods.
5. Invite dietitians to increase nutrition control capabilities.
6. Arrange mindfulness classes and focus groups to encourage diabetics to share with each other.

### Results

12 occupations joined the team, including metabolism, family medicine, chest medicine, neurology, cardiology, hyperbaric oxygen, neurology, urology, gastroenterology, nutritionist, rehabilitation and nurse. A total of 63 people joined, and the patient income diabetes network reached 96.5%. the glycosylated hemoglobin inspection rate of the hospital in 2021 and 2022 showed that the rate of HbA1c examination increased from 90.32% in 2021 to 90.91% in 2022; fasting blood lipids increased from 82.46% to 83.57%; fundus examination increased from 38.61% to 40.28%; microalbumin increased from 72.83% to 74.16%. HbA1c < 7% increased from 55.06% to 56.31%, HbA1c ≥ 9.0% decreased from 9.31% to 8.75%, and BMI < 24 increased from 27.72% to 32.15%. BMI ≥ 24 dropped from 72.27% to 67.85%.

### Conclusions/lessons learned

Joining multi-specialty diabetes support groups, regular patient associations and lectures can indeed improve blood sugar, and enhance self-care skills and willingness, but the formation of lifestyle habits must be promoted and supported for a long time, and continuous encouragement of patients to participate in support groups can help achieve the blood sugar goals of cases and improve their quality of life.

### Contact:

CHIA WEN Lai  
Show Chwan Memorial Hospital, TAIWAN  
[chd7203270@hotmail.com](mailto:chd7203270@hotmail.com)

## Application of a Modified Employee Assistance Program to Reduce the Prevalence of Overweight and Obesity Among Hospital Employees

LAI Chiu-Chun, LI Ling-May, CHEN Wei-Ta,  
LIN San-Chi

### Background and objective

The adult overweight and obesity rate in Taiwan is 50.3%, higher among our hospital employees. Unhealthy eating habits, lack of physical activity, and lifestyle factors are the leading causes. We aim to reduce obesity among hospital employees through changes in diet, exercise, and health literacy, and by providing employee assistance programs(EAP) to increase motivation for weight loss.

### Methods/intervention

From January 2020 to December 2022, we implemented a project aimed at assisting overweight and obese employees in improving their health behaviors. We provided health education on healthy diets, enhanced their health literacy, offered Mediterranean meals to reduce unhealthy food intake, and conducted exercise training. The health management staff monitored progress and provided employees with psychological care assistance through the employee assistance program (EAP) to improve their motivation and behavior in maintaining healthy diets and regular exercise. Finally, the effective reduction rate was analyzed statistically.

### Results

After excluding a small number of resigned employees, the employee overweight and obesity rate decreased by 6.7% from 57.1% in 2021 to 50.4% in 2022. This is also an 8.3% decrease from 65.4% in 2020 to 57.1% in 2021. In 2022, the rate of 50.4% is a significant decrease of 15% from 65.4% in 2020. At the same time, it has also led to a 309.4% increase in employee healthy meal box orders in 2021 compared to 2020.

### Conclusions/lessons learned

Although hospital employees have more medical knowledge than the general adult population, they have a higher prevalence of overweight and obesity, indicating a significant issue that requires attention. The improvement project we implemented in this study, which included Mediterranean-style eating habits, exercise training, health education, and EAP psychological care assistance for overweight and obese employees, was effective in reducing the prevalence of overweight and obesity among hospital employees and maintaining their healthy behaviors.

### Contact:

MINISTRY OF HEALTH AND WELFARE Keelung Hospital, TAIWAN  
[chingfeng01@gmail.com](mailto:chingfeng01@gmail.com)

## The effect of health promotion activities on weight loss of obese adults- Take the example of a community people in Taiwan

CHIEN Hsu-Min, LEE Hsiao-Ping, LIANG Hsiao-Yi, CHEN Yu-Hua, TSENG Yu-Ching

### Background and objective

According to the statistic report by World Health Organization in 2016, more than 1.9 billion people are overweight in the world and more than 650 million of them are obesity. It also reported that at least 2.8 million deaths attributed to obesity and its complications every year. In Taiwan, obesity is really an important health problem that we cannot ignore. Therefore, a good strategy to reduce the prevalence of obesity and prevent

the occurrence of relevant diseases is necessary. This study aims to help people in the community to establish good eating and exercise habits, to alleviate the threat of obesity and its related chronic diseases, and achieve the goal of body position control by the design and promotion of weight loss activities.

#### Methods/intervention

1. Participants are adults aged 18-64 with a BMI between 24 and 27, excluding pregnant women. Participants with chronic diseases have to evaluate by a physician. 2. A weight control class was held from January 1 to December 31, 2022, and the members have to attend 6 healthy eating seminars and one aerobic exercise session per week. 3. Lecturers including medical doctors, dietitians, psychologists, sports coaches, etc. 4. The data including pre and post measurements of weight, BMI, waist circumference, and five variables such as systolic and diastolic blood pressure before and after the intervention are collected for statistical analysis.

#### Results

The total number of participants was 110. The average weight loss was 2.7 kg and the overall BMI decreased by 1.1 after six weeks. After statistical analysis, only the BMI and waist circumference improvement were statistically significantly different ( $p < 0.05$ ) when comparing the pre- and post-test interventions; the other three variables were not statistically significantly different. The results showed that the diet control and exercise interventions did reduce the weight of the participants.

#### Conclusions/lessons learned

The duration of this program is six weeks. Some results showed no significant statistical difference may be attributed to the short intervention time. The increase intervention time and follow-up action were suggested in the future to find out other parameters and subsequently increase the effectiveness of weight loss.

#### Contact:

CHIEN HSUMIN  
Taipei city hospital, TAIWAN  
[B1465@tpech.gov.tw](mailto:B1465@tpech.gov.tw)

## Smart and Healthy Life of “Weight Loss” by Cross-Team Group to Improve the Effectiveness of Metabolic Syndrome Improvement During the COVID-19 Pandemic

**HSU Shu-Ling, SYU Yu-Ya, CHANG Cheng-Jung, HSIAO Hsu-Feng, HUANG Wen-Tsung**

#### Background and objective

During the COVID-19 epidemic prevention period in 2020, the abnormal rate of employee health checks was triggered by the “mutant” virus, such as 44% for BMI greater than 24, and 37% for high levels of total cholesterol. As above mentioned, it shows that the risk of metabolic syndrome may be relatively high in the next 10 years. Therefore, this study explores the effectiveness of remote multi-professional team intervention with health

knowledge-oriented intelligent self-management in improving metabolic syndrome.

#### Methods/intervention

The valid sample was 142 people. During the epidemic period, healthy workplace strategies with a combination of innovation, teamwork, and long distance interaction were promoted for 24 weeks. Smart Healthy New Life as follows: 1. Establish a healthy public policy: a cross-team made up of 6 people requires at least 3 occupations, and the participants are overweight. 2. Create a supportive workplace environment. Top 3 team achievement award. 3. Strengthen the workplace action. Super Slim, Super Lohas, and 10,000 walking challenge everyday. 4. Develop personal healthy workplace skills: multi-media education courses. 5. Adjust of healthy workplace: Call for 15 physicians to serve as team leaders.

#### Results

The number of participating employees with abnormal BMI, pre-meal blood sugar, total cholesterol, HDL, LDL, and high blood pressure for the pre-test of the 2021 health promotion plan was 50, 15, 24, 25, and 27, respectively. The number of those with abnormal results for the post-test was 38, 11, 7, 15, and 18, respectively. The abnormal improvement rates were 24%, 27%, 71%, 40%, and 33%, the most significant among which is the improvement of (HDL).

#### Conclusions/lessons learned

The results of the study show that the COVID-19 epidemic restricts physical activities. Our hospital uses cross-team influenced by the accumulation of revolutionary emotions from all parties during the fight against the epidemic teamed up to participate in the competition, which inspired a more brilliant spark of healthy weight loss.

#### Contact:

HSU Shu-Ling  
Chi Mei Medical Center, Liuying, TAIWAN  
[m9609a3@mail.chimei.org.tw](mailto:m9609a3@mail.chimei.org.tw)

## Outcome analysis of training program for chronic kidney disease in Taiwan

**CHEN Wen Chun, LIU Tz Jie, CHEN Mei Tsu**

#### Background and objective

There is a large population of chronic kidney disease (CKD) in Taiwan. This study focuses on different disease cognition and learning effects from trainees of diverse professional medical fields which can provide insight and direction for promoting future training programs.

#### Methods/intervention

Collect pre-test and post-test questionnaires from attendants of training courses in Chiayi City, and measure the correct rate of each question. The 8 topics about CKD were embedded. According to their professional field, the attendants were classified into 6 groups. Finally, we analyzed, compared, and contrasted the data on disease cognition and the learning effects from pre-test and post-test questionnaires.

### Results

126 attendants were recruited, with physicians, accounting for 11.9%, nephrology nursing staff at 18.3%, non-nephrology nursing staff at 45.2%, health teachers at 12.7%, pharmacists at 1.6%, and other professional staff at 10.3%. The pre-test results showed insufficient cognition of "dyslipidemia control" and "nutritional therapy" can retard the progression of CKD" ( $P<.05$ ). What's more, the post-test results showed insufficient cognition of "management of hypoparathyroidism in uremic patients" ( $P<.05$ ). Compared A(nephrology nursing staff) and B group (non-nephrology nursing staff) of nursing staffs, A group had less cognition of "cardiovascular complications" though not statistically different in pretest but had better learning effect on "cardiovascular complications" and "calcium-phosphate balance and renal osteodystrophy" in post-test ( $P<.05$ ).

### Conclusions/lessons learned

To train seed teachers from different professional fields, continuing training program should put emphasis on topics of "cardiovascular complications", "nutritional therapy" and "calcium-phosphate balance and renal osteodystrophy" to achieve better learning effects.

### Contact:

CHEN Wen Chun  
St. Martin De Porres Hospital, TAIWAN  
[babka.shermie@msa.hinet.net](mailto:babka.shermie@msa.hinet.net)

## Exploring the impact of hospital based exercise education on elderly health - A case study of a hospital in central Taiwan.

**CHEN Shuling, CHOU Chou-ni**

### Background and objective

Hospitals expect to improve the physical condition of older adults through exercise intervention programs to prevent medical demands caused by frailty.

### Methods/intervention

This study aims to investigate the impact of hospitals promoting physical fitness testing and exercise intervention programs on the health of older adults. The study aims to construct a locally-adapted health promotion service model.

### Results

Using an empirical research approach, to evaluate the physical condition of older adults who participated in exercise intervention programs and general older adults who underwent elderly fitness testing from 2020 to 2022.

### Conclusions/lessons learned

From 2020 to 2022, 860 older adults in fitness testing, with an average age of 75.35 ( $\pm 5$ ). Only 34 people (3.9%) participated in exercise programs for three consecutive years. The hospital divided older adults into two groups for comparison (25 people in Group A who did not participate in any course, and 34 people in Group B who attended one course per year for eight weeks) ( $*P<0.05$ ). Aged 70 years or older and undergoing consecutive fitness testing for three years were selected to compare and analyze. physical condition 1-2 points indicated poor, 3 points

indicated moderate, and 4-5 indicated good. To briefly explain the research results, those who scored 3 points on the test are taken as an example. Group A's static balance, dynamic balance, and flexibility decreased from 19.35% to 14.29% ( $\pm 5\%$ ), 32.26% to 16.67%, and 22.58% to 20.00%, respectively, all significantly decreasing. Group B's muscular endurance increased from 28.26% to 36.95%, balance increased from 36.96% to 47.82%, and flexibility increased from 30.43% to 41.3%, all significantly increasing, but cardiovascular endurance decreased from 82.61% to 52.17%, which was significantly decreasing.

### Contact:

CHEN SHU-LING  
China Medical University Beigang Hospital, TAIWAN  
[A4909@mail.bh.cmu.edu.tw](mailto:A4909@mail.bh.cmu.edu.tw)

## Analysis of the effect of on-site health service on weight reduction in a medium-sized enterprise in Kaohsiung

**SU Wenshin, LIN Weizhong, ZHENG Mingfen, YAN Jiaqi**

### Background and objective

"Obesity is a chronic disease," the World Health Organization said, calling attention to the health risks of obesity. Studies have shown that overweight and obese people may be at a higher risk of diabetes, dyslipidemia, hypertension and cardiovascular disease. In the 2022 employee health examination of a medium-sized enterprise in Kaohsiung, the top 10 abnormal items in the health examination are all related to overweight. In addition, their daily diet are mainly take-outs, so it's easy for them to consume too much oil, sugar and salt. Therefore, weight reduction activities are implemented to help overweight employees effectively prevent the incidence of the above-mentioned diseases.

### Methods/intervention

1. The top three abnormal items analyzed in the 2022 health examination report were body mass index (50.21%), 38% for men and 62% for women, followed by total cholesterol (38.72%) and waistline (36.6%). 2. Labor health service staff based on the results of the health examination report to prepare a weight loss plan. 2-1. The service staff encourage workers with a body mass index greater than 24 and a waistline greater than 90cm for men or 80cm for women to participate in activities to teach them the health benefits of weight loss. 2-2. Dietitians conduct two diet lectures and provide one-on-one counseling. 2-3. In order to improve the willingness of employees to participate, our hospital strived for a reward mechanism from the senior management. The one with the largest decrease in BMI will be the winner. The top three will receive a bonus of NT \$2,000 to NT \$4,000. Those who are qualified would also receive gifts. 2-4. The senior management of the company mentioned that the proportion of Filipino immigrants accounts for 11% of the company workers. Considering the language barrier, the information related to weight loss may be limited, translators were entrusted to assist in translation. 2-5. The winning colleagues will be praised by the owner at the factory meeting, and the top three colleagues will be invited to share their weight losing experience, as a reference for all colleagues.

### Results

The weight reduction activity lasted for 18 weeks from November 2022 to February 2023. There were in total 255 workers in the company, of which 25 participated in this activity, with a participation rate of 9%, including 8 Filipino migrant workers. The weight loss scores of the top three were as follows: No. 1: Previous body weight: 116 kg, BMI 36. Body weight after the activity was reduced to 99 kg, BMI 30, successfully lost 17 kg. No. 2: Previous body weight: 96.9 kg, BMI: 33; Body weight after the activity was reduced to 84 kg, BMI 28, successfully lost 12.9 kg. No. 3: Previous body weight: 107.2 kg, BMI: 40; Body weight after the activity was reduced to 95 kg, BMI 35, successfully lost 12.2 kg. Taking a comprehensive view of this weight reduction activity, the total weight reduction was at 89.5 kg, and the results have reached the expectations of the enterprise.

### Conclusions/lessons learned

With the support of senior management, the company combined labor health service and dietitians to jointly promote the colleagues in the workplace to respond to the healthy weight loss activity, emphasizing and calling on all employees to face their health problems, effectively achieved the goal of weight loss, advocated the purpose of workplace "health promotion", improved employees' awareness of health, and created a friendly workplace environment.

#### Contact:

SU wenshin  
Kaohsiung Municipal Min-Sheng Hospital, TAIWAN  
[wenshin0504@gmail.com](mailto:wenshin0504@gmail.com)

## Using group power and an mobile application to help inactive hospital workers start exercising

**HUNG Shih-Yu, TSAI Pao-Ping, YANG Hui-Fei, CHOU Tien-Hung**

### Background and objective

A total of 1,015 employees filled out the health questionnaire for this study. The top three reasons for not exercising were too tired at work, too lazy to exercise, and no time. The top three reasons for wanting to start sports were going to the gym, yoga, and running. Based on the accessibility considerations of exercise methods, non-exercise employees will be encouraged to start exercising by running, and a mobile application will be used to assist in recording their exercise process.

### Methods/intervention

The class is a group class once a week. The course content includes basic running knowledge, warm-up before exercise, running practice, post-exercise recovery, student sharing, etc. In the rest of the time, the mobile app is used to encourage colleagues to conduct running training near their homes and share with everyone.

### Results

A total of 26 employees participated in the 2-month exercise course. After the course, a mini-marathon was held in the last class, and the students were encouraged to challenge themselves to run for 5 kilometers. Among them, 18 students completed the activity. After the course, a post-test for cardiorespiratory fitness items was conducted, and the average

cardiorespiratory fitness score increased by 8.2 points. Several employees continued to run in the follow-up.

### Conclusions/lessons learned

Running is an easy way to start exercise, and through the group energy and exercise application, it can stimulate inactive employees to start exercising and continue exercising, so as to improve the health of hospital employees.

#### Contact:

LEE Pei Hsuan  
DITMANSON MEDICAL FOUNDATION CHIA-YI CHRISTIAN HOSPITAL, TAIWAN  
[cych13199@gmail.com](mailto:cych13199@gmail.com)

## Using Cross-Team Services To Prevent Disability In Stroke Patients ~Taiwan experience

**YEN Kuei-Hua, LIN Yi-Fen, CHEN Tzu-Chi**

### Background and objective

According to the literature, active rehabilitation after stroke can reduce the degree of disability and the burden on families and society. The rehabilitation of stroke patients was also severely affected by the COVID-19 pneumonia epidemic. In addition to intensive rehabilitation in hospitals, patients with stroke need easy-to-use rehabilitation tools that are readily available to maintain their health and prevent disability at home.

### Methods/intervention

Using the cross-team cooperation mode of preventing disability, plan education and training courses and rehabilitation exercise programs, and use sports games such as elastic bands, elastic ball rehabilitation exercises, and floor curling to increase the frequency and fun of rehabilitation exercises. And the rehabilitation exercise video teaching materials are networked, and video QR cords are provided so that patients can continue rehabilitation exercises through videos when they go home, increasing the exercise frequency and muscle strength of the disabled to improve their physical functions.

### Results

A total of 25 cases were accepted, and the rehabilitation awareness of family members or caregivers increased from 80% to 92%, and the Modified Rankin Scale (MRS) series improved by 92% after rehabilitation. The satisfaction rate of patients discharged from the hospital through the prevention and rehabilitation exercise program during hospitalization can reach 98%.

### Conclusions/lessons learned

Through this cross-team cooperation model for the prevention of disability, sports aids are used to increase the frequency of exercise and muscle strength to improve the physical function of the disabled, assist the patient to participate in rehabilitation training as soon as possible, improve the self-care ability of daily life, and increase the control ability. Alleviate the sense of hopelessness, strengthen the self-efficacy of the individual case, enhance the motivation of learning, actively face the disease and return to society, allow patients to continue to recover even when they go home, make rehabilitation exercise a habit, and successfully prevent disability and aging.

**Contact:**

YEN Kuei-Hua  
Taipei Municipal Gan-Dau Hospital, TAIWAN  
[khyen@gandau.gov.tw](mailto:khyen@gandau.gov.tw)

**A stage-based approach to study readiness for change of dietary and physical activity habits in persons with newly diagnosed type 2 diabetes (ACTIVATE Study). A longitudinal multi-method study in a northern Italian Region.**

**WIESER Heike, TAPPEINER Waltraud, VITADELLO Fabio, ENDRIGHI Roberta, FATTOR Bruno**

**Background and objective**

The focus of current health care is on symptom control and drug treatment with little encouragement and support for self-management of dietary and physical activity habit change. Other challenges are the shortage of human resources, insufficiently coordinated health services, and health professionals convinced that information and indication of negative consequences would encourage patients to change their behaviour. The transtheoretical model(stages) offers a valid theory for behaviour change that can be applied in routine clinical practice. Systematically assessing stages of readiness for change and dietary and physical activity habits can provide a basis for efficient, targeted, integrative diabetes management in routine care, and support individuals in their self-care skills.

**Methods/intervention**

This multi-method study consists of 1) a Prospective Cohort Study with four data collection periods (baseline, after 4, 8, and 12 months) through online questionnaires using validated scales; parameters like blood glucose, HbA1C, weight, height, waist circumference; 2) a Qualitative Study with semi-structured interviews with a purposeful sample; data will be analyzed with qualitative content analysis.

**Results**

The data collection started in March 2023 and will be finished in December 2024.

**Conclusions/lessons learned**

We expect that the study will provide new knowledge on whether the readiness to change dietary and physical activity habits is related to actual habits and to what extent it affects health status. The stage-based and targeted care approach has the potential to make more appropriate use of already scarce resources. Care interventions can be better tailored and provided to persons with Diabetes Type 2. Knowing a person's readiness to change unhealthy habits provides a basis for health promotion interventions.

**Contact:**

WIESER Heike, ITALY  
[heike.wieser@claudiana.bz.it](mailto:heike.wieser@claudiana.bz.it)

**Cardiovascular risk assessment of diabetes-related complications is related to lifestyle habits**

**TASI Chih-Hsuan**

**Background and objective**

**Purpose:**The aim of this study was to investigate the associations between common complications and lifestyle habits in patients with type 2 diabetes, including the incidence and predictors of ischemic heart disease.

**Methods/intervention**

**Methods:**This is a retrospective study, divided into three categories according to the common complications of diabetes: including patient group (1) uncomplicated (CON) group (2) diabetic peripheral neuropathy (DPN) group (3) with other Diabetes-Related Complications (COM) group. A total of 250 outpatients with type 2 diabetes were treated and cared .

**Results**

**Results:**The patient group was mainly divided into a CON group of 143 patients, a DPN group of 52 patients and a COM group of 55 patients. Multiple logistic regression found a significant 6.82% reduction in the 10-year risk of ischemic heart disease in the CON group (95% CI = -10.11—3.53,  $p = 0.000$ ). Women had a 7.78% lower risk than men (95%CI = -10.54— -5.02,  $p = 0.000$ ). In addition, three or more good habits were associated with a lower risk of ischemic heart disease ( $p = 0.008$  and  $p = 0.006$ )

**Conclusions/lessons learned**

**Discussion:**Good living habits can prevent cardiovascular disease. In clinical application, FRS can identify and prevent cardiovascular diseases in advance and reduce the incidence of heart disease.

**Contact:**

TASI Chih-Hsuan, TAIWAN  
[cchtsai2000@gmail.com](mailto:cchtsai2000@gmail.com)

**Poster session 9: Tobacco prevention and cessation, addictive behavior**

**The effect of implementing intelligent case management system for Smoking Cessation Services on Smoking Abstinence Rate in a Taiwanese Population**

**CHEN Yan-Ru, HUNG Wei-Chieh, HUNG Wei-Wei, CHIN Wei-Leng, LEE Han-Chen, LIN Chi-Wei**

### Background and objective

Assisting the smokers to quit smoking is an important task for health promotion hospital. Due to the impact of COVID-19 pandemic, the difficulty of delivering the smoking cessation services were increased. However, the intelligent case management system was built in E-Da hospital to overcome the predicament. This study was aimed to investigate the effectiveness of the system on smoking cessation services.

### Methods/intervention

This cross-sectional study enrolled 2,351 participants who received the smoking cessation services in E-Da hospital between 1st January 2018 and 31st Dec 2020. All participants received smoking cessation counselling and the pharmacotherapy for smoking cessation. The intelligent case management system in E-Da hospital, which was implemented in Dec 2018, included the functions of (1) active identified the smokers whether inpatients and outpatients (2) one button to collect the information for supporting to investigate the smokers (3) real time monitor for assisting to follow-up the smokers who ever received the smoking cessation services. Successful smoking cessation was evaluated by self-reported 7-day point prevalence abstinence at 6 month follow-up period from the phone interview.

### Results

Of the 2,351 subjects, including 2033 males and 318 females, the age was  $49.0 \pm 12.6$  years-old. The 7-day point-prevalence smoking abstinence rate at 6 month was 37.5% (882/2351). When analyzing the smoking abstinence rate at 6 month by year, the results were 32.36%(265/819) in 2018, 36.09%(262/726) in 2019, and 44.04%(355/806) in 2020. The abstinence rate was statistical significance between the different year ( $P < 0.001$ ).

### Conclusions/lessons learned

After implementing the intelligent case management system, the smoking abstinence rate was significantly increased year by year. Although the intelligent system might be the effective way to improve the outcomes of smoking cessation services, other strategies should be also implemented to increase the abstinence rate.

#### Contact:

CHEN yanru  
E-Da Hospital, TAIWAN  
[ruby851007@gmail.com](mailto:ruby851007@gmail.com)

## Effectiveness of smoking cessation intervention in patients with coronary heart disease

**WU Mei-Yu, LIAO Feng-Ching, CHENG Hsing-Jung**

### Background and objective

Background/Problem/Objective Smoking can increase total cholesterol (TC), triglyceride (TG) and low-density lipoprotein (LDL), while reducing heart-protecting high-density lipoprotein, which can easily lead to atherosclerosis and make it one of the important risk factors for coronary heart disease. Smoking cessation is the most effective measure to reverse the damage that has occurred and prevent fatal cardiovascular consequences. It is also an important and modifiable risk factor. According to statistics from Taiwan's Health Promotion

Administration, 80% of men with acute myocardial infarction still have as high as 35.6% of them continuing smoking. Because they don't understand the importance of quitting smoking to reduce recurrence, smoking cessation is the top priority to protect the heart.

### Methods/intervention

Methods/Intervention The smoking cessation service provided by National Taiwan University Hospital Yunlin Branch implements evidence-based effective smoking cessation drugs and education. We passed the coronary artery disease certification of the Medical Policy Association in 2022 and made smoking cessation intervention as an important part of disease care bundle. In order to improve smoking cessation referrals, an "Online Smoking Cessation Referral Form" is set up to provide outpatient and inpatient service. Smoking cessation educators in the hospital provide smoking status assessment and smoking cessation consultation. They assist in referrals to smoking cessation clinics and provide assistance with smoking cessation medications. We provide one year of case management and follow-up for smoking patients with coronary heart disease.

### Results

Results/of evaluation From January 2021 to June 2022, our hospital conducted interventions for 80 patients with coronary heart disease in smoking cessation, with an average smoking age of 39 years and a cigarette volume of 21 sticks per day. 46 people in the smoking cessation success group and 34 people in the smoking cessation failure group were tracked for 6 months. We compared the change in low-density lipoprotein (LDL), triglyceride (TG) and glycosylated hemoglobin (HbA1c) between two groups. The successful group showed a significant 9.6% reduction in LDL ( $p < 0.005$ ), while there were reductions in other markers, they did not reach statistical significance. The results suggest that smoking cessation intervention can significantly help the control of low-density lipoprotein (LDL) in patients with coronary heart disease.

### Conclusions/lessons learned

To strengthen the awareness of the harmful effects of smoking on coronary heart disease and its correlation with recurrence, and to increase the motivation to quit smoking, smoking cessation interventions are provided to educate patients with smoking-related coronary heart disease about the proper use of smoking cessation medication and to learn healthy lifestyle habits to replace smoking behavior. During the smoking cessation process, through outpatient visits and telephone follow-up, we can understand the difficulties encountered by ex-smokers in the process of quitting smoking, discuss coping strategies together, provide support to overcome nicotine withdrawal syndrome and psychological dependence, and work together for disease prevention and health promotion.

#### Contact:

WU MEI-YU  
National Taiwan University Hospital YunLin Branch, TAIWAN  
[m0952585706@gmail.com](mailto:m0952585706@gmail.com)

## Effect of HPH activities for tobacco control on smoking rate and perception of tobacco-smoking among hospital employees



## FUKUSHIMA Hiroshil, MAMURA Shotarou

### Background and objective

To investigate whether HPH activities for tobacco control in hospitals reduce the smoking rate or improve perception of tobacco smoking among employees.

### Methods/intervention

Among the hospitals that are members of the J-HPH network in Japan, a request was made to four hospitals as the intervention group and six hospitals as the control group, and all the employees at these participating hospitals in 2019-2020 (n = 2,069) were included. In the intervention group, an HPH program for smoking cessation was implemented from January 2020 to March 2021 for patients, communities, and employees. The primary outcome was the change in smoking rate before the start of the study (December 2019) and at the end (April 2021). The secondary outcome was the score change on The Kano Test for Social Nicotine Dependence (KTSND).

### Results

The smoking rate decreased slightly from 9.5% to 8.4% in the intervention group, and from 10.1% to 9.0% in the control group, but the difference was not significant. The KTSND score in the intervention group remained unchanged at 12 (median, interquartile range (IQR): 8-16), while the KTSND score in the control group increased significantly from 12 (median, IQR: 7-16) to 12 (median, IQR: 8-16) (P = 0.001).

### Conclusions/lessons learned

HPH programs for tobacco control did not change the smoking rate and perception of tobacco smoking among hospital employees.

### Contact:

NOGUCHI AI  
NISHIYODO HOSPITAL, JAPAN  
[mt22rocky@gmail.com](mailto:mt22rocky@gmail.com)

## A study of smokers feel about their decision to quit smoking using a decision aid

## SU Yi-Lin, HUANG Nuan-Ting, TSAI Yen-Ping, LI Shu-Hui, CHOU Wan-Yun

### Background and objective

Smoking is currently one of the biggest public health threats. Smoking cessation is the most important strategy to reduce smoking harm. In order to reduce the conflict of smoking cessation decision-making, decision-making aids are used to help smokers choose smoking cessation options that meet their values. This study aims to explore how smokers feel about shared decision-making cessation services after choosing customized smoking cessation decisions according to personal preferences through decision-making aids.

### Methods/intervention

Convenience sampling was adopted in this study. From August 2020 to April 2021, 48 cases were collected from chest clinics in two districts of a medical network in the north. After agreeing to fill in the research questionnaire, accept the instructions of the

decision-making instructor and use decision-making aids to quit smoking. After making a decision, give smoking cessation education.

### Results

The results was no statistical difference between the third month and the sixth month in the case's feelings about the shared decision-making service; as time went on, the positive feeling decreased, but the statistical difference was not reached. The distribution of smoking cessation service decision-making options, 60% of successful quitters choose the decision-making item "smoking cessation drugs combined with smoking cessation counseling".

### Conclusions/lessons learned

At present, the conventional smoking cessation services promoted by the state have achieved remarkable results, and shared decision-making is another option for current smokers, especially for smokers who do not know which smoking cessation service to choose. After learning about various smoking cessation services, they can choose according to their own Preferences to make smoking cessation decisions to improve the success rate of smoking cessation.

### Contact:

YI-LIN Su  
Sijhih Cathay General Hospital, TAIWAN  
[eline@cgh.org.tw](mailto:eline@cgh.org.tw)

## Using Team Resource Management for Smoking Cessation Case Follow-up

## TSAI Yen-Ping, HU Li-Juan, CHIEN Wan-Ching, CHANG Shu-Ju, LI Shu-Hui, LUO Yu-Ling, HUANG Jing-Yi, WU Jia-Ling

### Background and objective

Smoking is a global public health problem, with 8 million people dying each year from smoking-related diseases worldwide (WHO, 2023). Quitting smoking is not an easy process, and clinical smoking cessation guidelines encourage the use of multiple, brief but long-term follow-up methods to enhance the motivation and willpower of smokers. To use Team Resource Management (TRM) techniques to reduce the loss to follow-up rate in smoking cessation cases.

### Methods/intervention

Using the four TRM techniques were used to overcome difficulties and obstacles: 1. Leadership: The unit supervisor announced the loss to follow-up rate as a monitoring indicator and reassigned follow-up tasks to eight chronic disease nurses, 2. Communication: During the COVID-19, a consensus meeting was held via Webex to discuss common problems encountered in telephone follow-ups and to reorganize the follow-up process to ensure consistency in the definition of loss to follow-up, 3. Situation Monitoring: The loss to follow-up rate was recorded on a monthly basis on a performance dashboard, and team members reminded and encouraged each other. If a month exceeded the standard, it was reported and reviewed at the meeting, 4. Mutual Support: For difficult follow-up cases, use communication with the doctor was maintained through a two-way communication system, using the patient's return visit time for guidance.

### Results

After using TRM, the lost-to-follow-up rate for quit smoking cases from March 2022 to February 2023 was 0.07%, a significant decrease from the 0.5% lost-to-follow-up rate before implementing TRM from March 2021 to February 2022. Independent sample t-test analysis indicated a significant difference in the tracking effectiveness before and after using TRM ( $p = .048$ ), with a higher lost-to-follow-up rate before improvement ( $M=0.53$ ,  $SD=0.70$ ) than after improvement ( $M=0.67$ ,  $SD=0.23$ ).

### Conclusions/lessons learned

Introducing TRM into smoking cessation services, in conjunction with physicians and various chronic disease case managers, to create a smoking cessation service network can lead to more effective and long-term tracking of smoking cessation patients.

### Contact:

TSAI yen-ping  
Cathay General Hospital, TAIWAN  
[lili390258@gmail.com](mailto:lili390258@gmail.com)

## Study on the success rate of intervention for smoking cessation in a health hospital by LDCT

**CHANG Mei-Yen, WANG Wan-Ting, YEN Chia-Chi**

### Background and objective

Lung cancer is the top cause of cancer death in the world, and the second highest incidence of cancer in Taiwan. The Ministry of Health and Welfare of Taiwan aims at early detection and treatment to increase survival rate and reduce health insurance expenditure, so it promotes the early detection program of lung cancer, aiming at smokers to receive smoking cessation services and lung cancer screening (low-dose computed tomography of the chest -LDCT), and early intervention of smoke risk awareness to help with smoking cessation.

### Methods/intervention

A correlational study was designed for smokers who used and did not use a national health care LDCT, and a one-to-one smoking cessation program was used. From September to November 2022, 220 cases were reported, including 67 smokers that have used LDCT and 153 smokers that haven't. The objective is to investigate the success rate of smoking cessation in smokers who use LDCT.

### Results

After the intervention of the smoking cessation program at the same time, the number of smokers who used the LDCT provided by the national health insurance and quit smoking after the project was 21 during the telephone interview 3 months later. The success rate was 31%; For the smokers who did not use LDCT, 20 of them quit smoking. The success rate was 13%.

### Conclusions/lessons learned

Through the analysis, it is found that the smokers who use LDCT examination provided by national health insurance have healthy thinking, can accept the advice of smoking cessation health education, change their smoking behavior and conduct healthy behaviors for themselves.

### Contact:

MEI YEN Chang  
Kaohsiung Municipal Min-Sheng Hospital, TAIWAN  
[dog-small@yahoo.com.tw](mailto:dog-small@yahoo.com.tw)

## Cost-Effectiveness Analysis of Varenicline versus Combination Nicotine Replacement Therapy for Smoking Cessation: Experience from a Medical Center in Taiwan

**HUEH Kuang Chieh, YANG Ming-Chin, TANG Pei-Ling**

### Background and objective

Varenicline and combination nicotine replacement treatment (cNRT) are recognized as the most effective pharmacotherapies for smoking cessation. We conducted a cost-effectiveness analysis (CEA) and calculated incremental cost-effectiveness ratios (ICERs) of varenicline versus cNRT using data from an outpatient clinic in Taiwan.

### Methods/intervention

The target population of this study was a smoking cessation outpatient case at a medical center in Southern Taiwan between June 2013 and March 2019. A total of 3,569 smokers with varenicline ( $N=2,870$ ) or cNRT ( $N=699$ ) for smoking cessation medicine were recruited. Propensity score matching (PSM) with a 1:1 matching ratio had been done and identified 894 cases for CEA. Participants chose either varenicline ( $N = 447$ ) or cNRT ( $N = 447$ ) for smoking cessation. Effectiveness—life-years (LYs) and quality-adjusted life years (QALYs) saved—was estimated using a Markov model and TreeAge software with 1-year smoking-cessation rate. LYs and QALYs for male and female quitters were estimated, and ICERs (incremental cost per QALY or LY saved) were calculated. Sensitivity analyses were conducted in terms of discount rate at 0% and 3% effectiveness and in terms of relapse rates of 0% and 37%.

### Results

The cost per LY and QALY saved in the varenicline group was as follows, respectively: male quitters, 325 to 3147.2 USD and 242.2 to 843.9 USD; and female quitters, 322.6 to 1341.8 USD and 387 to 1407.3 USD. The cost per LY and QALY saved in the cNRT group was as follows, respectively: male quitters, 461.4 to 1848.1 USD and 347.5 to 1173.4 USD; and female quitters, 852.9 to 4843.6 USD and 926.3 to 4191.6 USD respectively. Varenicline users saved 154.1 to 597.3 USD per LY saved and 141 to 371.5 USD per QALY saved more than cNRT users. Sensitivity analyses revealed that varenicline was superior compared with cNRT.

### Conclusions/lessons learned

For cost-effective smoking cessation, varenicline is a better option than cNRT in smoking cessation clinical practice.

### Contact:

HSUEH Kuang-Chieh  
Kaohsiung Veteran General Hospital, TAIWAN  
[kjhsuch@gmail.com](mailto:kjhsuch@gmail.com)

## Development of health literacy education program for the prevention of smoking hazards among early childhood

**SANG AH Lee, JIYE Kim, JIYOUNG Lee, HYEKYEONG Kim**

### Background and objective

As the problem of increasing smoking rates among school-aged children continues in Korea, it is necessary to intervene in preventing smoking behavior among early childhood before they reach school age. By providing health literacy education for early childhood, we can improve their ability to make appropriate decisions, communications, and self control in situations of smoking-related risks in daily life. The current smoking prevention education programs need to move beyond knowledge-focused approaches and develop a new strategy of health education. The aim of this study was to develop health literacy education program for early childhood to prevent smoking hazards.

### Methods/intervention

Intervention mapping(IM) model was applied to develop an intervention program. Precede-Proceed model was used to identify determinants of behavior practice during the need assessment. The educational contents were designed for improving awareness and life skills to maintain non-smoking behavior in the future. All education was conducted in real-time video for 97 young children. A pilot study was evaluated before and after the education by analyzing interviews.

### Results

Based on the results of need assessment, a matrix of change objectives by performance objectives was constructed for the determinants of knowledge/awareness, attitude, life skills, self-esteem, and parenting environment. Theory-based methods and strategies were developed using behavior change techniques. Elaboration, chunking, modeling, environmental reevaluation, planning coping response, counter-conditioning, public commitment, and reinforcement were applied for each session. A total of 5 sessions of education were developed focusing on life skill and supportive environment for smoking hazards prevention. According to the pilot analysis, knowledge, negative attitudes, and environment showed a significant increase( $p < .05$ ), while intention, life skills, and self-esteem were improved.

### Conclusions/lessons learned

Education program can improve early childhood's psycho-social capacity to protect them from smoking hazards and practice anti-smoking in the future.

### Contact:

LEE Sang Ah  
Ewha Womans University, KOREA  
[saewu99@naver.com](mailto:saewu99@naver.com)

## The experience of successfully holding smoking cessation classes in the smoking cessation halfway house in Taiwan

**CHEN Hui-Min, DAN-MO Peir, LIANG Mei-Zhen, LAI Shao-Hua**

### Background and objective

Studies have found high rates of smoking and tobacco-related morbidity and mortality among people with chronic mental illness. Among them, there are few studies related to group therapy on promoting smoking cessation and reducing smoking for patients with mental illness, and the smoking rate of patients with psychosis is as high as 80%. Therefore, the success rate of smoking cessation in vulnerable groups in the community is evaluated.

### Methods/intervention

Conduct community-based adult smoking cessation classes in rehabilitation centers. It is expected to be held annually. Courses are scheduled once a week, 3 hours each time, and completed for 4 consecutive weeks. 12 hours in total. The course designs three types of advanced diseases and the impact of smoking hazards, so that students can understand the correlation between smoking, electronic cigarettes and their own disease risks, nicotine replacement drug treatment, and individual behavior counseling. After the course, investigate the smoking cessation rate at three months, six months and one year, and do a carbon monoxide breath test.

### Results

According to the three-year follow-up data, there were 30 smokers. The sex ratio is 70% male and 30% female. The average age was 51.5 years. The average carbon monoxide breath test dropped from 13.7 ppm to 10.5 ppm. The average smoking cessation success rate at the end of the course is 43.3%, the average success rate of smoking cessation after three months of follow-up is 30%, the average success rate of smoking cessation after six months of follow-up is 30%, and the average success rate of smoking cessation after one-year follow-up is 30%. The awareness of smoking hazards increased by 41.7% on average, and the motivation to quit smoking increased by 20% on average.

### Conclusions/lessons learned

Our hospital is a community hospital and actively participates in community cooperation. Most of the mental illness smokers have a history of three high diseases, accounting for 80%, and the proportion of e-cigarettes used to account for 30%. Community smoking cessation classes and long-term follow-up management.

### Contact:

CHEN hui-min  
Taipei Municipal Gan-Dau Hospital, TAIWAN  
[chenhm2582@gmail.com](mailto:chenhm2582@gmail.com)

## Poster session 10: Salutogenic, safe and healthy workplace

### Job strain associated with musculoskeletal disorders (MSDs) in hospital nurses: A mediation analysis of work-related fatigue and burnout

**KUO Hsien-Hua, LAN Cheng-Chieh, KUO Hsien-Wen**

#### Background and objective

Since musculoskeletal disorders (MSDs) frequently result from high workload and prolonged worktime in nurses, the direct and indirect effects of psychological factors, work-related fatigue (WRF), and burnout on MSDs is still inconclusive. This study has two aims: (1) to examine MSDs associated with job strain index (JSI), work-fatigue and burnout; (2) to assess the mediating roles of WRF and burnout on the relationship between job strain and MSDs in hospital nurses.

#### Methods/intervention

A cross-sectional study was conducted in a public hospital. 471 nurses voluntarily and anonymously filled out a web-questionnaire. The Nordic Musculoskeletal Questionnaire (NMQ) was revised from the previous questionnaire (Kuorinka et al., 1987) developed by the Taiwan's Institute of Labor and Occupational Safety and Health (ILOSH, 2010). The mediation roles of WRF and burnout on the association between JSI and burnout were assessed by Hayes models 7.

#### Results

Burnout was significantly correlated with WRF ( $r=0.768$ ;  $p<.001$ ), MSDs ( $r=0.246$ ;  $p<.01$ ) and JSI ( $r=0.281$ ;  $p<.001$ ). Work-fatigue was significantly correlated with MSDs ( $r=0.152$ ;  $p<.01$ ) and job strain ( $r=0.281$ ;  $p<.001$ ). Job strain was positively correlated with MSDs ( $r=0.126$ ;  $p<.01$ ). Job strain was significantly associated with WRF ( $\beta=0.281$ ;  $p<.01$ ) and burnout ( $\beta=0.181$ ;  $p<.01$ ). WRF was significantly associated with burnout ( $\beta=0.718$ ;  $p<.001$ ). Burnout directly influenced prevalent MSDs ( $\beta=0.288$ ;  $p<.001$ ). Burnout was the mainly contributor to MSDs of which indirect effects accounted for 41% and 46%.

#### Conclusions/lessons learned

Since burnout was the main contributing factor to occurrence of MSDs in nurses, empowerment for modification is implemented in nursing departments to reduce WRF and burnout as a priority guideline for MSDs prevention programs for nurses. Therefore, to keep up with the growing illnesses and injuries of MSDs, it is urgent that nurse managers should be provided effective intervention programs.

#### Contact:

KUO Hsien Hwa  
Tao yuan General hospital, TAIWAN  
[hhk0401@yahoo.com.tw](mailto:hhk0401@yahoo.com.tw)

## The effects of gender and occupation category on health promoting attitude of hospital staff

**WU Pei-Chun, WANG Chen-Wei**

#### Background and objective

The medical industry is highly professional and complex. Hospital staff can be roughly divided into four categories: medical staff, nurses, medical technicians, and administrators. This study aimed to investigate the effects of gender and occupation category on the attitude of hospital staff toward health promotion activities. Staff were encouraged to form teams to participate in the Fun Fitness Activities of Climbing Stairs and together create a healthy and energetic workplace atmosphere.

#### Methods/intervention

In this study, the staff who participated in the Fun Fitness Activities of Climbing Stairs were selected as the subjects. Each team had six people. The teams participated in several relay activities, including stair climbing from the 1st to the 20th floor, walking 100 meters while hula hooping, and doing 50 rope-jumps in one place. Data including gender, occupation category, and health promoting attitudes were collected, and independent samples t-test and one-way analysis of variance (ANOVA) were used to analyze the differences in health promoting attitude among hospital staff of different genders and occupations.

#### Results

The findings are as follows. (1) There were statistically significant differences in health promoting attitude of hospital staff of different genders ( $p<0.01$ ); (2) There were statistically significant differences in health promoting attitude of hospital staff of different occupations ( $p<0.01$ ).

#### Conclusions/lessons learned

This study offers evidence related to the attitudes of hospital staff toward health promotion activities which can inform the future strategies implemented by hospitals for promoting fitness in the workplace. It is suggested that hospitals carry out "appropriate" health promoting activities based on staff's gender and occupation category, so as to meet their health needs and expectations.

#### Contact:

WANG CHEN WEI  
Tungs' Taichung MetroHarbor Hospital  
TAIWAN  
[cwt12907@gmail.com](mailto:cwt12907@gmail.com)

## Improving Resilience in Nursing Staff with Fluid Painting Art Spiritual Practice

**PAN Ruei-Yi, WANG Tsyr-Fen, CHENG Sung-Yuan, CHUNG Ching Hui**

#### Background and objective

Since the Covid-19 outbreak, nurses have been under great pressure. In an environment that focuses Holistic Health Care,

the spirituality of the nurses is important. The article uses fluid painting combined with spiritual direction to promote resilience in nurses.

#### Methods/intervention

Everyone has ability to develop healthy coping strategies when facing pressure. This is resilience. In Satir's iceberg theory, the top of the iceberg is behavior, and the lower layers in order are feelings, perceptions, expectations, and yearnings. The bottom of the iceberg is self or spirit. A person's resilience comes from the bottom. When a person pays attention to the events of life, how he/she copes with the events, and his/her feelings, perceptions, expectations, and yearnings, then he/she can find his/her true self. By talking and listening to oneself, or God, a person may promote his/her resilience. The fluid painting no need for high skill. Painters can easily perceive their emotions through art creation. The director guides the painters to have a dialogue with themselves or God. After the work, painters share with each other. As the result, they have the harmonious experience with God, people, environment, and oneself through the activity.

#### Results

From JUN. 2022 to FEB. 2023, a total of 90 nurses participated, and 80 people filled out the questionnaire, which had 4 questions. According to the degree of consent, there were 5 options: strongly agree, agree, general, disagree, and strongly disagree. 95% strongly agreed with "This activity made me feel relieved"; 92.5% strongly agreed with "This activity made me feel emotionally supported"; 92.5% strongly agreed that "This activity made me feel helpful for psychological adjustment"; "Satisfaction with this activity" was 100%.

#### Conclusions/lessons learned

People easily open their hearts through art. When people perceive their emotions, they could explore the inner spirit. Art creation is the medium, not the purpose. Therefore, participants need to be reminded not to focus too much on learning art skills. The director should guide the participants to listen to themselves, accept and embrace themselves, so that they can learn ways to improve their resilience after the event is over.

#### Contact:

PAN Ruei-Yi  
MacKay Memorial Hospital, TAIWAN  
[rueiyi.c201@mmh.org.tw](mailto:rueiyi.c201@mmh.org.tw)

## Build an integrated chemotherapy cyclone

**CHEN Hui-Shan, HUANG Yi-zhen, XU Pei-Ling, FAN Jin-Wen, LU Jia-Wen, CAI Liyun**

#### Background and objective

Clinically, the process of brewing chemotherapy drugs is time-consuming, there is no fixed chemotherapy cart to use, when giving chemotherapy drugs, it is necessary to push the E cart and protective box to the patient's unit at the same time, and wear standard equipment for administration; Once chemotherapy drug spilling occurs, the environment must be cleaned in accordance with the chemotherapy spilling process, which is harmful to staff and patients, so it is recommended to cooperate with manufacturers to make an integrated chemotherapy work

cart, from connecting brewing drugs to connecting chemotherapy drugs, you can use an integrated chemotherapy cyclone, which is significantly shortened in time calculation, thereby creating a safe and time-saving and money-winning situation.

#### Methods/intervention

Discuss with the staff of the incubation center, pharmacists and information, collect clinical nursing staff, transmit opinions and workflows, analyze the advantages and disadvantages of work, and finally finalize the production of an integrated chemotherapy cart after many meetings and discussions, so that the staff can be more convenient in clinical use, and at the same time prevent the spilling of chemotherapy drugs, and save the time of brewing drugs and the time of receiving drugs and the utilization rate of hospital beds.

#### Results

When the integrated chemotherapy cyclone is established, the time for chemotherapy drugs to brew and retrieve drugs is simplified; The spill accident rate will be 0.

#### Conclusions/lessons learned

The setting of the chemotherapy cyclone allows the unit to give back 1. save time and cost for transmission and nursing staff, 2. create a safe working environment, 3. improve the process of chemotherapy drugs 4. increase patient turnover, so that hospitals and patients can create a win-win situation.

#### Contact:

HSU Jason  
Chang Bing Show Chwan Memorial Hospital, TAIWAN  
[14998@cbshow.org.tw](mailto:14998@cbshow.org.tw)

## Environmental monitoring for SARS-COV-2 on surfaces and in the air in 2021 and 2022

**PASTORE Elisa, SCARPINI Gian Carlo**

#### Background and objective

ASST Pavia annually carries out environmental monitoring within its hospitals, in order to track the progress of certain occupational risk factors. With regard to biological risk, monitoring has always been executed on surfaces and in the air to determine the microbial load in areas at greatest risk. Since 2021 have been programmed specific determinations of SARS-CoV-2 contamination on surfaces and in the air.

#### Methods/intervention

During the COVID-19 emergency, despite ASST's hospitals weren't adapted to structural and plant requirements for infectious patient management, it became necessary to handle large COVID-19 patients flows. Therefore specific areas within the hospitals were identified for COVID-19 patients and an attempt was made to adjust them for proper patient management, ensuring the operator safety. In 2021 and 2022, in ASST's hospitals identified as COVID-19 hub, have been carried out specific determinations of SARS-CoV-2 contamination on surfaces and in the air in units at high risk, like E.R., intensive care, medicine and surgery.

### Results

The data relating to the monitoring carried out in 2021 and 2022 return the following results: -All aerosols from the controlled environments were found to be free of traces of SARS-CoV-2. -All swabs performed were found to be free of traces of SARS-CoV-2.

### Conclusions/lessons learned

The determinations of SARS-CoV-2 contamination on surfaces and in the air in the COVID-19 Hubs, contributed significantly to the health and safety of operators and patients, allowing the continuation of activities after checking the effective efficacy of the environment sanitization processes. Therefore the same monitoring have been scheduled for 2023.

### Contact:

SCARPINI Gian Carlo, ITALY

[gian\\_carlo\\_scarpini@asst-pavia.it](mailto:gian_carlo_scarpini@asst-pavia.it)

## Factors associated with the reduction in sedentary behaviors of office workers using Ecological Momentary Assessment (EMA) based on the Integrated Behavioral Model in South Korea

CHAE Jisoo, KIM Jiye, KIM Hyekyeong

### Background and objective

The prolonged sedentary behavior (SB) of office workers has become a serious problem. The integrated behavioral model (IBM), which explains the individual's intention and environmental factors related to behavior, is suitable for identifying health behavior for workers in the workplace by applying the main factors affecting individual health behavior. Ecological Momentary Assessment (EMA) is a practical tool for reducing recall errors and biases and enhancing ecological validity. This study aims to identify the individual and workplace environmental factors related to the reduction in SB of office workers based on IBM using EMA.

### Methods/intervention

Data were collected through an online self-reported survey and EMA of a total of 96 office workers. EMA was measured for seven consecutive working days. Descriptive statistics, Pearson correlation analysis, and multiple regression analysis were performed using SPSS 27.0, and latent profile analysis was performed using Mplus.

### Results

It has been found that a higher level of attitude, subjective norms, and self-efficacy on reducing SB leads to a higher intention to improve SB ( $p < .01$ ). Actions to reduce SB were practiced more as the level of intention to improve SB was higher ( $p < .01$ ). The more workers act to reduce SB, the lower the degree of obstacles in the workplace that affect the reduction of SB. In addition, the more inconsistent degree that the work flow is cut off to practice SB ( $p < .05$ ), the fewer average working hours per day ( $p < .01$ ), and the more smokers compared to non-smokers ( $p < .05$ ) showed behavioral practice to reduce non-continuous SB for 7 days of working.

### Conclusions/lessons learned

By identifying that the reduction in SB of office workers is related to environmental factors as well as individual, the rationale for the need for a workplace health promotion program based on an ecological approach has been expanded. By enhancing the work environment to lower office workers' SB, it will be feasible to contribute to enhancing employees' health and productivity.

### Contact:

CHAE Jisoo, KOREA

[chopt12345@naver.com](mailto:chopt12345@naver.com)

## My heart, you understand! Your wish, I accept! -A documentary of a regional hospital using social work to deal with medical complaints

TSAI Sheng-Hua, CHOU Yi-Ying, LI Ling-May, CHEN Wei-Ta, LIN San-Chi

### Background and objective

The public's complaint behavior is a cognitive dissatisfaction that causes one or a series of behaviors (Singh, 1988); all the software and hardware of medical behavior affect the patient's physical and mental feelings; and the regional hospital social workers are tasked with responding to the public's opinions, structuring the SOP process, and planning a mechanism to reflect the public's opinions. The results will be available for three years from 2022, and will become one of the important support systems for hospitals.

### Methods/intervention

The social work office sets SOP procedures. Receive written, on-site, and telephone responses. It uses communication skills that reduces stress and overreaction to clarify the cause and reduce dissatisfaction and let the responders get the understanding and trust of the hospital, which makes the client feel supported. PDCA model review is needed for those who are lacking in service process. The social worker will analyze the incident, structure the feasibility of the needs, and develop and implement countermeasures to avoid the development of medical disputes.

### Results

During 2020-2022, there were 150 of public opinions and complaints in 2020, 200 in 2021, and 163 in 2022. The case processing time ranged from 1 day to 2 weeks. All cases were closed with no one coming to medical disputes. The need of cognition accounted for 75%. Through explanation, people can understand finiteness of medical treatment and events occurred during the treatment.

### Conclusions/lessons learned

The implementation of the medical profession is an important part of professional services. It is the duty of the medical profession to make patients know, understand and accept. The social worker is responsible for communication with the hospital during the change, so that the medical terminology can be translated into the language that people can easily understand. The hospital gains the trust of public, confidence of medical colleagues and Google Review 3.2.

**Contact:**

MINISTRY OF HEALTH AND WELFARE Keelung Hospital, TAIWAN  
[chingfeng01@gmail.com](mailto:chingfeng01@gmail.com)

## The Risk of Dialysis and Death among type 2 diabetes in female nurses: a nationwide matched cohort study

**CHEN Chia-Yu, KUNG Chuan-Yu, WANG Shun-Mu, HSU Kuo-Fang, HUANG Hsiu-Ling**

**Background and objective**

Type 2 diabetes is a significant chronic disease worldwide. We aim to investigate the risk factors for dialysis and mortality among female nurses and general patients with diabetes.

**Methods/intervention**

In this longitudinal retrospective study, 510,058 female patients were newly diagnosed with diabetes between 2009 and 2017, as recorded in the National Health Insurance Research Database. Propensity score matching was performed in a 1:10 ratio, yielding a sample of 18,601. The participants were tracked from diagnosis to 2020. The Cox proportional hazards model was employed to compare the relative risks of dialysis and mortality risks in the two groups and determine the factors resulting in differences.

**Results**

The female nurses with diabetes had a lower risk of dialysis (Adj. HR: 0.36). The study population with Charlson Comorbidity Index (CCI)  $\geq 5$  had dialysis risk up to 5.64 times higher than that of the reference group (CCI  $\leq 3$ ). The patients with Diabetes Complications Severity Index (DCSI)  $\geq 3$  had dialysis risk up to 400.55 times higher than the reference group's (DCSI=0). DCSI value was the only variable determined to be a related factor affecting dialysis risk in nurses with diabetes. Comparing the mortality risks of nurses and general patients with new diabetes showed nurses had lower mortality risks (Adj. HR: 0.53). Nurses with diabetes in the <35 and 35-44 age groups exhibited significantly lower mortality risks than general patients (Adj. HR: 0.23 and 0.36).

**Conclusions/lessons learned**

Newly diagnosed diabetes female nurses had a lower risk of dialysis and lower mortality risks. It suggests that nurses may have better knowledge, attitudes, and practice than general diabetes patients. The results can serve as a reference for preventing occupational hazards, preventing diabetes, and devising plans for improving the health of nursing professionals.

**Contact:**

HUANG Hsiu-Ling  
Minghsin University of Science and Technology, TAIWAN  
[hmling88@gmail.com](mailto:hmling88@gmail.com)

## The Energy-Saving and Carbon-Reduction Effectiveness in a Hospital from the Northern Region of Taiwan

**LAI Chiu-Chun, WEI Pin-Lun, LI Ling-Mei, CHEN Wei-Ta, LIN San-Chi**

**Background and objective**

According to the 2020 Non-Production Industry Energy Audit Report by Taiwan Energy Bureau under Ministry of Economic Affairs, healthcare institutions not only provide care for patients but also consume resources at a high rate. In 2020, carbon emissions from our hospital increased by 1.4% compared to 2019. Given the imperative of global sustainable development, it is urgent that we take action to reduce our carbon footprint.

**Methods/intervention**

To address the high carbon emissions from electricity and water consumption, our hospital has developed the 2I+T project. The project focuses on implementing energy and water-saving facilities and monitoring indicators supported by staff education and training. The aim is to achieve a 3% reduction in carbon emissions. 1.Implementing We will gradually replace and improve the energy and water-saving facilities. 2.Indicator monitoring (i) Resource consumption indicators. Monitor the electricity and water usage and energy consumption per unit area. (ii) Carbon dioxide emission indicators. Suppress carbon dioxide emissions. 3.Training We will provide environmental and resource management training and promote a carbon reduction, healthy living" hospital culture and activities.

**Results**

Compared to the base year of 2020, there was a 2.6% decrease in electricity consumption, a 10.4% decrease in water usage, a 2.6% decrease in EUI (energy use intensity), and a 3.5% decrease in carbon emissions in 2022. In addition, carbon emissions were reduced by 5.6% in 2022 compared to 2017, and the carbon sink capacity of 27,591 trees was increased, indicating the effectiveness of the project's improvements.

**Conclusions/lessons learned**

The 2I+T project aims to help the hospital reduce carbon emissions by encouraging all staff members to adopt energy-saving and carbon reduction practices. This is achieved through setting goals, implementing actions, and monitoring and reviewing progress. The project's effectiveness is demonstrated by the collective efforts of colleagues towards promoting sustainable practices.

**Contact:**

MINISTRY OF HEALTH AND WELFARE Keelung Hospital, TAIWAN  
[chingfeng01@gmail.com](mailto:chingfeng01@gmail.com)

## Systematic Collegial Help Program (KoHi) – Description of an intervention program to reduce the impact of stressful work situations in terms of the “Second Victim” phenomenon among staff at the Clinic Hietzing, Vienna, AUSTRIA

**KROMMER Elisabeth , KLEMM Victoria, RÖSNER Hannah, STRAMETZ Reinhard, HUF Wolfgang ETTL Brigitte**

### Background and objective

In the Clinic Hietzing (KHI), a comprehensive program to support staff members after stressful events in the sense of the “Second Victim” Phenomenon (SVP) was implemented in 2019. The pilot study aimed to conduct a descriptive study on SVP, compare the results of the study to similar previous studies and help develop targeted organizational strategies on how to manage the SVP in the future.

### Methods/intervention

In a multi-stage process, a total of approximately 2,800 employees from all occupational groups were surveyed using the SeViD questionnaire. In a second step, ongoing training sessions were held in the form of short-term interventions. The expectations, knowledge and experiences of the participants regarding the Second Victim phenomenon were assessed before and after the training interventions.

### Results

A total of 966 people participated in the survey. When asked about their knowledge of the term “Second Victim”, 50.6% of the participants stated they were familiar with it. Overall, 43% of the participants stated that they themselves were traumatized after an adverse event at least once. After the traumatizing adverse events, 62.4% of the participants received help, mainly from colleagues at KHI. Most key experiences involved aggressive behavior from patients or their relatives

### Conclusions/lessons learned

In line with the literature in this study many employees were affected by the SVP, showing that the SVP is a widespread problem. The symptoms described were highly relevant for health care workers and patient safety. The main requests were the possibility to access legal consultation as well as access to professional counseling and quick crisis intervention. Collegial support already plays a major role in dealing with Second Victim traumatization when compared to psychologic consultation or support from supervisors. Therefore, the establishment of a peer support program, such as KoHi, is highly justified. The KoHi pilot project could be integrated into regular hospital operations from 2022 onwards due to the numerous positive feedback and broad acceptance.

### Contact:

KROMMER Elisabeth  
Karl Landsteiner Gesellschaft, AUSTRIA  
[elisabeth.krommer@gesundheitsverbund.at](mailto:elisabeth.krommer@gesundheitsverbund.at)

## Analysis of improvement results of human hazard in a medium-sized enterprise in Kaohsiung City

**WANG Zilin, LIN Weizhong, ZHENG Mingfen, YAN Jiaqi**

### Background and objective

The most common type of occupational disease in Taiwan is musculoskeletal disease. Taking a screw manufacturer in Kaohsiung City as an example, warehouse workers have carry goods by hand. According to the self-conscious Musculoskeletal Symptom Survey in 2021, there were 10 suspected musculoskeletal soreness among 17 workers in the warehousing department. After risk assessment of the work content, our hospital found that the risk factors for human hazards include push and pull operation, repeated lifting, excessive force application, poor working posture and working environment with slopes of more than 10 degrees. In order to prevent musculoskeletal diseases and the loss of senior staff in the company, the improvement measures of human factor hazard factors are carried out.

### Methods/intervention

Through the Labour Health Service staff of the Hospital, on-site health services are provided to assist the company in improving their health condition by: 1. Allocate 8 electric pallet trucks to improve the damage caused by human force pushing and pulling, the load handling on the ground slope and the falling and hazards caused by falling and crushing of goods. 2. Conduct health lectures on the prevention of musculoskeletal soreness, teach the staff of correct operational posture, relieve muscle tension, pain relief skills, muscle stretching, muscle strength training and cultivation skills, etc.

### Results

After improvement, a satisfaction survey and musculoskeletal symptom questionnaire were issued in 2022. The results were as follows: 1.Customer satisfaction survey on improvement measures : (1)Whether the measures provide aids in relieving muscle soreness from work : 96.7%. (2)Overall satisfaction with this improvement : 100%. 2.Self-conscious musculoskeletal symptom questionnaire post-test results: there were only 2 patients with musculoskeletal soreness, and the improvement rate reached 80%.

### Conclusions/lessons learned

In order to continue to implement the spirit of "health promotion hospital", we have realized that the workplace is one of the important fields for health promotion, and has found that human-induced hazards will cause physical and mental health injuries and huge costs to workers, enterprises and the society. The medical staff of our hospital's labor health service join force with enterprises to jointly promote workplace health and eliminate hazards. We continue to create a healthy and happy working environment for workers, thus implementinf the sustainable operation of a healthy workplace.

### Contact:

WANG Zilin  
Kaohsiung Municipal Min-Sheng Hospital, TAIWAN  
[Linnqtv0325@gmail.com](mailto:Linnqtv0325@gmail.com)



## Discussion on the Influence and Adaptation “Nursing Workplace Bullying” on Experiences of Nursing Staff

**CHENG Yueh-Mien, CHEN Shu-Nu, SUN Feng-Ching, TSAI Yi-Yen**

### Background and objective

Nursing professionals who work in an environment where bullying occurs may experience burnout and fatigue which can affect their work performance while others may suffer from depression which can take a toll on the quality of care and threaten patient health and safety.

### Methods/intervention

This study adopts the cross-sectional study design and conducts the convenient sampling in the studied hospitals. Out of the 300 questionnaires that were distributed, 284 questionnaires were returned, with a recovery rate of 94.67%. The data from the 284 questionnaires was included in the data analysis, with an effective recovery rate of 94.67%.

### Results

1. The prevalence rate of “Prediction Model Construction of Taiwan Nursing Staff Being Bullied in Workplace” in the studied hospitals: 17.73%. Adjustment method: seeking support from colleagues is the most common. 2. Subjects in the study: In the “age” variable, the experience of unreasonable treatment (negative behavior NAQ-R) in the past six months, the tendency to resign, and the perception felt in the current work unit are significantly different.

### Conclusions/lessons learned

The prevalence rate of “Prediction Model Construction of Taiwan Nursing Staff Being Bullied in Workplace” (17.73%) in the studied hospitals is more favorable than the rate of 55%–65% in other European and American hospitals (Johnson, 2011; Berry, Gillespie, Gates, & Schafer, 2012), and the rate of 19.6%–82.2% in 2016 (Lin Yiyi, Huang Lihua).

### Contact:

LIN Yi-Hsuan  
Kaohsiung Municipal United Hospital, TAIWAN  
[s87108011@gmail.com](mailto:s87108011@gmail.com)

## Changes of health indicators after receiving Labour health services in a small workplace in Kaohsiung

**HUANG Yu-Hui, CHEN Jianzhou, LIN Weizhong, ZHENG Mingfen, YAN Jiaqi**

### Background and objective

With the continuous changes in industrial structure and work patterns and the aging of the population, in face of the increasing number of emerging occupational diseases such as cardiovascular and musculoskeletal diseases and the increasing demand for labor health services, the OSHA has announced that

workers' health services should be provided in some of public institutions since December 2021. This study focuses on the changes of BMI, metabolic syndrome and other related indicators in a small workplace before and after receiving labor health services.

### Methods/intervention

From April 2022 to August 2022, the hospital's labor health service medical staff has provided on-site health services to help improve a 52-ppl small workplace. The measures are as follows: 1. Health consultation 2. Monthly health report 3. Health activities 4. Health indicators 5. Related indicators of metabolic syndrome.

### Results

After the medical staff of the labor health service of our hospital provided on-site health services, the institution conducted the annual employee health examination in September 2022, the index items had been greatly changed comparing to the results obtained before the services in 2021, as shown below 1. BMI: the abnormal rate dropped from 72% to 53%. 2. Triglyceride: the abnormal rate dropped from 42.9% to 35.3%. 3. Fasting blood glucose: the abnormal rate rised from 16.3% to 17.7%. 4. Waistline: the abnormal rate dropped from 14.9% to 11.8%. 5. HDL: the abnormal rate rised from 22.5% to 23.5%. 6. Systolic blood pressure: the abnormal rate dropped from 22.5% to 13.7%. 7. Diastolic blood pressure: the abnormal rate rised from 12.2% to 13.7%.

### Conclusions/lessons learned

After providing on-site health services, some index items of annual employee health examination were significantly improved, while some were not. We would keep eyes on those index items which were not significantly improved and provide better quality and comprehensive health care in the workplace, and implement the sustainable operation of healthy workplace.

### Contact:

HUANG YU-HUI  
Kaohsiung municipal Min-Sheng Hospital, TAIWAN  
[cherryfish1102@yahoo.com.tw](mailto:cherryfish1102@yahoo.com.tw)

## Analysis of the results of the abnormal work overload prevention plan for a computer heat sink manufacturing plant in Kaohsiung Qianzhen Science and Technology Industrial Zone.

**LU Jia-Yi, ZHENG Ming-Fen, LIN Jian-liang**

### Background and objective

Due to the changes of industrial structure, workers often suffered from workload and mental stress. The accumulation of long-term stress and fatigue, without proper rest and sleep, may affect the physical and mental health, and even cause acute brain and cardiovascular diseases. In order to prevent the risk of cardiovascular disease in workers, the occupational health service team goes deep into the factory to maintain the physical and mental health of the workers and reduce the incidence of diseases.

### Methods/intervention

The level of labor-induced cerebrovascular disease risk is based on Framingham risk score and daily living habits of employees, and questionnaire. (1)Framingham risk score: According to workers' regular health report res age, gender and daily life habits: smoking and been diagnosed as hypertension or not t. (2)Abnormal workload-promoted disease assessment questionnaire:Physiology, psychology, and workload patterns affect the risk of cerebrovascular disease mainly include. After assessment, occupational service team provides health education and mental care to workers, and actively tracked healthy status, and let them learn to distinguish and face stress, adjust life style, cultivate personal stress relief methods. If it's necessary, assist workers job transferred.

### Results

(1) According to the results of the comprehensive analysis of the workload level and Framingham risk score, there're 0 people (0%) with high abnormal overload promotes the risk of cardiovascular disease; 38 people (18%) with moderate risk; and 173 people (82%)with low risk. (2)After health interviews by occupational nurses and doctors, and after re-filling the abnormal workload-promoted disease assessment questionnaire with moderate risk workers in the current year, abnormal overload promotes the risk of cardiovascular disease: 0 people with high risk (0%); 25 people with moderate risk (11.8 %); low risk 177 people (83.9%). Another 9 people resigned, 3 of whom retired at the age of maturity, 1 without pay due to postpartum stay, and the remaining 5 resigned due to personal career planning.

### Conclusions/lessons learned

The proportion of people with moderate risk of Cardiovascular Disease has been reduced from 18% to 11.8%.The occupational health service effectively reduce the workers' abnormal workload risk.

#### Contact:

LU JiaYi, TAIWAN  
[jiahealth1@gmail.com](mailto:jiahealth1@gmail.com)

## Prevention of Needlestick Injuries: A Study of Effectiveness - A Case Study of a Regional Hospital in Taiwan.

**SHE Sih Mai**

### Background and objective

Needlestick injuries are common hazards in the healthcare industry, posing potential threats to workers' safety and health by increasing the risk of bloodborne infectious diseases and causing psychological impacts. This study aims to evaluate the effectiveness of implementing needlestick injury prevention strategies in hospitals.

### Methods/intervention

Through needlestick injury prevention strategies, the hospital has fully implemented safety needles and established comprehensive education and training, including practical training courses on the use of safety needles. Individual safety needle QA seminars were also conducted in clinical units, and hospital-wide needlestick prevention education and training were held annually. In addition, root cause analysis was

conducted for each needlestick case, and systemic improvements were made to address potential risks. An online reporting system was established to track monthly blood tests. A needlestick compensation mechanism was established for employees to cover the cost of medical visits and preventative medication. An occupational injury and illness return-to-work assessment mechanism was also established, and a care team and on-site service care interview service were set up.

### Results

A total of 17 needlestick injury education and training courses were held, with 6,797 attendees, achieving a perfect score of 100 in tests and a satisfaction rate of 100%. A total of 74 safety needle instruction and QA seminars were held, with 630 attendees. As of 2022, a total of 19 safety needle instruction courses for new staff were held, with 74 attendees. The completion rate for follow-up blood tests of needlestick cases was 100%, with no reported infections. The needlestick injury rate per 100 healthcare workers decreased from 2.72 to 1.78.

### Conclusions/lessons learned

Through the implementation of strategies for preventing needlestick injuries across the hospital, including the adoption of safety needles and regular training on their use, this project has effectively reduced the incidence of needlestick injuries among healthcare workers and improved their awareness of workplace health and safety, as well as fostered a culture of safety within the hospital.

#### Contact:

SHE Sih Mai  
 Kaohsiung Municipal Ta-Tung Hospital, Operation under entrustment with Kaohsiung, TAIWAN  
[fifi24531@gmail.com](mailto:fifi24531@gmail.com)

## Poster session 11: Health workforce practice and training

### Use of GE Discovery RT computer tomography simulation locator to perform the results of MAR technology

**YANG Shu-Han, WANG Jun-Yan, LI Zheng-Fu, JIANG Cheng-Han, XIE Yi-lin, XIE Pei-Ying, KE Chien-Chih, HUANG Ming-Yii**

### Background and objective

When computer tomography is used in radiotherapy planning, it is a critical condition for accurately identifying and defining the risks of tumors and normal tissues and organs. In the MAR(Metal Artifact Reduction) image, the bladder boundary is clearly visible. This is essential for radiotherapy planning (RTP) that needs to automatically calculate the boundary. Without MAR technology, this automatic calculation method will fail, requiring artificial correction of the outer boundary. As the population continues to age, patients who need to use CT scan orthopedic technology implants such as artificial femoral heads have become more and more common. These large metal objects can produce very serious metal artifacts.

### Methods/intervention

The MAR(Metal Artifact Reduction) algorithm is a de-metallic artifact removal algorithm launched by GE. It aims to reveal the anatomical details that are concealed by the metallic artifact. Use the GE Discovery RT computer tomography simulation locator to perform image scanning of digital patients. After scanning a set of tomographic images, the system will recombine a set of MAR images to explore the distortion levels of the two sets of images.

### Results

MAR(Metal Artifact Reduction) technology can significantly reduce metal artifacts and significantly improve image quality. Greatly help the clinical diagnosis of medical staff.

### Conclusions/lessons learned

When computer tomography is used in radiotherapy planning, it is a critical condition for accurately identifying and defining the risks of tumors and normal tissues and organs. In the MAR(Metal Artifact Reduction) image, the bladder boundary is clearly visible. This is essential for radiotherapy planning (RTP) that needs to automatically calculate the boundary. Without MAR technology, this automatic calculation method will fail, requiring artificial correction of the outer boundary. As the population continues to age, patients who need to use CT scan orthopedic technology implants such as artificial femoral heads are becoming more and more common. These large metal objects can produce very serious metal artifacts.

### Contact:

SHU-HAN Yang  
Kaohsiung Medical University Hospital Radiation Oncology,  
TAIWAN  
[fifteen9198094@hotmail.com](mailto:fifteen9198094@hotmail.com)

## Improve the number of medication errors by nursing staff

**WU Mei-Chuan, SHEN Pei-Chi, TSENG Tzu-Wei, KO Hui-Wen, CHU Su-Chun**

### Background and objective

Drug administration is one of the nursing activities that nurses must perform every day. If medication errors occur, it will directly affect the safety of patients and prolong the number of days in hospital. In 2022, there were 34 cases of drug administration abnormalities in the nursing department. Make improvements for abnormalities to maintain patient medication safety.

### Methods/intervention

Use the checklist to verify the true cause, and find that the top 80% of the causes are: 1. 61.8% of those who made medication errors had less than one year of seniority, 2. Miscommunication with foreigners, 3. The new version of the nursing order is online, and the screen is not optimized (only 3 characters are displayed for 4 characters), The improvement measures are proposed as follows: 1. Counseling incompetent personnel to transfer to other jobs, 2. Increase board game card practice during the training of new recruits to improve learning motivation, 3. Provide free software for communicating with foreigners and how to use it, 4. Modify the display characters of the route of administration.

### Results

1. According to the statistics, in 2022, among the nurses who have administered wrong medications, 6 have been unfit to leave their posts, and 3 have been transferred to other jobs; 2. The cognitive test of the technical examination for new recruits has been raised from 78.9 to 90.9; 3. Check that 37 nursing staff can correctly use Google translation software to communicate with foreigners; 4. The route of administration has been changed from 3 characters to 4 characters immediately when it is discovered on the same day. According to statistics, the number of abnormal drug administration in January 2023 has been reduced to 1.

### Conclusions/lessons learned

Medication errors not only affect patient safety, but also affect the confidence of nursing staff in their work. Through event analysis, personnel counseling, Innovative board game drug delivery technology drill, According to statistics, in January 2023, there was 1 case of abnormal drug administration.

### Contact:

HSU Jason  
Chang Bing Show Chwan Memorial Hospital, TAIWAN  
[14998@cbshow.org.tw](mailto:14998@cbshow.org.tw)

## Use icons to improve the correct rate of pipeline communication for medical staff

**LI Mei-Fang, SHEN Yu-Hui, YU Chin-Ching**

### Background and objective

This unit is a general surgical ward, often has liver cancer, ampullary cancer and other major operations, patients have complex pipelines after surgery, patients account for more than 5 (23.5%), 4 (33%), 3 (24.6%), 2 (25.4%), 1 (3.7%), According to the survey conducted by 2022/01/01-2022/05/31, the correct rate of pipeline communication was only 59%, resulting in complaints from doctors and patients, which led to motivation for improvement.

### Methods/intervention

2022/06/01-2022/09/30 has been implemented as follows: 1. Make a human shape diagram; 2. Formulate shift handover priorities and planning; 3. Develop shift handover standardization and specifications; 4. Unit on-the-job education and training; 5. Formulate audit methods.

### Results

2022/10/01-2023/03/01 Shift handover through the humanoid diagram, the correct communication rate of nursing staff has increased from 59% to 89.5%, and the satisfaction rate has increased from 60.1% to 100%.

### Conclusions/lessons learned

Through the humanoid diagram, unit education and training, the formulation of shift standards and specifications and the audit system, the correct communication rate of nursing staff's pipeline has been improved, and the satisfaction of medical teams, patients and families with difficult wound care for nursing staff has increased by 96%, which has been simultaneously and horizontally extended to all wards of the hospital to improve the nursing team's ability to care for difficult pipelines after surgery.

**Contact:**

HSU Jason  
Chang Bing Show Chwan Memorial Hospital, TAIWAN  
[14998@cbshow.org.tw](mailto:14998@cbshow.org.tw)

## ASST Pavia workers' training regarding personal protective equipment's use: Comparison between Covid-19 pandemic pre and post

**SCARPINI Gian Carlo, MATRELLA Mariagrazia, COTTA RAMUSINO Enrico**

**Background and objective**

During SARS-CoV-2 pandemic period, there was need to train a relevant number of health professionals regarding personal protective equipment's use, in order to protect workers and patients' health within ASST PAVIA's hospitals. Following this need, ASST PAVIA's target was to increase the number of training courses on PPE use for its workers, students, trainees and volunteers.

**Methods/intervention**

During COVID-19 emergency, while 7 courses were held in 2019, 114 courses were provided (1329 trained workers) in 2020 and 73 courses (775 trained workers) in 2021. Even in 2022, trained workers were numerically higher than pre-pandemic period, 28 courses were provided and 266 workers were trained (compared with 77 workers in 2019).

**Results**

Analyzing the professional profiles of different workers, in 2020 there was a higher training incidence of nurses (696 nurses trained every 1.000 nurses) and supporting staff (796 of incidence), personnel more frequently in contact with patients. In 2021, instead, there was a higher training incidence of other healthcare workers (406 of incidence) and for students/trainees (412 of incidence). These professional profiles, not included in pre-pandemic training activities, were also included in 2020 training programs, but it's in 2021 that the courses dedicated to them were increased.

**Conclusions/lessons learned**

In conclusion, ASST PAVIA responded to the need of increasing staff training on personal protective equipment's use by raising the number of training courses and consequently, almost all healthcare workers were trained in the three-year period 2020-2022.

**Contact:**

SCARPINI Gian Carlo, ITALY  
[gian\\_carlo\\_scarpini@asst-pavia.it](mailto:gian_carlo_scarpini@asst-pavia.it)

## Sharing the Results of Promoting Nurses' Awareness of Type A Adverse Drug Reaction Reporting in a Hospital in Northern Taiwan

**CHANG-TSAI Ting-Yu, LI Ling-May, CHEN Wei-Ta, LIN San-Chi, WU Chi-Wen**

**Background and objective**

Type A adverse drug reactions (ADRs) are an extension of the pharmacological effects and are more likely to occur in patients with impaired liver or kidney function, multiple illnesses, or multiple medication use, such as the elderly. Nurses mostly report Type B ADRs (skin rash) when they occur in hospitalized patients, while Type A ADRs are rarely reported.

**Methods/intervention**

Pharmacists conducted ADR-related education and training in various hospital wards at the end of 2021, hoping to improve the awareness and reporting of Type A ADRs among nurses, thereby reducing the readmission of patients due to similar reasons after discharge.

**Results**

According to statistical analysis, the proportion of Type A Adverse Drug Reactions (ADR) reported by nursing colleagues for hospitalized patients in 2020 and 2021 accounted for 15.9% of the total number of reports during the two-year period. However, after this educational training, in 2022, the proportion of Type A ADR reported by nursing colleagues for hospitalized patients accounted for 50% of the total incidence of ADR occurring during the entire year of hospitalization.

**Conclusions/lessons learned**

From these results, it can be concluded that after receiving relevant education and training, nurses have a clearer understanding of the hazards of Type A ADRs to patients. Reporting ADRs can reduce future medical waste and increase patient medication safety.

**Contact:**

MINISTRY OF HEALTH AND WELFARE Keelung Hospital, TAIWAN  
[chingfeng01@gmail.com](mailto:chingfeng01@gmail.com)

## Improving the correct rate of blood transfusion technique for nursing staff in acute psychiatric wards

**LIN Wan-Ting, CAI Chen-Ze, LI Pei-Hua, CHEN Hui-Zhen, LI Ling-May, CHEN Wei-Ta, LIN San-Chi, YAO Wen-Zhen**

**Background and objective**

To improve the correctness of blood transfusion technique of nurses in the unit, and provide patients with more immediate and safe care.

### Methods/intervention

2020, the correct rate of blood transfusion technology in external quality control audit was 75%, which did not reach the 100% threshold of the nursing department, and the correct rate of blood transfusion technology of actual inspection colleagues was only 71.25%. References and according to the decision matrix diagram, use (1) situational simulation teaching, (2) image, color, number association method, (3) double audit mechanism to improve. Using standard homework, guiding the interaction of situational simulations, using objective and standardized assessment tools, reminding and feedback mechanisms, and using moving lines, colors, or formulas for management, etc., and using the simulation teaching method to intervene in learning the knowledge of transfusion reaction management has improved significantly.

### Results

2022/05/15 According to the "Blood Transfusion Technology Correct Rate Checklist" for the post-test results, a total of 10 colleagues actually checked. After improvement, the correct rate reached 100%, and the improvement rate reached 46%, which can effectively improve the correct rate of technical audit. From 2021 to 2022, the correct rate of blood transfusion technology in the external quality control audit of the Nursing Department will reach 100%. It is also suggested that the quality control audit of the Nursing Department be completely changed to use image links to simulate audits in a situational simulation.

### Conclusions/lessons learned

Blood transfusion technology is rare in psychiatric wards. Cross-training in medical and surgical wards is arranged to facilitate the practical operation of colleagues, increase professional ability and nursing experience, and improve the quality and safety of patient care.

### Contact:

MINISTRY OF HEALTH AND WELFARE Keelung Hospital, TAIWAN  
[chingfeng01@gmail.com](mailto:chingfeng01@gmail.com)

## Using quality control circle strategy to improve the awareness rate of medical staff on patients who will be discharged and subsequently received the longterm care 2.0 plan-taking the rehabilitation ward of a hospital in Taipei

**CHIEN Hsu-Min, CHEN Yu-Wei, CHEN Yu-Hua, LIANG Hsiao-Yi, LAI Shu-Chen**

### Background and objective

According to the Ministry of Health and Welfare's top 10 causes of death in Taiwan in 2021, cerebrovascular accidents are the fourth leading cause of death, with a mortality rate of 51.9 per 100,000 populations. The physical damage caused by stroke causes the patient's daily life dysfunction and loss of self-care ability, lead to the physical, psychological and social pain, subsequently resulting in negative thinking and depression of patients.因此後續照顧顯得重要, Therefore, follow-up care treatment on patients is important. Long-term care 2.0 plan was

designed to meet the demand of patients and to reduce the heavy burden of patients' family. The rehabilitation ward of our hospital mainly treats patients with cerebral apoplexy, occupying 80% beds of the ward, but the long-term care referral rate is low at 27.1%. Therefore, we conducted a questionnaire survey on healthcare staff's awareness of long-term care 2.0 for patients discharged from the rehabilitation ward, however the correct rate was only 34.95% and thus patients with potential long term care needs were not easy to be found. Therefore, the quality control circle was used to increase the awareness rate of medical staff on long-term care 2.0, thereby improving the transfer rate of patients in rehabilitation wards to long-term care 2.0

### Methods/intervention

1. From July 1 to 30, 2022, a questionnaire survey was conducted in the rehabilitation ward on health care workers' awareness of long-term care 2.0 medical staffs. 40 questionnaires with 10 non-questions were provided to staffs. 2. Using quality control circles strategy, the medical team was identified the reasons for the low awareness rate of long-term care 2.0 through documentary evidence, analysis of characteristic causes, and true cause verification, proposed improvement measures, and finally confirmed the results.

### Results

Through quality control circle activities, we propose improvement measures to effectively increase the awareness rate of medical staff in rehabilitation wards about long-term care 2.0. The measures include providing explanations and promotion of long-term care 2.0 policies, producing long-term care leaflets, posters and referral process standards, and standardizing long-term care 2.0 information services into an APP and QR CODE cards, which can be scanned by cell phones to obtain information of long-term care 2.0. The rate of long-term care referrals rate increased from 27.1% to 33.2% six months later.

### Conclusions/lessons learned

Post-acute care for patients with stroke is crucial to the rehabilitation of the patient and to reduce the burden of the family members. If health care professionals can provide relevant information and make referrals immediately during the assessment of discharge preparation needs, the patients can receive continues care treatment, thus enhancing their quality of life. In the future, an evidence-based research method can be used as a reference for clinical care.

### Contact:

LIU Hsiang-Yin, TAIWAN  
[b0029@tpech.gov.tw](mailto:b0029@tpech.gov.tw)

## Role of Respiratory Therapists in Quality Improvement

**CHEN Yi-Hui, SUNG Yi-Hsiang**

### Background and objective

In the health professions, good experience of interprofessional collaboration influences the behavior of respiratory therapists in primary health care. Ventilator weaning strategy be discussed by interprofessional collaboration. Good cross-generational teamwork benefits the patient, professional health carers and hospitals.

### Methods/intervention

Respiratory Therapists participate in patient-centered clinical interdisciplinary discussions and research. To enhance international academic vision respiratory therapists participate in continuing education actively. Indicators for quality monitoring of respiratory care in the Pediatric Intensive Care Unit (PICU) by extubation rate and mechanical ventilator days statistics. Staff followship and be trained positive thinking by the words of God weekly to improve effective communication with other medical professionals.

### Results

Interprofessional collaboration meeting reduce the gap of ventilator weaning strategy such as the weaning mode consistency, the tidal volume setting of Bronchopulmonary dysplasia (BPD) in Preterm. By the international online conference and research to explore the influencing factors in very low birthweight infants. The extubation rate and mechanical days remind the ignore bias to modify the weaning ventilator strategy. The harmonious working atmosphere be setup by interprofessional collaboration meeting.

### Conclusions/lessons learned

The core values of Hsinchu Municipal Mackay Children's Hospital are honesty, integrity, humility, and mercy. We seek to love others as we love ourselves and work hard to care for the underprivileged. Integrating the core values of our hospital and role of respiratory therapist to cultivate "patient-centered" and "holistic care" professions.

### Contact:

CHEN Yihui  
Hsinchu Municipal Mackay Children's Hospital, TAIWAN  
[blssinghui@gmail.com](mailto:blssinghui@gmail.com)

## Exploring the examination results of migrant workers' chest X-ray tuberculosis examination re-examination hospital and the treatment of multi-care

HUANG Yu-Hui, LEE Pei-Hsuan

### Background and objective

In response to the demand for labor services and an aging society, Taiwan has introduced foreign migrant since 1989. Taiwan law stipulates that migrant workers must do health care 4 times during 3 years in Taiwan examine. Those who fail to pass the chest X-ray examination need to go to the designated medical institution for re-examination. This article aims to explore the results of the re-examination of migrant workers from 2019 to 2022 as the only re-examination hospital in central and southern Taiwan, and the response to the multicultural care provided to migrants diagnosed with tuberculosis.

### Methods/intervention

The tuberculosis case manager provides multicultural care and care intervention, like explains the test results and assists them to register so that reduce the obstacles in the follow-up medical process. For migrant workers, in addition to explaining the test results, a bilingual health education leaflet including the migrant

workers' native language is also provided to explain the follow-up treatment steps and return consultation process.

### Results

1. A total of 487 migrant workers who came to our hospital for re-examination of chest X-ray tuberculosis examination were ranked by nationality in percentage order: Indonesia (43%), Vietnam (33%), Philippines (9%), Thailand (7%). 2. From 2019 to 2022, the positive rate of re-examination is 16.5%, 9.1%, 10.2%, and 2.9%, Indonesian and Vietnamese is the highest. 3. After the multicultural care provided by the tuberculosis case manager of our hospital, it can be seen that the ratio of migrant workers reporting tuberculosis from 2019 to 2022 staying in Taiwan for treatment is: 12.5%, 50%, 86.6%, 100%

### Conclusions/lessons learned

Providing multicultural care for migrant workers diagnosed with tuberculosis can promote health equality and reduce erroneous awareness and anxiety about the disease. The medical system provides the agency company with the correct knowledge of the disease at the first time, which can enhance the agency company's positive voice in the employer's knowledge of the disease and the retention of migrant workers.

### Contact:

LEE Pei Hsuan  
DITMANSON MEDICAL FOUNDATION CHIA-YI CHRISTIAN HOSPITAL, TAIWAN  
[cych13199@gmail.com](mailto:cych13199@gmail.com)

## Improving the care of new emergency nurses for sexual assault - enhancing the quality of case care

CHEN Shu Nuen, WU Wei Chun, CHUANG Wan Ju, CHANG Meng Ling

### Background and objective

Sexual assault cases are classified as level 1 of TTAS (Taiwan Triage and Acuity Scale), although they have not any physical emergencies, they may have suffered from serious mental trauma. From 2018 to 2022, a total of 147 cases were treated in our unit, new nurses have few opportunities to contact with sexual assault cases and are not familiar with the sampling process. This study, it is designed to allow the new nurses to have better understanding on the content and operation process of sexual assault care, so as to improve the comprehensive care of patients.

### Methods/intervention

The research time is from 2018 to 2022, and the research objects are 11 new nurses in the emergency department within one year. The interventions are as follows: 1. Create a sexual assault work flow chart card with illustration. 2. Provide online video self-study. 3. Carry out situational simulation teaching, combined with role-playing. 4. Conduct teaching satisfaction survey and evaluation after class.

### Results

Improvement of awareness of new nurses on sexual assault cases, better understanding the purpose and process of medical treatment and inspection operations, smoother inspection process, and shorter the inspection time were found. In the

process, we also learn to empathize with patients through case sharing and discussion, and can pay attention to the physical and mental changes of patients at any time and provide care. The completeness rate of the new nurses' inspections reached 94.6%, the self-assessment score of empathy increased from an average of 3 points before the teaching to 8 points after the completion of the course, and the teaching satisfaction reached 100%.

#### Conclusions/lessons learned

Through this teaching activity, We found that new nurses can not only familiarize themselves with the collection and inspection process through video learning and chart-assisted teaching and simulation exercises, but also strengthen the care of physical and spiritual of sexual assault cases, which can indeed strengthen learning effectiveness.

#### Contact:

WU Wei Chun  
Yangming Branch of Taipei City Hospital, TAIWAN  
[tasrdhta414@gmail.com](mailto:tasrdhta414@gmail.com)

## Cross-team optimization of outpatient injection therapy room check-in process

### TSAI Yin-Chih

#### Background and objective

In recent years, consumer awareness has risen and patients have relatively higher standards for the efficiency and effectiveness of medical procedures. Employees also have expectations for the comfort of the working environment and the optimization of complicated procedures. Therefore, the objective was to re-examine and establish a set of safe and efficient nursing procedures to reduce public complaints, increase team efficiency, improve the quality of outpatient medical care and public satisfaction with hospital services.

#### Methods/intervention

1. Reengineer the reporting process in the injection treatment room and revise standard operating procedures. 2. Make a reminder sheet for the injection treatment process and align it with the description of the educational content. 3. Make a health education video on the treatment process after seeing a doctor, and play it on a loop in the waiting area. 4. Collaborate across teams and use intelligent information systems to replace manual operations. 5. Posters are visible at the entrance of the injection treatment room. 6. Organize on-the-job education and training.

#### Results

1. The abnormal incidence rate has been reduced from 10.3% to 1.5%. 2. The number of complaints from patients decreased. 3. Improved service satisfaction.

#### Conclusions/lessons learned

The incidence of abnormalities in the injection treatment room was reduced. When the nurse no longer needs to interrupt the ongoing treatment due to the constant knocking of the patient, the work is more efficient, the patient's waiting time is shortened, the number of complaints is reduced, the nurse's work pressure is reduced, and satisfaction is also improved.

#### Contact:

TSAI Yin-Chih  
National Taiwan University Hospital Yunlin Branch, TAIWAN  
[Y00197197@GMAIL.COM](mailto:Y00197197@GMAIL.COM)

## Poster session 12: Digitalization in health care and health promotion

### Introduction of the experience in applying mobile health applications (mHealth Apps) in the workplace -An Example of the Health Promoting Hospital in Taiwan

### SHEN Chen-Wei

#### Background and objective

In recent years, applications (Apps) have become important tools to solve people's health problems. The paper attempts to evaluate the implementation effectiveness of introducing the mHealth Apps in the medical workplace, and presents the implementation effectiveness as a reference for the hospital's employees in continuously improving their health in the future.

#### Methods/intervention

The tested hospital introduced mHealth App to the employees in the workplace. This App could be installed on the mobile phones and smart wristbands of the employees so as to record their walking records. The App's main practice of collecting points motivated the employees to have positive behaviors. The employees could redeem the collected points for rewards, thus encouraging them to develop good health habits. As a result, a new model of healthy life was demonstrated among the employees in the workplace.

#### Results

1.92.2% of the employees expressed their satisfaction with this health promotion campaign. 2.91.1% of the employees expressed that it was easy to use the Health365 App. 3.86.2% of the employees thought that using the Health365 App could make them healthier. 4.86.4% of the employees thought that through redeeming collected points for rewards, they were even more motivated to exercise and manage their health. 5.As to the effects of the Health365 App on healthy life, 47.8% of the employees expressed that they exercised more often; 33.3% of the employees expressed that they measured health records more often; and 19.0% of the employees expressed that they paid more attention to their diets.

#### Conclusions/lessons learned

Regarding promoting a personal mHealth App to employees in the workplace for use, the App can effectively increase the health knowledge of employees, and also help them have a healthy lifestyle and physical fitness.

#### Contact:

SHEN Chun-Wei  
Kaohsiung Municipal Ta-Tung Hospital, TAIWAN  
[heterosis2011@gmail.com](mailto:heterosis2011@gmail.com)

## Utilization of digital data for “holding health lectures” to promote healthy behavior of local residents

**WADA Eri, WADA Norihiro, HARADA Kazumi**

### Background and objective

In Japan, the certified pharmacy system began in August 2021. Five of the corporation's pharmacies have been certified as Community Collaborative Pharmacies, and are required to actively promote healthy behavior of local residents. In 2019, our corporation began holding health lectures for patients and local residents in order to help them obtain and understand correct information from the wealth of health-related information that is available in our information society.

### Methods/intervention

Our corporation has established a Health Support Committee to study the content and methods of holding health classes so that all pharmacies can provide support in promoting health to local residents. In addition, from 2022, our corporation implemented health lectures utilizing digital data. We will report on this initiative.

### Results

Three health lectures were given in 2019, seven in 2020, eleven in 2021, and eleven in 2022. Before 2020, lectures were given in a group format, but the COVID-19 pandemic from 2019 made it difficult to hold lectures in a group format, so the lecturers created digital data of the lecture content, which was shared with our pharmacies. By sharing the data, the lecture could be viewed by community residents in the waiting rooms of our pharmacies. Participants were elderly people in their 60s to 90s, and there were no young people.

### Conclusions/lessons learned

In today's information-rich society, it is very important for people to acquire and understand correct knowledge. It is also very important for participants to use the knowledge they have acquired for their own health, and to use the opportunity of the health lecture to develop their own interest in health and lead a healthy lifestyle. In the future, we believe it is necessary to organize projects that will allow all generations to participate, not just the elderly. In addition, online services such as Zoom should be utilized so that patients can participate not only in the pharmacy, but also at home or any other location of their choice.

### Contact:

WADA Eri  
Sennsyu medical. JAPAN  
[mymelody.sumomo.0327@gmail.com](mailto:mymelody.sumomo.0327@gmail.com)

## The Development and Achievement of Health Promoting for Breast Cancer Screening in Taiwan

**LAI Yu-Hua, HUANG Ya-Ling**

### Background and objective

In Taiwan, breast cancer ranks first in female cancer incidence rate and second in fatality rate. The five-year survival rate for stage zero and stage one is approximately 94%. More than 60% of stage 0 and stage 1 breast cancer cases are detected through free breast cancer screening. Therefore, it is important to promote regular breast cancer screening and also to provide proper medical treatment procedures to facilitate early cancer detection and treatment. This helps to reduce the mortality rate and the rate of advanced breast cancers. Through the government's provision of free basic breast cancer screening, early detection of the illness is made possible, which helps reduce unnecessary use of medical resources and hence achieving sustainable medical healthcare.

### Methods/intervention

A 42-year-old female with a family history screened for breast cancer during a health examination. She found abnormalities in the right breast, and immediately returned to the clinic to arrange ultrasound slice tests and found unknown tissues around the lesion. At the same time, she also arranged for magnetic resonance imaging to obtain clearer and finer details on the soft tissue images. The result was carcinoma in situ. A surgical local excision of the tumor was performed afterward.

### Results

The combination of breast cancer screening for detection, basic ultrasound examination to confirm the lesion tissue, and magnetic resonance imaging to further confirm the case with clearer and detailed images would reduce the discomfort and the number of return visits of the patients. This improves the patients' willingness to participate in the examinations as well the chance of early detection and treatment.

### Conclusions/lessons learned

The procedure provides an accessible, comprehensive, continuous, preventive and integrated health care for everybody. The clinical data and images from the examinations combined with the doctors' professional medical knowledge would result in timely and effective treatments. Medical resources would also be properly allocated and utilized for each patient.

### Contact:

LAI YU-HUA, TAIWAN  
[j8337a@gmail.com](mailto:j8337a@gmail.com)

## Development and Practical Implementation of NEWS 2 Clinical Application System in Medical Center

**CHEN Chien Min, CHEN Shey-Ying, JERNG Jih-Shuin, CHEN Li-Chin**

### Background and objective

We have been developing and promoting the Clinical Alert System (CAS) since 2006. The CAS has effectively reduced the incidence of first aid for inpatients. However, recent statistics have shown that further reduction is not possible. Therefore, we have built a new system to detect and monitor potential



emergency incidents in hospitalized patients in advance to improve patient safety further.

### Methods/intervention

This system collects real-time physiological parameters from structured nursing records data, generates scoring indicators based on the 2017 version of the National Early Warning Score 2 (NEWS2) using six physiological parameters, and develops a user interface from the perspective of end users. The scoring results are displayed in the patient list on the main screen of the ward operation, allowing medical staff to simultaneously monitor the early indicators and status of all patients in the ward.

### Results

After several cross-team meetings to understand user system requirements, the prototype development of the NEWS2 system was completed in July 2022. The system was launched on October 11, 2022, and received a very positive response from medical staff within two weeks of its launch.

### Conclusions/lessons learned

The system's back-end scores NEWS2 in real time using structured nursing records data and develops the user interface from the user's perspective without increasing their workload. Physiological parameters and total NEWS2 score are visualized in different colors to indicate the risk level, and a trend graph allows users to grasp changes in the patient's condition intuitively. Combined with the effective CAS implemented for many years, the system efficiently controls the patient's condition. It facilitates cross-team communication and handover processes, allowing doctors and nurses to improve patient safety jointly.

### Contact:

CHEN Chien Min, TAIWAN  
[jimmymis@gmail.com](mailto:jimmymis@gmail.com)

## Effectiveness of multimedia tools to optimize health literacy and preoperative preparation in surgical patients

**TSAI Hsaio-Wen, KU Chia-Ling, HUANG Tuz-Wen, LU I-Cheng**

### Background and objective

Primary prevention and health promotion play important role in health-related policy worldwide. A study depicted that 77.8% of patients could feel calm and secure if they had early access to surgical information. The regulations of medical institutions in Taiwan stipulate that preoperative health education should include five major aspects: 1) comprehensive instructions for perioperative care, 2) sensory experience, 3) patient role information, 4) psychological and social support systems, 5) teaching/educating care skills. This program was aimed to enhance the preoperative preparation and health literacy in surgical patients by diversified multimedia education with comprehensive content and high learning motivation. This program was aimed to enhance the preoperative preparation and health literacy in surgical patients by diversified multimedia education with comprehensive content and high learning motivation.

### Methods/intervention

A multidisciplinary team was established to launch a comprehensive improvement to surgical patients from October 2021 : 1. Production and application of professional knowledge scripts: the health educational videos were recorded by professional doctor. We also introduced an interactive robot to demonstrate video with precise preoperative health education. 2. Create an interactive communication platform providing preoperative care information. 3. Optimization of tool convenience: Set up multiple shortcut pathways to obtain QR codes of health education. The primary outcomes were assessed by complete rate of preoperative preparation. We also analyzed anxiety, information demand and satisfaction.

### Results

The outcomes of the program in January 2022 were as follows: Complete preoperative improved from 73.3% to 87.5% at the day before surgery. Preoperative anxiety decreased 56.4% from baseline. Demand for surgery and anesthesia message reduced 64.8%. The satisfaction of surgical service improved 28.8% after the program.

### Conclusions/lessons learned

We concluded that the combination of information technology and health promotion system might enhance the preoperative preparation and health literacy in surgical patients. The multimedia device to deliver precise nursing health education without time and space constraints might be valuable for improvement of comprehensive self-care efficiency.

### Contact:

TSAI Hsiao Wen  
 Kaohsiung Siaogang Hospital, TAIWAN  
[910139@kmu.org.tw](mailto:910139@kmu.org.tw)

## Using the PDCA method to improve the satisfaction scores of elderly APPs courses learning: A case study of courses held during the COVID-19 and influenza pandemic periods

**TSAI Ming-Chi, CHENG Chin-Chia, TSAI Chung-Cheng, YIN Po-Hsun, TSAI Li-Hui**

### Background and objective

With the health of the elderly in mind during the COVID-19 and influenza epidemics, we have planned a series of courses to teach elderly how to use two APPs for making appointments and receiving online medical consultations, with the aim of reducing the risk of infection and increasing convenience through the use of digital tools. Feedback from the elderly was obtained through questionnaires, satisfaction scores, and conversations, and the PDCA method was used to improve the teaching approach.

### Methods/intervention

These courses utilize the PDCA (Plan-Do-Check-Action) method for improvement. The planning (Plan) stage involves developing courses that address the challenges posed by the pandemic. The execution (Do) stage involves delivering the courses, while the checking (Check) stage involves gathering feedback through surveys, satisfaction scores, and conversations with elderly to

make course modifications. The improvement (Action) stage involves addressing areas where feedback from elderly was suboptimal.

### Results

After adjusting and revising the arrangement and implementation of the courses based on the feedback, the average satisfaction score for 12 sessions was 82.5 for four sessions, while the remaining sessions received a score of 100.

### Conclusions/lessons learned

Based on the feedback from the elderly, the problems encountered during the courses and corresponding strategies are summarized as follows: 1. Elderly found it difficult to absorb the courses content: Due to their limited knowledge of information technology, the instructor had to use simple language and shorten the lecture time while increasing the time for practical exercises. 2. Lack of opportunities and partners for elderly to practice: These courses arrange for elderly to practice with each other, while having instructors and assistants on hand to immediately address any confusion or questions from the elderly. After the courses, some elderly expressed their interest in learning bus schedules or photography-related APPs, as well as medication safety-related APPs for healthcare services. We believe that our teaching approach have made it easier for the elderly to learn.

### Contact:

TSAI Ming-Chi, TAIWAN  
[maxima.work@gmail.com](mailto:maxima.work@gmail.com)

## Genogram Systems: Enhancing Medical Services Through Comprehensive Patient Data Collection

**HAN Chia-Yeuan, CHENG Shu-Fang, CHIH Pei-Jyun, TSAI Chung-Cheng**

### Background and objective

A genogram can display an individual's family members and their relationships, including marital status, parent-child relationships, and more. In the medical field, healthcare providers can use a genogram to understand a patient's family history and even identify potential genetic diseases to prevent their occurrence. However, creating a complete genogram is time-consuming, and different medical personnel may use different icons or standards to create a genogram. Therefore, an integrated genogram editing system is necessary for clinical use.

### Methods/intervention

To establish rules for creating a genogram, we held several meetings with doctors and summarized standards for node symbols, disease colors, and other factors. Our genogram editing system provides a default template that includes patient and parent nodes at the beginning, and it can accommodate an unlimited number of layers of relationships, meaning that users can include as many generations as desired. Additionally, the system includes a range of functions such as the ability to add up to four different diseases per node, add or remove parents, siblings, spouses, and children with a single click. The system also features a gender swap function that enables medical personnel

to set a node's gender freely. To ensure data reusability, we structured the genogram's data.

### Results

Since implementing the system, over 42 inpatient departments have been using it to create and export genograms. The average time required to create a genogram has decreased from 38 seconds to 10 seconds. The amount of time required is heavily dependent on the complexity of the genogram. Data shows that genograms, created by medical personnel, have become more complex after implementing the system.

### Conclusions/lessons learned

Genograms allow medical personnel to understand the patient's medical history and discover potential genetic diseases. By using this system, medical records become more complete due to its convenient features. The more information stored in the genogram, the easier it is for medical personnel to care for their patients, which helps improve the quality of medical services.

### Contact:

HAN Chia Yeuan  
 Kaohsiung Medical University Hospital, TAIWAN  
[hoganhankmuh@gmail.com](mailto:hoganhankmuh@gmail.com)

## Improving the efficiency of the electronic shift system for nursing staff to shorten the shift time

**WU Jin Jen, WENG Wei Ya, TU Min-Chi, HUANG Li Ching, CHEN Shu Nuen, TSAI Yi Fan**

### Background and objective

The unit is a general ward of a regional teaching hospital in Taipei City, Taiwan, with a total of 32 beds and an average bed occupancy rate of 83.91% from January to September 2022, with inpatients mainly diagnosed with medical diseases and 21 nursing staff. Since October 2022, the shift change from paper-based to electronic shift change system has been observed to be too long, with an average shift change time of 50 minutes. The reasons for the analysis are: unfamiliarity with the interface of electronic nursing shift operation, the difference between the traditional shift sequence and the electronic nursing shift system, and the cumbersome interface of electronic shift, which makes it difficult for self-exploration and learning to grasp the key points of shift, resulting in a long shift time; through the activities, we hope to establish a standardized shift communication strategy to improve the use of the shift system and become more familiar with the operation of the electronic shift system to improve the shift time.

### Methods/intervention

The proposed strategies are as follows: 1. Making a handover textbook base on the ISBAR handover regulations. 2. Making a flow chart for a handover. 3. Standardising handover by generating a mnemonic- from left to right, and from up to down. 4. Holding in-service education 5. Creating a QR code with a standardized protocol of a handover using multimedia materials and posting the QR code in the unit chatbox.

### Results

In December 2022, 21 nursing staffs were evaluated, and the average shift handover time was reduced from 50 to 30 minutes, and the satisfaction rate for improving shift handover operations was increased from 60% to 90%.

### Conclusions/lessons learned

It could take less time for a nursing handover and boost the efficiency of nursing work by making a textbook, making a mnemonic, holding in-service education, making a standardized protocol by multimedia materials, standardising contents and protocol for a handover, and simplifying handover notes. Therefore, this presents teaching materials for new hospital staff and may be promoted to all wards and interns in parallel.

### Contact:

WU JIN JEN

Taipei City Hospital YangMing Branch, TAIWAN

[B1899@tpech.gov.tw](mailto:B1899@tpech.gov.tw)

## Efficiency of the implementation of teledermatology consultations in Primary Care versus conventional dermatology consultations in the hospital

**LÓPEZ-VILLEGAS Antonio**

### Background and objective

Telemedicine has proven to be an effective tool to improve the remote monitoring of patients with health problems. Due to the visibility of dermatological conditions, dermatology is the most suitable clinical specialty for telemedicine. Therefore, the aim of this study was to perform an analysis based on the efficiency of teledermatology (TD) consultations in Primary Care compared to conventional monitoring performed in face-to-face (F-F/D) dermatology consultations in the hospital.

### Methods/intervention

This was a randomized, controlled, unblinded, multilevel, multicenter study. During the 6-month follow-up, data were collected from 450 patients (TD: 225 vs. F-F/D: 225). A cost-utility analysis was conducted to determine whether TD units are cost-effective in relation to cost per quality-adjusted life-years (QALYs), from the perspectives of the Public Health System (PHS) and patients.

### Results

During the 6-month follow-up, from the PHS perspective, patients in the TD group gained 0.05 QALYs more than patients included in the F-F/D group. In addition, TD reduced costs by 53.04% ( $p < 0.001$ ) per participant. Hospital visits decreased by 72.43% in the TD group. From the patients' perspective, TD reduced costs by 77.59% ( $p < 0.001$ ). The cost per QALY was 63.34% higher for patients in the F-F/D group than for those in the TD group. Finally, patients included in the TD group saved 56.34% compared to patients in the control group ( $p < 0.001$ ).

### Conclusions/lessons learned

The results of this cost-utility study revealed that the implantation of TD units was associated with significant cost savings from the perspective of PHS and patients. Therefore, TD

units appear to be a significant cost-effective alternative to conventional in-hospital monitoring.

### Contact:

LÓPEZ-VILLEGAS Antonio

FIBAO - CIF G18374199. SPAIN

[antoniolopezvillegas@hotmail.com](mailto:antoniolopezvillegas@hotmail.com)

## Poster session 13: Monitoring, implementation and evaluation

### Effectiveness of Emergency Medical Staff in the Prevention and Management of High-Risk Violence

**HUANG Yi-Ling, HUANG Hsiu-Yen, YU Su-Hsia, CHUO Ying-Hsiang, HSU Tzu-Chuan, HUANG Hui-Ting**

### Background and objective

Violence against healthcare workers is a major issue in healthcare organizations. Studies pointed out that if the hospital had built a mechanism to identify high-risk patients, it would effectively reduce the occurrence of emergency violence by making advance prevention and preparedness for people who may potentially be violent.

### Methods/intervention

This project aimed to improve emergency medical personnel's ability to prevent high risk of violence and respond to violent incidents. In May 2022, the risk assessment of violence in the emergency department and the handling procedures for violence prevention was revised based on the literature. A violence risk assessment (Brøset Violence Checklist, BVC) and preventive measures were added. Simulation drills of medical violence incidents were held. The BVC assessment process into the decision support system in September 2022 was imported. When triage personnel encountered a high-risk hospital visitor, the system immediately prompted medical personnel to perform BVC assessment and prompted necessary protective measures based on the assessed risk level.

### Results

From May to August 2022, the completion rate of emergency BVC assessment required for improvement was 76.6%. The average score of learning effectiveness in the aspect of knowledge and ability had been significantly improved from 86.7 points to 98.5 points. After the decision support system was launched, the completion rate of BVC assessment increased dramatically to 100% (September to December). The BVC assessment results showed that there were 41 people with high risk. The completion rate of violence prevention care was 100%; no medical violence occurred during the period.

### Conclusions/lessons learned

By developing emergency violence risk assessment and violence prevention procedures, combined with the information system, emergency medical personnel can improve the completeness of care and the effectiveness of systematic monitoring implementation through the system's decision-making assistance function.

**Contact:**

HUANG HSIU-YEN  
Taiwan Adventist Hospital, TAIWAN  
[dodo112408@hotmail.com](mailto:dodo112408@hotmail.com)

## National Patient Satisfaction Assessment - Improvements

**STEJSKALOVÁ Veronika, HYNŠTOVÁ  
Lenka**

**Background and objective**

Monitoring patient satisfaction is a legal obligation of every provider of inpatient health care in the Czech Republic and is a very important indicator of the quality of health care. From 2020, our aim is to unify the monitoring of this indicator at the national level and to continue to develop the National Assessment of Patient Satisfaction project.

**Methods/intervention**

In 2020, the Ministry of Health, in cooperation with leading experts on the quality and safety of health care, launched the National Assessment of Patient Satisfaction project and thus created a unique platform for monitoring and measuring patient satisfaction. The questionnaire is filled out by all patients of all population groups who spend at least 1 night in hospital. Participating hospitals will thus receive a validated tool for monitoring the quality of healthcare and detailed analyzes in a convenient online form, all for free.

**Results**

After three years, we are able to provide a fully functional online management tool. The number of participating hospitals is growing significantly every year. Participation is free and voluntary. This year, we are already developing a significant upgrade, i.e. extending the questionnaire survey to outpatient patients of these hospitals.

**Conclusions/lessons learned**

We are constantly trying to improve the project so that it offers quality managers a comprehensive tool for monitoring patient satisfaction. Proof of our success is the ever-increasing number of participating and satisfied hospitals, which we hope will continue to grow.

**Contact:**

STEJSKALOVÁ Veronika  
Ministry of Health, CZECH REPUBLIC  
[veronika.stejskalova@mzcr.cz](mailto:veronika.stejskalova@mzcr.cz)

## A study on the rate of return visits for cases of abnormal health examination images—Taking a regional teaching hospital in Taiwan as an example

**CHEN Mei Tsu, LIU Tz Jie, CHEN Wen  
Chun, LIN Chin Yeh**

**Background and objective**

In 2019, due to the rapid aging of the population and unhealthy lifestyles in recent years, the number of cancers has continued to rise. During health checkups, the public uses computerized tomography, ultrasound, and endoscopic equipment to detect whether there are lesions or structural abnormalities in the body, which can detect cancer factors and hidden diseases early, avoid missing the golden treatment period, and detect adverse effects early. The study pointed out that based on patients' positive recognition of medical service providers, good medical service quality after medical services will improve customer satisfaction, which in turn affects patients' willingness to seek medical treatment again. Follow-up is an element of reducing the chance of suffering from a disease, preventing the disease from worsening, and providing health promotion methods such as health education. Therefore, effectively improving the return rate of customers with abnormal health check images is important to maintaining good health.

**Methods/intervention**

Use Business Intelligence (BI) to collect, manage and analyze the results of abnormal return visit rate of health examination images, transform the data into geographical maps of abnormal diseases and valuable research data, so that decisions can be followed by statistical data.

**Results**

The results showed that among the 7274 cases of retrospective medical records, there were 1026 cases with abnormal examinations, including 497 cases with abnormalities in 640 slices of computer tomography. , the improvement rate was 19.5%; 420 people had abnormal ultrasound examinations, the improvement rate was 60.5% ; 109 patients had abnormal upper gastrointestinal endoscopy, and the improvement rate was 18%.

**Conclusions/lessons learned**

Analyzing the abnormal data of the health examination through Business Intelligence (BI) and Excel statistical software, professional health management implements countermeasures to implement the PDCA rule in the tracking of cases of abnormal health examination images, actively and quickly notify customers to report abnormalities.

**Contact:**

CHEN Wen Chun  
St. Martin De Porres Hospital, TAIWAN  
[babka.shermie@msa.hinet.net](mailto:babka.shermie@msa.hinet.net)

## Evaluation of the 4th National Health Plan 2020(2011-2020) Performance Over 10 Years

**LEE Yeran, LEE Hyojung, YANG Yunhee,  
OH Yumi**

**Background and objective**

In Korea, National Health Plan, which is a policy to guide national health promotion and disease prevention, is developed every 10 years; HP2030 was released as the 5th plan in January 2021. This study aimed to evaluate the achievement progress and health equity of the 4th National Health Plan(HP2020) over the past 10 years.

### Methods/intervention

19 Leading Health Indicators(LHIs), out of a total of 369 indicators, were analyzed for their achievement. To quantify the progress toward HP2020 targets, the degree of achievement was calculated for indicators which were moved toward their targets; and the magnitude of the percent change from baseline was used for indicators moved away from their baselines and targets. In addition, to evaluate the performance on health equity, 54 indicators related to the health disparity and the gap based on income, region and gender were analyzed.

### Results

Among 19 LHIs, 11 indicators(57.9%) were moved toward their targets(achieved or improved); and 5 indicators(26.3%) were moved away from their baselines and targets(deteriorated). Meanwhile, out of 54 indicators associated with health equity, 34 indicators(63.0%)'s health disparities decreased(improved); and 15 indicators(27.8%) showed increased(deteriorated). In particular, non-communicable diseases(NCDs) indicators, such as the prevalence of hypertension and diabetes, have deteriorated, especially in low-income populations.

### Conclusions/lessons learned

According to the results, the targets of NCDs indicators were adjusted and the action plan to reduce the prevalence was designed in HP2030. Sustainable monitoring and evaluation system should be strengthened, in order to achieve the goal of this long-term health promotion policy, "Extending healthy life expectancy and promoting health equity". Grounded in the system, evidence-based policies should be established, and furthermore, policies reflecting the opinions of government departments, experts, and the public should be implemented.

### Contact:

LEE YE-RAN

Korea Health Promotion Institute, KOREA

[yr123@khepi.or.kr](mailto:yr123@khepi.or.kr)

## An Iterative Quality Improvement Process and Business to Human (B2H) Model Improves Discharge Efficiency

HUANG Su-Ling, CHANG Pi-Yu

### Background and objective

The research is to probe the related factors of hospitalized patients using different payment systems at discharge from hospital in term of Business to Human (B2H) model, in order to improve discharge efficiency, to avoid impacting hospital flow and to prevent hospital crowding from happening.

### Methods/intervention

Analyzing implementation dilemma and opportunities for improved discharge efficiency were identified by using the SIPOC diagram and incorporated the PDCA cycle method into the improvement project by Business to Human model. Otherwise, iterative quality improvement interventions were focused on altered physician workflow, standardized discharge checklists, and actively promoted the multiple payment system services at the nursing station.

### Results

1982 inpatients at discharge in 2021 were included as the research objects. After implementation of the PDCA cycle, the utilization rate of inpatients choosing "One-Stop Discharge Service at the Nursing Station" was significantly increased from 20.3% to 36.2%( $P<0.005$ ). The effect of the project on the internal medicine patients is the most significant ( $P<0.005$ ).

### Conclusions/lessons learned

With this study, we support that an iterative quality improvement (QI) process improved discharge efficiency through comprehensively establishing and actively promoting the multiple payment system services at the nursing station. Through the implementation of lean project and the establishment of Business to Human (B2H) strategy, discharge procedure was simplified to reduce the waiting time for discharge, thereby improving the quality of service, turnover rate of hospital beds, and patient's safety.

### Contact:

HUANG Su-Ling

Kaohsiung Municipal Siaogang Hospital, Kaohsiung Medical University, TAIWAN

[nancyhuang1013@gmail.com](mailto:nancyhuang1013@gmail.com)

## Promoting Environmental Radiation Health and Sustainability: The Case of Taiwan

YOU Jian-Wei, KAO Yu-Yun

### Background and objective

Radiation has diverse applications, but human activities like nuclear power, research, waste disposal can increase radiation levels, harming health and ecology. Global efforts are needed to promote environmental radiation health and sustainability. Measures include strict regulations, reduced emissions, monitoring, and understanding radiation's overall impact. Emergency response drills and public education can also raise awareness in nuclear or medical facilities

### Methods/intervention

To promote environmental radiation health and sustainability, strict regulations, accurate monitoring, emergency preparedness, waste reduction, collaboration, and education are essential. These measures can help prevent harm to human health and the environment, mitigate risks, develop effective strategies, and promote responsible behavior.

### Results

A sound regulatory framework, regular monitoring, science education, and industry-academia cooperation can promote excellent environmental radiation health and sustainability.

### Conclusions/lessons learned

In promoting environmental radiation health and sustainable development, we need the joint cooperation of the government, enterprises, academic community, and the public in a multi-party collaboration mode. Through this approach, we can protect public health and safety while promoting environmental radiation health and sustainability.

**Contact:**

KAO YU-YUN

Kaohsiung Municipal Ta-Tung Hospital, TAIWAN

[teresa87370@gmail.com](mailto:teresa87370@gmail.com)**A regional hospital uses a smart mattress (bed-exit alarm) to reduce the effectiveness of patient falls****CHUNG Yu-Ting, CHU Shioh-Ling, LEE Shu-Chiung, YANG Li-Chiung, LIN Xin-Yu****Background and objective**

Preventing patient falls and reducing the degree of injury are important indicators of medical quality and patient safety. This unit is a post-acute care ward of a regional hospital. In 2021, the incidence of falls in this unit was 0.11%, which is higher than the threshold value of 0.08% in this hospital. In the absence of a caregiver, the system can alert the patient who is about to leave the bed, so that the nursing staff can provide timely assistance to reduce the incidence of patient falls.

**Methods/intervention**

(1) Formation of project team and division of labor. (2) Introduction of smart mattress operation. (3) Educational training on the smart mattress care system. (4) Formulation of the standard procedure for using the smart mattress to patients who has potential risk of falls. (5) Monitoring of the correctness for using of the smart mattress.

**Results**

(1) From 2022/5/1-12/31, the correct rate of bed release reminder setting of the smart mattress for high-risk fall patients was 95%, starting from October 2022, it was further improved by automatic linking the NIS assessment with the bed release setting for potentially dangerous fall patients. (2) From 2022/5/1-12/31, there were 9 fall incidents, 3 of the 9 falls were related to the smart mattress and they were found that the alarm sounded frequently during the daytime since the patients got out of bed and the nursing staff would adjust the alarm sound or even turned off the system, thus ignoring the fact that the patients had left the bed by their own.

**Conclusions/lessons learned**

To enhance the ability of nursing staff to detect bed alarms immediately upon leaving the nursing station, a new APP which was launched and installed into the official cell phone in Feb 2023, the phone was carried by the nursing staff for immediate notification of alarms. The combination of smart technology and the provision of multi-directional fall prevention care guidance for patients will reduce the incidence of inpatient falls effectively.

**Contact:**

CHUNG YU-TING

Taipei Municipal Guandu Hospital, TAIWAN

[ytchung@gandau.gov.tw](mailto:ytchung@gandau.gov.tw)**Using information technology system to improve the accuracy of blood sample collection in wards****CHUNG Yu-Ting, CHU Shioh-Ling, LEE Shu-Chiung, WANG Chia-Jen, HUANG Chien-Yen, YANG Li-Chiung****Background and objective**

Blood sample examination can assist doctors in disease diagnosis and treatment. Any mistakes in the process will affect the rights and safety of patients and increase medical costs. In this ward, the blood sampling process spans three shifts, it is complicated and manual verification is prone to errors. During 2022/3/23-4/5, observed nurses in process of collecting blood samples and issue questionnaire of satisfaction to those staff. Find out that, the correct rate of blood sample collection was 73.6%. It took an average of 15 minutes to collect samples from a patient. Nurses were only 70% satisfied with blood sampling process.

**Methods/intervention**

Develop a blood collection ITALY system with smart nursing trolley for blood sample collection. When the nurse collects blood, after clicking on the sampling system, then scan the barcode from armband to check the patient's identity. The system automatic prompts the sample tube and blood volume required for the examination. Following, the patient's label sticker will be printed out to apply on sample tube then the blood test can be performed. After the system is utilized, the improvement team members collect and analyze the result data by actual observation.

**Results**

From 2022/9/1-12/31, the correct rate of blood sample collection was rose to 100%, 100% target achievement rate. The inspection time is reduced to 8 mins/person. It not only improves patient safety and reduces medical costs, but also increases the nurse's satisfaction of the inspection rate to 95%.

**Conclusions/lessons learned**

Importing ITALY collection system is actually improved blood collection process, and effectively improves the accuracy of inspection and shortens the inspection time. In the future this system will be used in non-blood sample collection. Comprehensively improve the quality of sample work to ensure patient safety.

**Contact:**

CHUNG YU-TING

Taipei Municipal Guandu Hospital, TAIWAN

[ytchung@gandau.gov.tw](mailto:ytchung@gandau.gov.tw)

## Evaluation of the implementation of health promotion standards in the Catalan HPH Network

**JUVINYÀ Dolors, SANTIÑÀ Manel, PÉREZ Anna-Carol, BERTRAN Carme, CARBONELL Silvia, TARBAL Arian, SIMÓN Rosa, ARÉVALO Maribel**

### Background and objective

The Catalan Health Promoting Hospitals Network (HPH-Cat) is integrated by 29 health organisations. Since 2009, the Health Promotion Standards Working Group has been working to facilitate the implementation of the health promotion standards developed by the International HPH Network to influence the governance models of health organisations in Catalonia. The aim of the study is to translate and adapt the international standards to the Catalan context and evaluate the standards implementation in Catalan hospitals.

### Methods/intervention

Members of the Health Promotion Standards Working Group were the responsible to translate, adapt and evaluate the implementation of the standards.

### Results

In 2006, international HPH standards were translated and adapted to the Catalan context, and the Health Promotion Standards Working Group evaluated the implementation in the majority of Catalan hospitals. In 2015, mental health standards were developed in Girona. In 2016, a review and update of the International HPH was developed, as well as an evaluation of HPH-Cat members. In 2018, a proposal was prepared for the Accreditation Service of the Catalan Department of Health, prioritising the standards considered most relevant for incorporation into the model. Finally, eight standards have been incorporated into the Hospital Accreditation Model of the Catalan Department of Health.

### Conclusions/lessons learned

HPH-Cat has proposed the inclusion of HP standards in health organisations in the Catalan Strategic Plan as a driving force to reorient themselves towards HP. HP Standards Working Group has been crucial to reach this goal. The approach to the evaluation of health promotion contributions to wellness-oriented health care should be based on the definition of standards and their application.

### Contact:

JUVINYÀ Dolors  
University of Girona, SPAIN  
[catedrapromociosalut@udg.edu](mailto:catedrapromociosalut@udg.edu)

## Effectiveness of Enoxolone on oral conditions of patients with periodontal surgery

**LIN Chiu-Yen, HSU Hsin-Tien, HU Kai-Fang, CHOU Yu-Hsiang, TU Hung-Pin**

### Background and objective

The 18 $\beta$ -glycyrrhetic acid (BGA) is a bioactive compound in licorice that exhibits potential anti-ulcer, anti-inflammatory, and anti-microbial activities, but few clinical trials have evaluated its clinical effectiveness. We aimed to evaluate the effectiveness of Enoxolone on oral conditions of patients with periodontal surgery.

### Methods/intervention

This study is a randomized controlled trial. The research object was a periodontal clinic of a medical center, adult patients diagnosed with severe chronic periodontal disease who needed to perform periodontal surgery were randomly assigned to two groups, the experimental group was BGA-containing (Enoxolone) toothpaste, and the control group for BGA-free (Sensodyne) toothpaste, was used three times a day to clean the mouth. Clinical evaluation was using the patient-reported pain score, painkillers, wound healing index (complete epithelization and color matching score), periodontal pocket depth, gingiva index, plaque index and were recorded before operation and 1st, 2nd, 3rd, 4th, 8th, 12th week after operation. Data set performs repeated measures for the change in mean differences by using the generalized linear model.

### Results

There were 27 participants in this study, the median age of patients was 48 (interquartile range 41-59) years, The study group consisted of 15 subjects who received BGA-containing toothpaste, and the other 12 control subjects who received BGA-free toothpaste. There was no statistical difference in the pain score, the number of painkillers taken one week after operation, and wound healing index, periodontal pocket depth, gingival index in each observation period. There were significant differences in the plaque index between the two groups, which improved significantly in 2 weeks ( $p=0.0063$ ), 3 weeks ( $p=0.0003$ ), 8 weeks ( $p=0.0462$ ). There were no adverse events in either group.

### Conclusions/lessons learned

The use of BGA-containing toothpaste may slightly contribute to postoperative plaque control in periodontal surgery patients.

### Contact:

LIN CHIU-YEN  
Kaohsiung Medical University Hospital, TAIWAN  
[1000105@KmuH.org.tw](mailto:1000105@KmuH.org.tw)

## Effectiveness of using VIVIFRIL exercise intervention in cancer-related pain ~ Taiwan experience

**CHEN Wen-Hsiu, LIAO Ying Min**

### Background and objective

Cancer pain and discomfort symptoms are negatively correlated with patients' quality of life. In Taiwan, vivifrail is currently mainly providing for community and hospital interventions to prevent frailty and falls in the elderly. By assessing 19 common discomfort symptoms of cancer pain, a simple and comprehensive assessment scale, the severity of pain symptoms and the performance of life functions of patients are analyzed.

**Methods/intervention**

Use the digital video mode to alleviate the discomfort symptoms of cancer pain patients, use the ability of the executive interventionist to evaluate the intervention object through SPPB in the outpatient clinic, and give different exercise plans according to different abilities, at least 30 minutes of vivifrail exercise every day for 12 weeks.

**Results**

In 2021, after excluding the admission conditions, the total number of cases will be 188, 64% of GI cancer pain will be relieved, 18% of GYN cancer pain will be relieved, and 18% of Chest cancer pain will be relieved. Pain populations were assessed.

**Conclusions/lessons learned**

The relief of pain is quite a subjective and direct response. After the intervention of vivifrail exercise, the pain and related discomfort symptoms are also relieved correspondingly by the evaluation tool of pain symptom interference. In the future, the main case will be evaluated for digestive tract cancer. The vivifrail movement is worthy of development and promotion in pain management, in order to provide patients with integrity, continuity, professionalism and integrated quality of medical care.

**Contact:**

CHEN Wen-Hsiu, TAIWAN  
[amababy8088@gmail.com](mailto:amababy8088@gmail.com)

## Poster session 14: COVID-19 lessons learnt; preparing for pandemic and crises I (staff, organization)

### Examination of clinical stress in physicians at a teaching hospital during the COVID-19 pandemic: a case study of a medical center in southern Taiwan

YEH ShuTing, TSAI YiChun

**Background and objective**

This study aims to clarify the relationship between workload, job fatigue ("burnout"), depressive tendencies, and job satisfaction in physicians at a teaching hospital, also looking at whether gender, age, marital status, education level, years of experience, type of role (supervisory or teaching), teaching responsibilities, and salary level affect depression and fatigue severity.

**Methods/intervention**

This study used the Chinese Copenhagen Burnout Inventory (C-CBI) to evaluate burnout, which is based on the Copenhagen Burnout Inventory that is broadly considered valid and reliable. A 5-point Likert scale was used for all items in the C-CBI. The analysis was performed jointly with an evaluation of depression levels, using an index based on the Taiwanese Depression Scale by the John Tung Foundation. These scales were used to

investigate the psychological health of medical staff, enabling detection of mental stress and psychological hazards causing depression in their daily work as early as possible such that depression and suicidal behaviors can be monitored and prevented.

**Results**

Burnout in physicians negatively affects clinical performance. Attending physicians simultaneously play the roles of patient caregiver and instructor, and thus the negative effects of burnout on their performance may worsen patient prognoses and affect training quality for other physicians. Our study showed that 34% of physicians with teaching roles and 28.7% of internists have experienced burnout.

**Conclusions/lessons learned**

Studies have shown that long work shifts increase depression and anxiety, decrease cognitive function, and cause sleep disorders. Long periods of fatigue are detrimental to medical diagnoses and affect the physical and mental health of medical staff, which further affects patient care quality and interpersonal relationships (C. Taylor et al., 2007).

**Contact:**

YEH ShuTing  
 Division of Hematology and Oncology, Kaohsiung Medical University Hospital, TAIWAN  
[970178@kmu.h.org.tw](mailto:970178@kmu.h.org.tw)

## Employing Diverse Strategies to Reinforce COVID-19 Prevention Measures in Psychiatric Hospitals

LUOLAI Wenyu

**Background and objective**

Use diverse strategies to reinforce the implementation of COVID-19 prevention measures in psychiatric hospitals to lower the risk of infection.

**Methods/intervention**

The project ran from November 2020 to March 2021 with 48 patients in total. Patients' hygiene practices such as washing hands, wearing masks, and social distancing were studied before the project started. We used fishbone diagrams to analyse factors that affect accomplishing pandemic prevention measures and then the Pareto chart to identify improvable problems. The strategies to be employed include the link method, partnership system, alternate commute routes, alternate work-in-office workflow as well as increasing the amount of health education lessons and marking the indoor social distance to avoid gatherings. We then analysed the rate of progress and implementation once the project ended.

**Results**

Before: washing hands 45%, wearing masks 55%, maintaining social distancing 23%, and completing pandemic prevention measures 42%. After: washing hands 73% with a rate of progress of 49%, wearing masks 86% with a rate of progress of 56%, maintaining social distancing 36% with a rate of progress of 57%, and completing pandemic prevention measures 65% with a rate of progress of 54%.



### Conclusions/lessons learned

Complying with government policies and the internal principles of infection control, we integrated pandemic prevention measures into daily activities so that chronic psychiatric patients can stay in good health and keep their home safe. In order to continuously improve the quality of pandemic prevention as well as keep patients healthy, our team has set a higher goal of target value, rate of progress, and fill rate. Therefore, the pandemic protocols are still ongoing.

#### Contact:

LUOLAI WenYu  
Bali Psychiatric Center, Ministry of Health and Welfare, TAIWAN  
[7346@balipc.gov.tw](mailto:7346@balipc.gov.tw)

## The assisting role of hospitals in response of COVID-19 cluster infections in long-term care facilities.

WU Yi-Chen, CHEN Mei-Ju

### Background and objective

Under the Coronavirus disease (COVID-19) epidemic, the hospitals and the long term care facilities (LTCFs) are both the important parts in the policy over all epidemics. In 2021 of Taiwan, the hospital becomes the helper by integrating information and communication to provide a systemic and complete service chain between government and facilities. This article will share the experience and discussion of the cooperation process of our hospital and LTCFs, including prompt assistance of the screening tests and the settlements of residents, prevention evaluation etc... during the cluster infection of the LTCFs.

### Methods/intervention

In July 2021, our hospital received a notification from the Department of Health regarding a suspected cluster infection at a long-term care facility in Taipei City. The hospital immediately activated the integrated coefficient process and helped the long-term care facility to assist with PCR testing, the placement of all personnel et al. We assisted the care of all residents in hospital to stable condition until the facility had been settled to qualify the epidemic prevention standards. We also documented the patterns of the epidemic prevention standards from CDC and evaluated the possibility that hospital might assist the further prevention to both the facility and the hospital in the future.

### Results

The hospital assisted to settle 38 residents including four positive cases, one positive nursing staff and one positive caregiver. According to the literature review table, the hospital realize it was possible to assist in approximately 10 prevention measures for cluster outbreaks of LTCFs, such as conducting thorough screening or testing for COVID-19 among staff, assisting in establishing mechanisms for regular screening and vaccination of staff, assisting in having at least one certified full-time infection prevention specialist, and incorporating palliative care, among other measures.

### Conclusions/lessons learned

This study summarizes the hospital roles to assist the institutions to have in place for epidemic prevention based on recommendations from the literature. Hospitals can assist not

only the treatment of disease but also provide the further concept of cooperation including palliative care et al for the COVID-19 residents.

#### Contact:

WU Yi Chen  
Taipei City Hospital, TAIWAN  
[1520wu@gmail.com](mailto:1520wu@gmail.com)

## Impact of COVID-19 outbreak on the negative emotional response in Taiwan's hospital nurses using structure equation model

KUO Hsien-Hua, LIU Yi-Der, KUO Hsien-Wen

### Background and objective

With the ever-growing number of confirmed and suspected covid-19 cases, the workload of healthcare workers (HCWs) has been overwhelming. Even the pandemic has incrementally slow down, the mental impacts for hospital nurses still needs to assess. This study investigate the impact of COVID-19 outbreak on the negative emotional response in Taiwan's hospital nurse.

### Methods/intervention

A cross-sectional study was conducted in a public hospital. 421 nurses filled out a web-questionnaire including demographics, job characteristics, impact of COVID-19, workload, burnout, and Depression Anxiety Stress Scales. The Questionnaire was modified and composed of commonly reported experiences of intrusion and avoidance (Horowitz & Alvarez, 1979). This DASS questionnaire is designed to measure three related depression, anxiety, and tension/stress. Structure equation model (SEM) was used to elaborate the association between negative emotional response with impact of COVID-19, workload, and burnout among nurses.

### Results

There are significant difference in the three job titles on impact of COVID-19 and negative emotional response. Negative emotional levels were significantly correlated with impact of intrusion domain ( $r=0.511$ ,  $p<0.01$ ) and avoidance domain ( $r=0.515$ ,  $p<0.01$ ). Using hierarchical regression revealed negative emotional levels were significantly explained by impact of intrusion domain ( $p<0.01$ ) and avoidance domain ( $p<0.01$ ). Similarly, negative emotional levels were significantly explained by impact of intrusion domain ( $p<0.05$ ) and avoidance domain ( $p<0.01$ ), which indicated dose-dependently.

### Conclusions/lessons learned

In this study, hospital nurses faced to impact of COVID-19 event reported severe and extremely severe experience negative emotional levels. Overall, our findings demonstrate the necessity of special emergence programs for the impact of event with emerging infectious disease to promote mental health for healthcare workers.

#### Contact:

KUO Hsien Hua  
Tao yuan General hospital, TAIWAN  
[hkh0401@yahoo.com.tw](mailto:hkh0401@yahoo.com.tw)

## Improving Data Upload Reliability and Efficiency in Healthcare Institutions during COVID-19 through Self-developed Middleware

**CHANG Hao-Chih, CHENG Chien-Hung, CHEN Jo-Fan**

### Background and objective

During the COVID-19 pandemic, hospitals faced significant pressure and challenges in uploading testing data within a short period of time due to the requirements from higher authorities. The accuracy and success rate of data transmission at different nodes were difficult to determine at the early stage, and hospitals had to wait for notifications from higher units or the National Health Insurance Administration to learn of any data issues, which was inconvenient for frontline workers.

### Methods/intervention

Through the development of a middleware, hospitals were able to judge the transmission status of data at different nodes and classify them into two major types, Q1 and Q2 problems. By utilizing a program warning mechanism to monitor abnormal nodes for Q1 and Q2, the reliability and efficiency of data uploading could be improved, and problems could be detected and solved more quickly. The middleware sent emails and text messages to relevant personnel to provide timely information, allowing frontline workers to quickly resolve any data abnormalities.

### Results

On July 14, 2022, the middleware received a text message and email notification stating "PCR report uploaded to Gateway for over one day, still in Gateway!!!" The reason was found to be a Q1 problem due to eligibility issues. The solution was for the testing unit to add "Class B-Reagents" to the uploadable "Class A-Reagents," and the upload was successful. On August 18, 2022, a text message and email notification was received stating "PCR report uploaded to Gateway, no feedback received from CDC after Gateway upload!!!" The reason was found to be a Q2 problem, and the solution was for the program designer to discover and eliminate the program upload issue.

### Conclusions/lessons learned

In summary, the self-developed middleware mentioned in this article is a powerful tool for hospitals to improve the reliability and efficiency of data uploading during the COVID-19 pandemic. By monitoring abnormal nodes for Q1 and Q2 and quickly identifying problems with data uploading, and notifying relevant personnel via email and text messages to handle the issues, the efficiency of hospitals and the reliability of data uploading were improved.

### Contact:

CHANG Hao-Chih  
Kaohsiung Municipal Siaogang Hospital, Kaohsiung Medical University, KMUH., TAIWAN  
[peter@kmuh.org.tw](mailto:peter@kmuh.org.tw)

## Six months impacts of COVID-19 patients on the hospitalized resources utilization of a medical center in Taiwan

**CHANG Chiao-Wen, HUANG Chien-Min**

### Background and objective

Since December 2019, the worldwide disease coronavirus disease 2019 (COVID-19) appeared and has diagnosed more than 10 million people in Taiwan. Similar long-term effects among the infected population include fatigue, headache, etc. This research is to compare the hospitalized resources utilization before and after COVID-19 infected.

### Methods/intervention

We identify the COVID-19 cases by ICD-10 code U071 from one hospital databank, which includes all patients' medical fees record (define as hospitalized resources utilization) and some basic patients' information. The inclusion criteria were as follows: There is medical fees record in the system both forward and back six months of the day of COVID-19 hospitalization. We used the fees to estimate the hospitalized resources utilization of six months effects of these cases. From the day of diagnosis, each patient's medical records are divided into two categories: before six month and after six month. A paired t-test was used to compare the hospitalized resources utilization before and after COVID-19 infected by each patient.

### Results

Total 61 patients were included. Most of them are elderly (49.2%). A statistically significant difference in the frequency of clinical visiting was observed ( $p < 0.01$ ). Even though their clinical visiting times is increase, the total fees have no statistically significant difference. The top two clinical visiting are the clinical of Pediatric Cardiology-Pulmonology and Geriatric integrated outpatient clinic.

### Conclusions/lessons learned

After COVID-19, higher clinical visiting could be parents observing children's respiratory symptoms is easier than other symptoms like fatigue or headache. For the elderly, the medical specialty of symptoms may indistinguishable, so they chose Geriatric integrated outpatient clinic to seeking advises. Further research of the medical details or pharmaceutical inside would be recommend.

### Contact:

CHANG Chiao-wen  
Kaohsiung Medical University Hospital, Kaohsiung Medical University  
TAIWAN  
[1030754@kmuh.org.tw](mailto:1030754@kmuh.org.tw)

## Work-related stress, burnout and copying behaviors in healthcare employees experienced COVID-19 epidemic using structural equation model (SEM)

**YAO Wen-Zhen, HUANG Wen-Yin, CHENG Su-Zu, CHEN Er-Mei, KUO Hsien-Wen, LI Ling-May, CHEN Wei-Ta, LIN San-Chi**

**Background and objective**

We explore the impact of workload, social support, and coping behavior on mental health in the face of COVID-19 pandemic among nurses, and to initiate a counseling or interventional strategies in hospital.

**Methods/intervention**

The Structural Equation Model (SEM) was used to analyze the workload, social support and DASS-21 scale on workload, social support, and coping behavior. The online questionnaire using QR-Code, fill in by anonymously and self-decisively, was used to measure demographic, workload, lifestyle, social support, confidence of COVID-19 pandemic for hospital, preventive measure for COVID-19, and DASS-21 etc.

**Results**

The nurses in our hospital had a high confidence for prevention measures (about 70%) of COVID-19 epidemic, especially the highest confidence for the support of the supervisor and hospital, but the lowest for the national epidemic prevention policy. Factors significantly correlated with the levels of depression, anxiety and stress symptoms included total confidence ( $r=-0.385$ ), workload scores ( $r=0.238$ ), total work fatigue scores ( $r=0.575$ ), total personal fatigue scores ( $r=0.561$ ), and total prevention score for COVID-19 epidemic measures ( $r=-0.194$ ). The structural equation model showed that the work fatigue scores positively increased the levels of depression, anxiety, and stress symptoms ( $\beta=0.26$ ,  $p<0.01$ ). In addition, the level of confidence of nurses in hospital combat and prevent the COVID-19 epidemic measures should reduce levels of depression, anxiety, and stress ( $\beta=-0.14$  及  $\beta=-0.95$ ,  $p<0.01$ ), but their preventive measures cannot increase personal fatigue and workload ( $\beta=-0.33$  and  $\beta=-0.23$ ,  $p>0.05$ ).

**Conclusions/lessons learned**

In addition to good hospital policies and environmental epidemic prevention measures, hospitals should also pay attention to the impact on the psychological and mental stress of medical colleagues, provide psychological counseling services and strengthen support among colleagues.

**Contact:**

MINISTRY OF HEALTH AND WELFARE Keelung Hospital  
Keelung Hospital, TAIWAN  
[chingfeng01@gmail.com](mailto:chingfeng01@gmail.com)

**Preliminary study on the effectiveness of discharge planning caring model for patients with Covid-19 in a regional hospital in northern Taiwan**

**CHANG ChiaChi, HOU ChunMei, CHEN YaFang, CHEN SungYun, CHEN ShuNuen, TSAI YiFan**

**Background and objective**

The confirmed with COVID-19 inpatients often face all kinds of physical discomforts and psychological pressures after being discharged from hospital and returning to their life. This study aim to construct a caring model for patients confirmed with Covid-19 who are discharged from the hospital and to analyze the services effectiveness.

**Methods/intervention**

The study period is from January 2021 to December 2022. The nurse in the dedicated ward conducts a needs assessment for patient confirmed with Covid-19 after admission. The discharge planning nurses contact the resources according to the assessment results. In the first week after discharge from the hospital, a telephone interview will be conducted, 30 minutes each time. The interview content includes physical condition, medication and self-care condition. The second week telephone interview includes social function assessment. Continue to follow up with telephone interviews in the first, third and sixth months to track the situation and provide assistance. Home visits or referrals to special outpatient clinics for direct medical care for cases that cannot be handled directly by telephone.

**Results**

During the study period, a total of 903 confirmed cases were received, including 416 females (46.1%) and 487 males (53.9%), with an average age of 64.5 years old. According to the results of telephone interview, the most questions are physical discomfort (52.5%), worried about what other people think (25.5%), insurance payment issues (13.4%) and others (8.6%). A total of 67 cases (13.5%) were assisted in referral to special outpatient clinics for cases with uncomfortable symptoms. The average satisfaction rate of confirmed cases with the discharge planning caring model was 97.5%.

**Conclusions/lessons learned**

The research results show that the use of the discharge planning caring model allows patients to feel cared for, and helps to teach how to solve problems and empower patients, to avoid the pressure of patients returning home due to social isolation during hospitalization, so that patients can seamless transition return to normal life.

**Contact:**

CHANG Chiachi  
Dep. of Nursing, Taipei City Hospital YangMing Branch, TAIWAN  
[B1797@tpech.gov.tw](mailto:B1797@tpech.gov.tw)

**Discuss the key factors of volunteer management during the epidemic from the perspective of health promotion**

**LIANG Shiow-Ching, WU Chih-yu, YEN Chia-Chi, HUANG Ming-Jen**

**Background and objective**

The COVID-19 epidemic has had a great impact on life and volunteer services. Whether the serving hospitals can effectively provide epidemic prevention measures and ensure the safety of volunteer services is the key to volunteer management during

the epidemic. This article will discuss it from the perspective of health promotion.

### Methods/intervention

This article uses data from a municipal hospital in Kaohsiung from 2021 to 2022, including annual plans, budgeting, management measures, health promotion actions, education and training, volunteer insurance, annual results reports, and volunteer retention rates. Content analysis was carried out for these 8 items of data.

### Results

The volunteer retention rate will be 86.42% in 2021 and 96.29% in 2022, an increase of 9.87%. Volunteer management measures include: (1) PCR screening makes volunteers feel at ease; (2) Vaccination to reduce the risk of infection; (3) Provide masks, protective face shields and other equipment to ensure safety; (4) Online video teaching, providing COVID-19 information, enriching knowledge; (5) Strategic scheduling, flexible service hours, and increased willingness to serve; (6) Use rewards to affirm volunteers and strengthen service motivation; (7) Online care for isolated and diagnosed volunteers, reducing stress and strengthening interpersonal relationships.

### Conclusions/lessons learned

There are 7 types of health promotion measures, which can be divided into 3 aspects. Safety-oriented, the hospital's active health promotion measures are the issues that volunteers care about, and the actual benefits are also the key to volunteers' retention. Administrative orientation, respecting the wishes of volunteers, and being flexible are the win-win outcomes for volunteers and hospitals. Caring-oriented, online caring volunteers can strengthen people's connections in a timely manner.

### Contact:

[allamia@mail2000.com.tw](mailto:allamia@mail2000.com.tw)

## During the epidemic, to adopt a non-face-to-face online platform for hospital staff to order anti-epidemic meal boxes

**HONG Meng-Han, CHEN Jiyuen-Tieng, LIN Shu-Chi, HUANG Hui-Ting**

### Background and objective

As the epidemic breaks out, statistics show that traditional markets and supermarkets have the risk of cluster infections. Concerning the high risk of infection while ordering foods, through the non-face-to-face online platform, the dietitian team adopted an "anti-epidemic meal boxes" and pay online for staff.

### Methods/intervention

"Anti-epidemic meal boxes" were launched on the period of April 2021 to June 2022. Various fruits and vegetables were also available. The online platform tool, called Google Forms, was designed for staff to order food with pickup time allocated in different time slots. Also, in order to gather staff opinions, we issued the online questionnaires.

### Results

A total of 202 questionnaires were collected. 97% of the staff believed that a balanced nutritional meal could help protect from viruses. 183 staff (91%) believed that buying fresh foods outside would increase the risk of infection. 97% of the staff agreed that the "anti-epidemic meal boxes" can effectively reduce the risk of infection and bring a sense of security.

### Conclusions/lessons learned

Most of staffs believe that the risk of group infection can be reduced by buying "anti-epidemic meal boxes", which can provide balanced nutrition to boost their immunity.

### Contact:

MENG HAN Hong  
Taiwan Adventist Hospital.  
TAIWAN  
[mormorhong@gmail.com](mailto:mormorhong@gmail.com)

## The effect of remote health management on the improvement of metabolic syndrome among health professionals during the COVID-19 pandemic

**SHEN Wen-Chuan, TU Shu-Yun, CHU Nain-Feng**

### Background and objective

Due to shifts, on-duty or high-pressure work patterns, irregular working hours, and busy work, medical workers in the workplace cause many problems such as insufficient physical activity, sleep disorders, and dietary changes, which affect the quality of life and physical and mental health. The outbreak of COVID-19 epidemic in 2019 has led to the restriction of physical activity and exercise areas. To investigate the use of wearable devices by medical workers in a southern medical center in Taiwan during the epidemic period, we're planning to track workers with metabolic syndrome for 3 years and 36 weeks in 12 weeks per year to monitor the results of daily walking, whether it can effectively improve the intervention effect of metabolic syndrome

### Methods/intervention

During January 1, 2019 to October 31, 2022, 547 employees of a medical center between the two groups with metabolic syndrome who participated in the activities and those who did not participate in the activities were offered by online management and intelligent health promotion activities, and analyzed the improvement effect of metabolic syndrome in the two groups. Their demographic data and medical history were collected, and the comparison of health examination data between 2019 and 2022 was described. The risk factors of significant health promotion activities were identified by analyzing data through chi-square test, independent sample t-test, paired sample t-test and multivariate logistic regression.

### Results

The group with participation in activities obviously has statistical significance compared to the group without participation in activities. Female, age below 50 years old, no shift work,

administrative unit, college education had higher statistical significance with participation in activities. In multivariate analysis, female, age below 50 y/o, no shift work, administrative unit, college education, improvement of pre and post abdominal circumference and high-density lipoprotein all showed significant positive correlation factors.

#### Conclusions/lessons learned

In Taiwan, during the post-epidemic era of COVID-19, medical workers with metabolic syndrome who participated in health promotion activities showed better outcomes than those who did not. Keeping a lasting and effecting remote health management can improve metabolic syndrome to a better physical and mental status.

#### Contact:

CHU Nain-Feng  
Department of Medical Affairs Management, Kaohsiung Veterans General Hospital; TAIWAN  
[chuepi369@gmail.com](mailto:chuepi369@gmail.com)

## To explore the effectiveness of protective equipment piercing training for assistants in the Dedicated ward for severe infectious pneumonia

LIANG Meei-Huey, LU Wen-Chuan, LIN Yi-Fen, YU Ching-Mei

#### Background and objective

Our hospital is a regional hospital and has admitted COVID-19 patients. In May 2022, the epidemic situation in Taiwan entered the community infection, the number of severe patients increased sharply. 2/3 patients of 24 beds need full care. Ward assistants must be trained through protective equipment before they join the work. It is expected that after training, they will join the dedicated ward to relieve the burden of nursing staff.

#### Methods/intervention

During the research period, in June 2022, seven ward assistants who volunteered to participate in the ward care work were given three-level protective clothing wearing and taking off education training, and technical evaluation was carried out. 1. Arrange an experienced clinical nurse to teach and reply to teaching. 2. One week after study, post-teaching written test and one-to-one technical evaluation results will be held. 3. The teaching should be strengthened in view of the failed projects.

#### Results

On June 13, 2022, the technical examination of wearing and taking off three levels of protective isolation clothing was conducted for 7 ward assistants in the hospital. As a result, 5 people passed the evaluation, with rate of 71.4%. By strengthening teaching and replying, the technical accuracy rate reaches to 100%.

#### Conclusions/lessons learned

Through the evaluation of the results of the protective equipment training, we can know whether the personnel can correctly carry out the isolation clothes and be familiar with the

infection control after the training, so as to prevent unnecessary infection caused by unfamiliarity with the technical process, to ensure the safety of the personnel.

#### Contact:

LIANG Meei Huey, TAIWAN  
[B0255@tpech.gov.tw](mailto:B0255@tpech.gov.tw)

## Assessing Disparities in COVID-19-related Health Literacy and Associated Factors among Senior Care Workers

LIN Jin-Ding, LIN Lan-Ping, YU Jia-Rong

#### Background and objective

The main objective of this study was to examine the health literacy of staff in long-term care facilities and analyze the factors associated with their COVID-19 health literacy to provide a basis for the response mechanism of long-term care facilities to emerging infectious diseases.

#### Methods/intervention

The study was a cross-sectional design with a convenience sample and a structured questionnaire. A total of 500 questionnaires were sent out, and 385 valid questionnaires were collected from 10 long-term care facilities as the study sample, for a valid sample return rate of 77%. After the questionnaires were completed by the respondents and collected by the researchers, the data were entered into Microsoft Excel software and analyzed by the SPSS 22.0 statistical package for descriptive and inferential statistics.

#### Results

Overall, the mean COVID-19 health literacy score was  $88.7 \pm 10.4$  (range: 58-105). Using a quartile scale, 23.9% of the study participants had low health literacy (score < 82), 49.3% had average health literacy (score 82-98), and the remaining 26.8% had good health literacy (score 99-105). The logistic regression analysis of the COVID-19 health literacy level (>82 vs. ≤82) showed a significant difference in the study sample by gender (male vs. female, OR=2.46, 95% CI = 1.15-5.26), job category (nurse practitioner vs. caregiver, OR=7.25, 95% CI = 2.46-21.44), monthly service hours (>160 hours vs. 40-79 hours, OR = 0.044, 95% CI = 0.07-0.97), experience caring for confirmed COVID-19 patients (yes vs. no, OR = 0.13, 95% CI = 0.02-0.98), and training related to infectious disease prevention and control (yes vs. no, OR = 2.8, 95% CI = 1.52-5.15).

#### Conclusions/lessons learned

This study recommends that facilities provide immediate updated COVID-19 information to staff, especially frontline caregivers, and specifically enhance COVID-19 infection control education training for all facility staff to eliminate health literacy disparities.

#### Contact:

LIN Jin-Ding  
Institute of Long-Term Care, MacKay Medical College, TAIWAN  
[jack.lin4691@mmc.edu.tw](mailto:jack.lin4691@mmc.edu.tw)

## Improving the 'Telemedicine Smart Care Package' to enhance the nursing care efficiency for hospitalized COVID-19 patients

LIAO Sui-Ling, LIAO Wan-Ling

### Background and objective

This unit is a special ward for COVID-19. In early 2020, the COVID-19 outbreak broke out in Taiwan, nurses must wear layers of protective equipment and enter and exit the isolation ward to care the suffering from COVID-19 patient. Using information and communication technology, the "telemedicine smart care package" (abbreviation: TSCP, contents include: information and communication equipment for monitoring vital signs and mood thermometers, etc.) can protect the nurses of special ward to reduce the risk of nurses' care, and can also find the patient's condition in real time and provide the most appropriate medical care.

### Methods/intervention

Upon admission, Every new admission patients is provided with one TSCP. Managers provide sufficient equipment and a positively supported working environment to simplify routine operations, reduce interactive use, and reduce infection rates. The TSCP improved by information engineers allows the measurement data to be automatically transmitted to the patient's medical record, which is closer to the needs of clinical caregivers.

### Results

From 2020 to 2022, 1,264 COVID-19 patients has been treated in the special ward, and 100% of severe cases can be intubated or treated with high-flow oxygen in time. During this outbreak, the ward's nurses no one has been diagnosed to suffer COVID-19.

### Conclusions/lessons learned

TSCP costs about 81,000 New Taiwan dollars per set. In using early stage, TSCP's shortcoming include high cost, difficult management and inconvenient software operation, the utilization rate of the initial care team is only 29.17%. After continuous improvement, the utilization rate will be greatly increased to 100%, the satisfaction of nurses will be 100%, and the satisfaction of patients will be 96.9% in 2022.

### Contact:

LIAO SUI-LING

National Taiwan University Hospital Library Yun-Lin Branch, TAIWAN

[Y001595799@gmail.com](mailto:Y001595799@gmail.com)

## Poster session 15: COVID-19 lessons learnt; preparing for pandemic and crises II (patients, population)

### How Can We Help? Falls Prevention for Elderly Patients in a COVID-19 Isolation Facility

HSING Hui-Fen, LI In-Fun, CHEN Shih-Chia, LIN Min-Ling, JAN Shin-Lung

### Background and objective

During COVID-19 pandemic, the care continuum in hospitals involves restrictions and isolation measures to curb the spread. Quarantine measures associated with negative psychosocial outcomes, including stress, fear, and loneliness. Isolated patients had a higher incidence of falls and injuries. This study shares the experience of the elderly falls in Taiwan Medical center's acute isolation wards.

### Methods/intervention

COVID-19 confirmed or suspected cases were lodged for 3-10 days in the isolation facility. Strict isolation policy restricts families accompanying, and elderly who were vision or hearing impairment difficulty using mobile phone to contact families. The current literature is lacking on elderly patients' safety in isolation facilities, we analyze data from 2021-2022 on falls among elderly in isolation wards. We need to learn from the pandemic and develop new practices to provide humanized care.

### Results

In isolation wards, 31 patients had fallen (elderly falls, 74%; recurrent falls, 22%). In 23 elderly falls, the mean age was 86.4 years (SD 6.2), although 35% had fall history, 43% cognitive impairment and 79% dependent on help in daily living, health workers must follow strict epidemic measures, elderly patients stay alone in room. After falls, 61% have moderate injuries (lacerations, bruises, grazes, head injury) and 4.3% were severe injuries (Fracture). Causes of falls besides common intrinsic factors, implicate understaffing (17%) and lack of COVID-19 wards patient safety standards (60%).

### Conclusions/lessons learned

Care of older patients emphasizes person-centered care but in this pandemic, physical restraints are used liberally in isolation wards to prevent falls which conflicts with compassionate care. Real-time cameras still have limitations including delayed response time and manpower to screen monitors. We need to develop new practices, such as using intelligent technology human skeleton detection to prevent falls and create standards in COVID-19 isolation wards to promote patient safety. To optimize fall prevention in isolation wards there must be policy support.

### Contact:

HSING HUI, FEN

Mackay Memorial Hospital; TAIWAN

[shingyanrong@gmail.com](mailto:shingyanrong@gmail.com)

## Could limited social participation help sustain healthy life during COVID-19?

**SAITOH Fumihiro, KANEKO Makoto, HARA Hotaka, MOTOMURA Takako, MARUYAMA Kumiko, OKAMOTO Yumiko, KURIBAYASHI Hisako, IMAI Kouichi, KONDO Katsunori**

### Background and objective

For over 60 years, the Japanese Health and Welfare Co-operative Federation (Hew CO-OP JAPAN) has facilitated "Han-kai" activities, which involve regular gatherings of community members who collaborate with medical institutions to engage in health literacy activities. In recent years, evidence suggests that various types of social participation are associated with an extended healthy life expectancy. However, how much "Han-kai" activities relate to healthy life expectancy is still unclear.

### Methods/intervention

We conducted a prospective cohort study twice in 2018 and 2022. The study involved a questionnaire survey consisting of 46 items with 12 questions. In the second survey, we conducted a follow-up survey of all respondents who participated in the first survey. The primary outcome was a composite outcome of requiring long-term care, institutionalization, hospitalization, or death. In addition, We conducted logistic regression analysis using a propensity score incorporating nine items, including age, gender, annual income, education level, employment status, comorbidities, living alone, GDS, and years of participation in "Han-kai," to investigate the association between participation in "Han-kai" and outcomes.

### Results

Of the 3,273 respondents in the first survey, we collected data from 3,126 respondents in the second survey (response rate 95.5%). Among them, 217 respondents experienced one of the outcomes. Finally, our analysis included 2,359 respondents. We found that the odds ratio for non-participants in Han-kai was 2.4 times higher than that of participants (95% CI: 1.01-5.28) for the four outcomes.

### Conclusions/lessons learned

Hew CO-OP JAPAN's promotion of "Han-kai" as a form of social participation effectively reduces the risk of requiring care, hospitalization, or death. Furthermore, our findings suggest that promoting social participation through cooperation between medical institutions and community residents is a relatively easy-to-implement and essential health promotion activity for medical institutions.

### Contact:

SAITOH Fumihiro  
Oizumi Health Cooperative Hospital, JAPAN  
[fumisaitoh@gmail.com](mailto:fumisaitoh@gmail.com)

## Regarding end-of-life care for our home visit patients before and after the COVID-19 pandemic.

**INOUE Teruhiro, TSUGIMATSU Taiga, SAKAGAMI Eri, SON Kazumi, NAGASHIMA Kayo, MIKIHARA Misato, SAITO Fumihiro**

### Background and objective

Japan is facing a high mortality rate, with nearly 70% of people passing away in hospitals. The COVID-19 outbreak has raised concerns about medical collapse and overcrowding of hospital beds. The study aimed to investigate whether there has been a decrease in the proportion of deaths occurring in hospitals and an increase in deaths occurring at home. The study also examined whether end-of-life wishes of patients receiving home visits at the hospital were being fulfilled.

### Methods/intervention

The study compared and evaluated the location of the last moments of life in patients receiving home visits at the hospital in 2019, 2020, and 2021. The cases that ended with death from January 1st to December 31st in each of the three periods were selected. A total of 166 cases were included, with 47 cases in 2019, 49 cases in 2020, and 70 cases in 2021. The study evaluated whether there was any change in the location of the last moments of life during these three years and investigated whether the location of death matched the patients' end-of-life wishes in cases where the wishes were confirmed in advance.

### Results

The number of deaths occurring at home was 26 in 2019, 23 in 2020, and 35 in 2021. The number of hospital deaths was 21 in 2019, 26 in 2020, and 35 in 2021. There was no significant correlation between the year of death and the place of death. Regarding the patients' end-of-life wishes, the preferred locations for the end of life were home, medical facilities, and unanswered or unknown in order. Among the 122 cases where the location of the last moments of life was confirmed, only about half (60 cases) were able to have their wishes fulfilled as desired. There was no significant correlation between the year of death and the location of death matching the patients' end-of-life wishes.

### Conclusions/lessons learned

The study did not find a significant increase in deaths occurring at home among patients receiving home visits at the hospital during the COVID-19 outbreak. The study also found no significant correlation between the year of death and the location of death matching the patients' end-of-life wishes. The study results can be used to inform future policies and practices related to end-of-life care in Japan.

### Contact:

INOUE Teruhiro  
Oizumi Health Cooperative Hospital, JAPAN  
[the-20th-century@hotmail.co.jp](mailto:the-20th-century@hotmail.co.jp)

## Experience Sharing of Metropolitan Hospitals The Coronavirus Disease 2019 Large-Scale Screening Mission in Community

**NIEN Ya-Hui, LEE Jason Jiunshiou, CHEN Saint Shiou-Sheng, CHIU Ting-Fang**

### Background and objective

In May 2021, there were local and community transmissions of COVID-19 in Taiwan. This article analyzes and reviews the experience of a regional hospital in Taipei in setting up a COVID-19 screening station during a community-wide screening process, including how to establish the screening station flow and factors to consider.

### Methods/intervention

When setting up a screening station, several factors were considered. The site should be convenient, with open space and proper ventilation to avoid poor air circulation and increase infection risk. In addition, appropriate network equipment, rest areas for medical personnel, and areas for material placement were crucial. To prevent medical personnel from becoming overwhelmed physically, shifts were changed every 1 to 1.5 hours for medical staff, and every 2 hours for logistics and administrative staff. Flow planning was used to ensure that staff and screened individuals had separate entry and exit routes. Sample collection was streamlined by having medical technologist sign for samples on-site, uploading data into the system, and notifying the testing center every 2 hours. Interdepartmental personnel were assigned different responsibilities, including on-site waiting area control, public inquiries, transportation, environmental cleaning, venue and equipment requisitioning, and personnel and order maintenance.

### Results

Over two days, 5,908 people were screened, and 2 positive cases were detected. This effectively stabilized citizens' worries and anxieties about the pandemic and achieved fast and reliable screening.

### Conclusions/lessons learned

Effective collaboration between hospitals and community administrative officials is crucial for implementing large-scale COVID-19 screening operations. A standard operating procedure (SOP) was quickly established to enable a quick response to any future outbreaks.

### Contact:

NIEN Ya-Huei  
Department of Education and Research, Taipei City Hospital,  
TAIWAN  
[a3487@tpech.gov.tw](mailto:a3487@tpech.gov.tw)

## The changes of metabolic abnormalities and health behaviors among general population during COVID-19 pandemic in Korea

**KWON Eunjoo, KIM Suyoung, CHO Seon, PARK Hyeran, PARK Jae-Young, LEE Eun-Hee, KIM In-One**

### Background and objective

The World Health Organization (WHO) declared the coronavirus SARS-CoV-2 (COVID-19) pandemic, on March 11th, 2020. The pandemic of the COVID-19 has caused lockdowns and restrictions on daily living. While these restrictions help to abate the rate of COVID-19 infection, such limitations result in negative effects in a person's lifestyle and health status. This study aimed to identify the changes of metabolic abnormalities and health behaviors among during COVID-19 pandemic in Korea.

### Methods/intervention

This retrospective, observational study was conducted with 43,639 people who received health check-ups twice in 2019 and 2021, at 16 health promotion centers as Health Promoting Hospitals (HPHs) in Korea. Metabolic syndrome and metabolic abnormalities were defined using the Adult Treatment Panel III criteria. Health behavior was identified using the national health checkup questionnaire in Korea. Z-test was used to assess the significance of difference in the changes of the values in 2019 and 2021.

### Results

During the COVID-19 pandemic, the rates of males under 50 years who developed metabolic syndrome, abdominal obesity, Low HDL Cholesterol increased ( $p < 0.05$ ). In 30s and 40s females, the prevalence of metabolic syndrome increased after the outbreak of COVID-19 ( $p < 0.05$ ). There were no statistically significant changes in the rates of current smoking and high-risk drinking before and after the COVID-19 pandemic, except for 40-50 years males. However, aerobic exercise rates increased in adults in their 30s to 60s ( $p < 0.05$ ), and strength exercise rates in adults aged 20-30 years ( $p < 0.05$ ) in the COVID-19 seasons.

### Conclusions/lessons learned

Metabolic syndrome and metabolic abnormalities generally increased during COVID-19 pandemic, the degree of changes was greater for males than for females. The COVID-19 outbreak had an effect on changes of physical activities differently, depending upon age groups.

### Contact:

KWON Eunjoo  
Medicheck Research Institution, KOREA  
[4ever35@hanmail.net](mailto:4ever35@hanmail.net)

## Impact of the COVID-19 Pandemic on sexually transmitted disease infection in Taiwan

**WU Chi-Wen, LI Ling-May, CHEN Wei-Ta, LIN San-Chi**

### Background and objective

Severe Acute Respiratory Syndrome coronavirus 2 (SARS-CoV-2) is an emerging contagious pathogen that has caused community and nosocomial infections in many countries. In 2020, as the



impact of the COVID-19 Pandemic, Taiwan Centers for Disease Control of the Ministry of Health and Welfare found that incidence of sexually transmitted diseases infection declined. This study aims to investigate the effects of COVID-19 on sexually transmitted diseases, and possible reasons for changes.

#### Methods/intervention

Using the information of Report of sexually transmitted diseases infection about gonorrhea, syphilis, and AIDS from Taiwan Centers for Disease Control of the Ministry of Health and Welfare, the cross-sectional study is among the patients admitted the emergency department (ED) and outpatient department(OPD) during Jan 1, 2018-Dec 31 and 2022. In addition, the ED and OPD visits during 5 years were compared using mean differences.

#### Results

During the COVID-19 pandemic, the information of Report of gonorrhea found that the ED and OPD visits increased 90.4%, from 4209 patients in 2018 to 8015 patients in 2022 ; syphilis declined 4% from 9805 patients to 9413 patients ; AIDS declined 48.4% from 1403 patients to 723 patients. This study is analyzed total the ED and OPD visit volume by paired sample t-test, and significance was set at p-value < 0.05. the independent sample T-test analysis shows that the results are all p<0.05.

#### Conclusions/lessons learned

During 2020-2022in the COVID-19 pandemic, the ED and OPD visits about gonorrhea were substantially lower than in 2018-2019.but the results were inconsistent with syphilis and AIDS. Although the cause of them came from unsafe practices, but the diffencent may be related to the characteristics of the disease then that affected medical behavior. Further studies are warranted to elucidate the causal relationship.

#### Contact:

MINISTRY OF HEALTH AND WELFARE Keelung Hospital, TAIWAN  
[chingfeng01@gmail.com](mailto:chingfeng01@gmail.com)

## COVID-19 death case analysis and holistic care

TAI Shu-Chuan, CHIU Ian, HSU Yen-Chen,  
YANG Shih- Chen, CHU I-Chen

#### Background and objective

COVID-19 Epidemic A total of 210 confirmed cases were admitted to our hospital from May to July 2022, and 19 died, accounting for 9% of the death rate. The median age was 69 years old (range 42-92 years old) in the analysis of death cases. Days from onset to death were 9-36 days (median 12 days), 8 cases (42%) did not require oxygen on admission, and 6 cases (26%) were intubated

#### Methods/intervention

1. Set up a public community account, answer questions from family members and related care information, and establish a communication channel; even talk to relatives before intubation treatment to provide comfort and emotional support 2. Provide relatives with sound to play and take photos or videos, guide patients and relatives to say goodbye, use communication interaction to reduce the loneliness of patients and relatives, and reduce the regret of not seeing the last side 3. Take "patient and

family-centered" care as the starting point. Physicians uphold professional knowledge, give full play to their humanistic qualities, care for patients and their families with empathy, and adopt proactive and regular methods to reduce the psychological worries of family members and patients

#### Results

During the development of the epidemic, strengthening the communication between doctors and patients, improving the death awareness of medical staff, the resilience of medical capacity, and the quality of end-of-life care are important issues; I hope that in this reflection, in the future, similar care can provide patients and relatives with appropriate relief from severe illness Care and life's final tenderness and blessings

#### Conclusions/lessons learned

The COVID-19 epidemic has brought about an opportunity to reflect on the transformation of the medical care model; internalize epidemic prevention measures into medical routines, and establish a new medical ecology post-COVID-19. The condition changes instantly. In addition to severe medical treatment, advance medical care consultation is more worthy of attention. It is hoped that the rolling revision of care behavior can effectively reduce the regret of family members facing the loss of loved ones in the epidemic

#### Contact:

HSU Yen-Chen  
Division of Nursing, Zhongxing Branch, Taipei City Hospital,  
TAIWAN  
[B069625@gmail.com](mailto:B069625@gmail.com)

## Impact of setting up out-of-hospital community screening station on the prevalence of COVID-19

CHANG Yu-Ping, HSU Chia-Chen

#### Background and objective

Multiple local clusters of COVID-19 occurred in Taiwan at the end of April 2021. More confirmed cases with unknown source of infection. The Taipei City Government announced that community rapid screening will be implemented from May 13, and the first out-of-hospital community screening station in Taiwan will be set up on May 14. The screening targets are those who have activities in Wanhua, especially for the hostess teahouses, customers.

#### Methods/intervention

This study is a retrospective study to explore the influence of regional prevalence before and after the establishment of community screening station. When the public arrives at the screening station, they will take PCR and rapid screening, and the rapid screening will know the results within 15 minutes. If the result is positive at the screening station, the station will make arrangements for enhanced specialized quarantine hotels or collective quarantine sites to wait for the PCR result.

#### Results

The community screening station was set up for 36 days and screened a total of 8,300 people. As for the point in time when the epidemic began to be brought under control, we can see the point at which the Z score began to be significantly lower than

the 12-week average: both Wanhua and Taipei City (excluding Wanhua) began to fall below the Z score in the week of June 20. The 12-week average number of confirmed cases in Taiwan, Taiwan (excluding Taipei) didn't start to fall below the 12-week average in the week of June 7.

#### Conclusions/lessons learned

In order to find positive cases and block the source of infection, this case adopt the concept of setting up station in the community to improve the accessibility of screening, so as to encourage community residents to go to the nearest station for screening, so as to quickly grasp the source of infection. The results show that the establishment out-of-hospital community screening station have a positive effect on the control of the epidemic, not only effectively reducing the prevalence of community infection, but also preventing the spread of the epidemic.

#### Contact:

CHANG yuping  
Taipei City Hospital, TAIWAN  
[jasmine10022@yahoo.com.tw](mailto:jasmine10022@yahoo.com.tw)

## To explore the analysis of the behavior and willingness of patients with chronic diseases to vaccinate the Covid-19 vaccine

**CHEN Ai-Chin, LEE Ching-Yun, LIU Cui-Yao**

#### Background and objective

a community infection of the novel coronavirus broke out in Taiwan, with a sharp rise and severe cases. especially in patients with chronic diseases, and the case fatality rate is as high as 60%. This study is mainly to understand and explore the analysis of the behavior and willingness of patients with chronic diseases to receive Covid-19 vaccine. 1. What are the distribution and differences of the background variables of chronic disease patients? 2. What is the distribution and difference of each factor variable and behavioral willingness in the health belief model of patients with chronic diseases? 3. What is the correlation between each factor variable and behavioral willingness in the health belief model of patients with chronic diseases?

#### Methods/intervention

(一) Research Design: A cross-sectional study using questionnaires. the structure of five out of six HBM (二) Research object: (1) Patients with chronic diseases (2) Highly educated and able to communicate.

#### Results

357 chronically ill patients, several independent factors related to acceptance were identified, including the presence of chronic disease, the structure of HBM 5 out of 6, trust in the health care system and vaccine groups acceptance. that a large proportion of respondents are skeptical of vaccines, and these newer vaccines are now at the forefront of clinical trials, which have been found to be more readily expressed by people with chronic conditions. This observation ensures that current policy places these individuals as a priority group to receive the COVID-19 vaccine

#### Conclusions/lessons learned

acceptance of the Covid-19 vaccine among patients with chronic illnesses was associated with several independent factors, Government-recommended COVID-19 vaccination and vaccination due to discussions on "COVID-19 vaccination" in social networking (Facebook, Line) groups were the strongest factors, while perceived susceptibility to infection was associated with vaccine acceptance degree independent

#### Contact:

LEE CHING-YUN; TAIWAN  
[linda6304213@gmail.com](mailto:linda6304213@gmail.com)

## Using Business Model on the Implementation of Multiple Payment Systems to Pay at Discharge in the COVID-19 Epidemic

**HUANG Su-Ling, CHANG Pi-Yu**

#### Background and objective

Importing multiple payment systems into hospital can effectively reduce the risk of getting counterfeit banknote or wrongly receiving miscalculation, simplify the cash quantity check and handover procedures within the hospital, as well as take into account the security of money transmission. During the COVID-19 epidemic, the case hospital promoted multiple payment systems to the patients and their caregivers, which will benefit the implementation of people's epidemic prevention measures. The emerging policy can achieve the goal of building a safe healthcare environment.

#### Methods/intervention

The study used the Business Model as the main analysis framework to explore the intention of using multiple payment system services at nursing station. 289 inpatients at discharge were included as the research objects. The intervention was to design a monitoring development model and management mechanism, to establish an extended concept of rolling PDCA cycle. The purpose of this project was to bring PDCA cycle practice into multiple payment system implementation to increase the patients and their caregivers' utilization rate.

#### Results

The PDCA team utilized the Business Model Canvas with nine essential elements to implement the project. Promoting multiple payment system services was the Value Proposition in this project. The other parts of the Business Model Canvas could further analyze and adjust promotion strategies. The result showed that the discharge process was significantly shortened by 8-40 minutes when inpatients chose multiple payment services at the nursing station at their ward. Among those inpatients choosing among the multiple payment systems, the proportion of paying by credit card was 82.1%; the main reasons were "no need to go downstairs, no queue up and save waiting time".

#### Conclusions/lessons learned

The case hospital actively established and promoted the multiple payment system services at the nursing station which can effectively avoid crowd congestion caused by people queuing in the cashier, shorten the wait time for payment. The

implementation of the project will achieve the marginal benefits of epidemic prevention, improve the quality of medical services, and achieve the goal of building a safe healthcare environment.

**Contact:**

HUANG Su-Ling  
Kaohsiung Municipal Siaogang Hospital, TAIWAN  
[nancyhuang1013@gmail.com](mailto:nancyhuang1013@gmail.com)

## Efforts Made by HPH Pharmacy under the Covid-19 Pandemic

**HIROTA Noritake, FUJISHIRO Maki,  
HASHIMOTO Kazuyo, USTUNOMIYA  
Reiko**

### Background and objective

Aozora Pharmacy has long valued the works as "family pharmacy" engaged with the community since its establishment. Ever since we joined the International HPH Network in 2015, we worked for health promotion of community. During the pandemic, the pharmacy's work was restricted in many ways, but we continued making effort for improvement of public health in the community.

### Methods/intervention

During the pandemic, Aozora Pharmacy executed various health promoting activities to improve health literacy of users of pharmacy and community people. The specific features of Aozora Pharmacy's activity performed during the three years from March 2020 to March 2022 is stated in the Results section.

### Results

During the pandemic, Aozora Pharmacy carried out following 7 works markedly: 1) Action Team was set-up in the entity, and information was published 28 times on office anti-covid measures and activity restriction of staff; 2) Published Newsletters for patients and community. "Iodine gargle and Covid-19" (Aug.2020), "Vaccination of Covid-19"(Jan.2021); 3) Published Newsletters for medical/nursing institutes "Safety and efficacy of Covid-19 vaccine (Comirnaty muscle injection)"(Feb.2021); 4) Performed diluting and dividing of vaccine at mass injection venue; 5) Participated "How are you' call" activity with Collaborating Organization to prevent solitary; 6) Researched intervention on frail prevention to see if pharmacy can make a difference in muscle mass by providing information; 7) provided free PCR checks and distributed for free or sold antigen test kits.

### Conclusions/lessons learned

Under the pandemic, pharmacy and pharmacists received great expectation to improve public health in the community. Since the introduction of Community-Based Integrated Care System, Health Support Pharmacy and Community Collaborative Pharmacy have played significant roles, and they have played a major role in anti-Covid-measures, too. We'd like to keep up with our works engaged with the community as HPH pharmacy that stands with patients.

**Contact:**

HIROTA Noritake  
AOZORA Pharmacy, Osaka Pharmaplan; JAPAN  
[n-hirota@faruma.co.jp](mailto:n-hirota@faruma.co.jp)

## Real time teleconsultation for COVID-19 patients cared at home reduced the burden of hospitalization care

**LIEN Hsin-Yi, KO Ming-Chung, TSAI Ching-Yao**

### Background and objective

Coronavirus disease 2019 (COVID-19) pandemic produced substantial burden of medical care and challenged the capacity of health care system including hospitalization care for COVID-19 patients. In this report we will present the experience of real time teleconsultation for risk stratification, thus we could divert the patients for optimal care.

### Methods/intervention

We applied real time teleconsultation for risk stratification of COVID-19 patients from April 25th, 2022. The physician took personal history, evaluate symptom burden and then stratified the risk of deterioration. If patients had ominous signs or symptoms, including shortness of breathing, dyspnea, chest tightness, consciousness disturbance, cyanosis, fever higher, tachypnea, systolic pressure<90mmHg, SO<sub>2</sub> <94%, they would be categorized as high risk group and would be referred to the hospital for hospitalization care immediately. If patients had no ominous signs but had any of the following conditions, including diabetes, CLD, cardiovascular disease other than hypertension, COPD, CKD, immunodeficiency, BMI≥30, rare diseases, aged≥65 years or <12 years, they would be categorized as intermediate risk. They are suitable for care at home; however, they needed more intensive follow up telephone call to identify any deterioration of COVID-19 infection. If the patient had neither ominous sign nor condition of intermediate risk they would be categorized as low risk group. They are suitable for care at home with regular follow up telephone call.

### Results

In total there were 62,504 COVID-19 patients received real time teleconsultation for evaluation and risk stratification at Taipei City Hospital from April 25th, to December 31th 2022. Of them 15,723 patients (25.2%) were categorized as intermediate risk and were cared at home under intensive follow up telephone call. 42,759 patients (68.4%) were categorized as low risk group and were cared at home with regular follow up telephone call.

### Conclusions/lessons learned

Real time teleconsultation for risk stratification and follow up telephone care of COVID-19 patients reduce the burden of hospitalization care thus health care facility can allocate their workforce for other health care during COVID-19 pandemic.

**Contact:**

LIEN Hsin-Yi  
Taipei City Hospital; TAIWAN  
[Z0679@tpech.gov.tw](mailto:Z0679@tpech.gov.tw)

## Societal Influences and Depression in Adolescents and Caregivers during COVID-19 in Taiwan

HSIEH Kuan-Ying, CHOU Frank Huang-Chih

### Background and objective

Mental health has been an important issue among adolescents and caregivers in this coronavirus disease 2019 (COVID-19) pandemic. This study aimed to evaluate mental health in adolescents and caregivers in a psychiatric hospital.

### Methods/intervention

A total of 94 participants (49 adolescents and 45 caregivers) were recruited between Jan 1, 2022, and May 31, 2022. Their levels of societal adaptation were evaluated using the Societal Influences Survey Questionnaire (SISQ). The severity and frequency of PTSD symptoms were examined using the Disaster-Related Psychological Screening Test (DRPST). The severity of sleep disturbance was assessed using the Pittsburgh sleep quality index (PSQI). A descriptive statistical analysis was then conducted.

### Results

Among the participants, around 70% were male in adolescents but female in caregivers. The mean ages were  $15.8 \pm 2.2$  in adolescents and  $46.3 \pm 9.3$  in caregivers with statistical significance. The education level, partners, religious, and physical illness were all higher in caregivers than adolescents except traumatic experiences. The levels of depression, social distance, anxiety, desirability, information, adaptation, and distance were all higher in caregivers than in adolescents significantly. However, there were no statistical differences between caregivers and adolescents in sleep disturbance and posttraumatic stress symptoms.

### Conclusions/lessons learned

Societal influence and depression should be taken into consideration by the community of professionals working on adolescents' mental health. Early detection and intervention of depression should be the objectives for programs aiming to reduce Covid-19 related societal influences among adolescents and caregivers.

### Contact:

HSIEH KuanYing  
Kaohsiung Municipal Kai-Syuan Psychiatric Hospital, TAIWAN  
[isanrra@gmail.com](mailto:isanrra@gmail.com)

## Operation of the COVID-19 Community Treatment Center to improve the health of mild COVID-19 patients in South Korea

LEE Seung Yeon

### Background and objective

In March 2020, South Korea opened Community Treatment Centers for mild COVID-19 patients to prevent bed shortages and efficiently manage patient health. The goal was to prevent virus spread to the community.

### Methods/intervention

SMG-SNU Boramae Medical Center ran a Namsan Community Treatment Center from Jun 2020 to April 2022. Patients were selected during the initial epidemiological investigation and those with no/mild symptoms were assigned to the Community Treatment Center. Medical staff monitored patients 24/7, provided medical services such as prescriptions, X-rays, and polymerase chain reaction (PCR) tests during the quarantine period. Patients with worsening symptoms were transferred to hospitals.

### Results

The total number of patients was 5,068. The age was 7.3% under the age of 10, 7.3% in their 10s, 16.8% in their 20s, 15.6% in their 30s, 16.7% in their 40s, 15.4% in their 50s, 12.2% in their 60s, and 8.6% in their 70s or older. By gender, 22.3% were male and 77.7% were female. Of the total of 5,068 patients, 87.6% were discharged due to symptom relief, and 12.4% were transferred to the hospital due to worsening symptoms and received specialized treatment. A total number of 155,588 were reviewed with doctors and nurses, including the check of vital signs, 5,846 X-ray tests, and 760 PCR tests were conducted.

### Conclusions/lessons learned

SMG-SNU Boramae Medical Center operated a Community Treatment Center due to the explosive increase in patients and lack of hospital beds during the COVID-19 pandemic. Careful observation and management of these patients is very important in terms of efficient resource management and patient prognosis. In case of disaster. Accordingly, it contributed to the efficient use of medical resources and improved prognosis of patients by accurately allocating facilities suitable for the purpose, such as Community Treatment Centers and hospitals for patients.

### Contact:

LEE Seung Yeon  
SMG SNU Boramae Medical Center; KOREA  
[oddnav@naver.com](mailto:oddnav@naver.com)

## Assessment of the benefits and risks of oral antiviral drugs for COVID-19

CHEN Yi-Ju, LIN Che-Jung, CHU Wan-O, LI Ling-May, CHEN Wei-Ta, LIN San-Chi

### Background and objective

During the COVID-19 Omicron variant pandemic, a regional teaching hospital in northern Taiwan established an outdoor screening station, which could also provide services such as seeing a doctor and getting medicine. This clinical study was conducted in order to understand whether oral antiviral drugs can reduce the probability of patients with severe risk factors becoming severe hospitalized patients.

### Methods/intervention

The data we collected covered the records of inquiries and prescriptions at outdoor screening stations from May 11, 2022 to November 19, 2022, and then used Microsoft Excel to analyze the data.

### Results

Between May 11, 2022, and November 19, 2022, a total of 8516 patients visited the outdoor screening stations, and their average age was 47.5 years old. A total of 1075 patients had severe risk factors, of which 1026 patients agreed to take oral antiviral drugs (95.44%). Among the patients who agreed to take oral antiviral drugs, 635 patients took Paxlovid (61.89%), and 391 patients took Molnupiravir (38.11%). In terms of adverse drug reactions, dysgeusia was the most common (8.34%) for Paxlovid, and diarrhea was the most common (6.65%) for Molnupiravir. No matter whether it was Paxlovid or Molnupiravir, no one became a severe hospitalized patient, and no one died.

### Conclusions/lessons learned

The data we collected show that oral antiviral drugs are effective in the treatment of COVID-19 patients, but physicians must explain to patients the reasons for performing this treatment and possible adverse drug reactions. Physicians must obtain the patient's consent before prescribing them.

### Contact:

MINISTRY OF HEALTH AND WELFARE Keelung Hospital, TAIWAN  
[chingfeng01@gmail.com](mailto:chingfeng01@gmail.com)

## Effectiveness of Antiviral Drugs in use Clozapine Psychiatric Day Ward Patients Suffering from COVID-19 - Taking One Northern General Hospital as an Example

**CHANG Hsu-Chaio, LAI Jui-Chen, WU Wei-Hsin, LI Ling-May, CHEN Wei-Ta, LIN San-Chi**

### Background and objective

In the past two years, the new crown pneumonia epidemic has been severe, and the incidence rate in the community has increased. Patients in the psychiatric day ward will have activities in the community on weekdays to avoid cluster infection in the ward. Therefore, they are routinely COVID-19 rapid test twice a week. During the epidemic, patients have been infected one after another. During the period, it was found that the course of the disease was significantly shortened and the severity was greatly reduced after the patients were treated with antiviral drugs combined with symptomatic treatment, especially in the group of people who could cause rhythm after taking antiviral drugs. This experience can be used as a reference for clinical treatment.

### Methods/intervention

For patients who are taking Clozapine in the day ward of the psychiatric department of our hospital, from April 2022 to September 2022, those who have a positive COVID-19 rapid test result twice a week will be prescribed antiviral drugs for 5 days and symptomatic treatment for 10 days. And return to the ward

to retest the results of the COVID-19 rapid test and the evaluation of other symptoms.

### Results

A total of 92 patients were evaluated, 51 males (55.4%) and 41 females (44.6%), with an average age of 48. 23 ( 25%) have metabolic syndrome, 69 ( 75%) without metabolic syndrome, 18 (19.5%) Using Clozapine and antiviral drugs, the average duration of disease was 12.5 days, and no use antiviral drugs 74 (80.4%), the average duration of 14.4 days.

### Conclusions/lessons learned

Use Clozapine psychiatric patients who are treated with curable drugs are often worried about the side effects of reducing the number of white blood cells and increasing the risk of infection. After analyzing the monthly statistical results and administering antiviral drugs combined with symptomatic treatment, it is obvious that the overall course of the patient's new coronary pneumonia is shortened by 2 days. And it did not cause serious infection, and thus avoid large-scale cluster infection.

### Contact:

MINISTRY OF HEALTH AND WELFARE Keelung Hospital, TAIWAN  
[chingfeng01@gmail.com](mailto:chingfeng01@gmail.com)

## Improving Preoperative Visit Procedures During the COVID-19 Pandemic

**HSIEH Fu-Hsiang, CHEN Mei-Lin , LI Mei-Fang, JLANG Meng-Zhe, HONG Hua-Jun, LU Chia-Wen**

### Background and objective

The rolling adjustments that hospitals implement for COVID-19 preventive measures have led to considerable stress and mental problems in patients. developing a method for comprehensive information provision is imperative. From April to June 2022, achieved a preoperative visit rate of 65% and preoperative satisfaction rating of 60%.The provision of individualized preoperative information, can improve patient adaptation, reduce patient anxiety.

### Methods/intervention

From May to October 2022, a team was established to perform clinical observations and data collection. Three causes were identified, namely the nurses' lack of experiences on preoperative visits during the pandemic, lack of assistive devices for patient instructions, and lack of training for preoperative visits. The improvement measures are proposed as follows: 1. Appoint personnel who specialize in the handling of preoperative visits. Make adjustments for preoperative visit requirements. Introduce a TOCC-based preoperative visit system. Label high-risk patients in the schedule for surgical operations and adjust the time of their surgical operations. 2. Integrate the patient instructions from various departments. Present realistic scenarios in multimedia instructional videos that can be viewed on tablets by scanning a QR code. 3. Provide instructions based on the needs of the department that are to visit. Organize monthly case discussion meetings and .Improve nurses' on-the-job training.

### Results

The implementation of the aforementioned strategies raised preoperative visit from 65% to 95%. The patient instructions from 11 departments were integrated, and instructions for 15 commonly-seen preoperative problems were generated and provided through QR code links. A total of 30 individuals attended case discussion meetings (100% attendance). preoperative satisfaction rose from 60% to 100%.

### Conclusions/lessons learned

Preoperative visits provide channels for patient–nurse communication and can be employed to provide relative more comprehensive information to the patients under pandemic conditions. The appointment of dedicated personnel, improvements in department-based patient instructions, and use of multimedia assistive materials enable smooth patient–nurse communication, help patients acquire accurate information, ensure the success of surgical operations.

### Contact:

HSU Jason  
Chang Bing Show Chwan Memorial Hospital, TAIWAN  
[14998@cbshow.org.tw](mailto:14998@cbshow.org.tw)

## Applying multiple strategies to cluster infection of COVID-19 in acute psychiatric wards

**CHEN Chin-Ling**

### Background and objective

In 2022, the Taiwanese community is at the peak of the COVID-19 epidemic. Psychiatric wards live in groups, with close contact in daily life, use of shared facilities, and treatment and treatment are mostly carried out in a collective manner; patients suffer from functional impairment or deterioration due to disease factors, and their personal hygiene is often sloppy and they will not actively express or ask for help; their mental state is poor. Differences in comprehension and cognitive abilities lead to difficulties in communication, difficulty in recognizing physical symptoms, and failure to detect the occurrence of infection in time, which in turn affects the certainty of compliance with preventive measures. In June 2022, a COVID-19 cluster infection incident occurred in the acute ward of the psychiatric department of our hospital. During the incident, it was found that colleagues in the psychiatry department lacked awareness of the epidemic prevention information and the sensory measures that should be involved in the incident. This article is a cross-team Cooperate in the implementation of epidemic investigation of confirmed cases in wards and use multiple strategies to deal with them, which can be shared with psychiatric workers for reference.

### Methods/intervention

1. Start the response mechanism: Notify the relevant units and activate the epidemic prevention response team.
2. Strengthen health monitoring and reporting: Use the application software APP developed by the hospital as a monitoring tool and set up a small helper group-informatization to list the epidemic investigation list.
3. Care flow planning: set up dressing area, decontamination area, unloading area, and dirt room; simplify the environment, remove unnecessary settings and items, and wrap them if they cannot be removed to facilitate

cleaning. 4. Environmental cleaning and infection control operations: increase the frequency of cleaning, strengthen environmental cleaning, and inspect and record the cleaning staff's putting on and taking off of protective equipment, strengthening hand hygiene and cleaning procedures, etc. 5. Personal protective equipment education and training: hold practical training on putting on and taking off protective equipment, patient transfer process, specimen collection and transmission, etc. 6. Regional division: The staff and patients' moving lines are planned and managed according to the principles of diversion, zoning care and fixed teams, group activities are stopped, and bedside meals and in-patient medications are implemented. 7. Start the inventory management system of epidemic prevention materials and equipment.

### Results

From June 26 to July 4, 2022, there were a total of 34 cases (21 patients, 2 companions, and 11 staff). After notifying the Health Bureau and consulting with the infectious disease physicians, a total of three ward screenings were conducted and antiviral drugs were prescribed for the confirmed cases after evaluation by the physicians. The survey results show that the companions of the index cases commuted between the community and the hospital due to the need to go out for shopping. Cluster infection events. After intervening in the investigation and supervising the unit to implement infection control measures, the case was closed after observing 2 incubation periods.

### Conclusions/lessons learned

Psychiatric staff specialize in the assessment and care of patients' mental symptoms, and rarely come into contact with relevant infection control measures; patients affected by mental symptoms have limited cooperation in complying with infection control measures, so when cluster infections occur, it is difficult for them to deal with infection higher than normal wards. In view of this, when an incident occurs, immediately activate the response mechanism, isolate cases and implement protection, establish cross-team cooperation, collect inspections as soon as possible, strengthen personal protective equipment, strengthen environmental cleaning and health monitoring and notification, etc., in order to effectively curb the spread of the incident.

### Contact:

CHEN Chin-Ling  
National Taiwan University Hospital Yunlin Branch, TAIWAN  
[chenchinlingy00560@gmail.com](mailto:chenchinlingy00560@gmail.com)

## Poster session 16: Promoting the health of older adults

### Discussion on the Effectiveness of Promoting the Cooperation Model of Dementia Interprofessional Teams

**LI Wen-Hui, HUANG Hsiu-Yen, HSU Tzu-Chuan, CHUO Ying-Hsiang, HUANG Hui-Ting, LIAO Ling-Yu**

### Background and objective

The main caregiver of a dementia case must face the daily care of the case, mental symptoms, and behavioral problems during the care process, which is the most significant source of caregiving distress and mental breakdown. In February 2020, the home care of 41 primary caregivers of dementia cases was assessed by the Brief Symptom Rating Scale for their degree of care distress. The results showed that the rate of caring distress is as high as 78.1%. The main reasons are that the primary caregivers lack knowledge and have no one to give care and encouragement to. There is a lack of a single window for referral and integration of dementia-related resources.

### Methods/intervention

A dementia interprofessional teamwork model was established to improve the care problems of the main caregivers of dementia cases. The Brief Symptom Rating Scale was used to assess the degree of care distress for primary caregivers. A score of 6 or above was defined as care distress. Cases were assessed before and after the intervention. The improvement action plan was executed through teamwork. The key points of care for each stage of dementia and a health education manual for behavioral problems were produced and promoted the What Matters Scheme to allow the team to develop care plans based on individual needs. A single window for dementia individual managers was also added to assist in the referral of social resources and the establishment of LINE care groups.

### Results

The caring distress rate of dementia patient primary caregivers dropped significantly from 78.1% before intervention (February 2020) to 31.7% (March 2021), and the correct rate of dementia care awareness increased from 61.2% to 93.1%. The unplanned hospitalization rate of dementia cases dropped from 7.3% to 2.4%.

### Conclusions/lessons learned

Through the dementia interprofessional teamwork model, it is possible to effectively improve the care distress of the caregivers of dementia cases.

#### Contact:

HUANG HSIU-YEN  
Taiwan Adventist Hospital, TAIWAN  
[dodo112408@hotmail.com](mailto:dodo112408@hotmail.com)

## Dietary Diversification as an Intervention for Food Refusal among Patients with Severe Dementia and Comorbid Diabetes

**YANG Hsin-Ju, WANG Ya-Hui**

### Background and objective

Food refusal as a common problem among people with dementia. The study accordingly aimed to assess the efficacy of dietary diversification as an intervention for food refusal in an 83-year-old female nursing home resident with advanced dementia and comorbid diabetes.

### Methods/intervention

The patient reported food refusal behaviors including inability to eat in the presence of others, aggressive behaviors when guided to eat, squeezing and smashing foods, piling up foods, refusal to open her mouth, refusal to swallow foods, spitting out foods, attention deficit, and spending too much time on every meal with foods scattered all over the floor. Dietary diversification pays attention to 1. Strategies for adjusting the eating environment include flexible adjustment of meal time to meet individual needs, consumption of frequent small meals, provision of foods responding to personal preferences, diversification of food choice, arrangement of a private place with a quiet ambience, and use of familiar household tableware. 2. Strategies for enhancing patient care skills include regular monitoring of food consumption volume, weight, and blood sugar and discussion, training and sharing among caregivers of skills for coping with food refusal. 3. Strategies for utilizing family resources include maintaining regular contact with family members, teaching them food refusal coping skills, encouraging them to eat together with the patient, and preparing favorite foods to help the patient recall past pleasant eating experiences.

### Results

intervention from January 6 to May 10, 2020, improvement in all the aforementioned food refusal behaviors of the patient was observed, with her BMI and blood sugar maintained within normal ranges.

### Conclusions/lessons learned

Assessing food refusal problems requires comprehensive consideration of issues including the patients' cognitive level, body functions, oral function, dietary habits, cultural background, and physical, mental, and emotional status. Appropriate and flexible dietary diversification strategies can then be developed and implemented to facilitate effective treatment.

#### Contact:

HSINJU Yang  
Tsaotun Psychiatric Center, TAIWAN  
[hsinruyang@gmail.com](mailto:hsinruyang@gmail.com)

## Analysis of the Demography of the Alzheimer's Disease Patients : A Case Study of Tungs' Taichung MetroHarbor Hospital

**CHUANG Hui-Chu, CHANG Yu-Jung, CHEN Yen-Tsen**

### Background and objective

This study examines the demographic characteristics of Alzheimer's disease patients, their caregivers, and family members as an example of the increasing prevalence of dementia among the elderly. It aims to update and summarize the current characteristics of Alzheimer's disease cases.

### Methods/intervention

The recruitment period was from April 15, 2022 to January 19, 2023, 102 Alzheimer's disease patients participated in this study, which took place at a regional hospital's dementia specialist outpatient clinic in Taichung, Taiwan, and was approved by the Institutional Review Board of Tungs' Taichung MetroHarbor

Hospital (IRB No.: 111015). Participants were between 60 and 100 years old diagnosed Alzheimer's disease, able to undergo an interview, and provided informed consent. The study collected information on participants' demographic and disease-related features, as well as result of their cognitive examination.

### Results

The participants were mainly aged between 71-90, with women comprising 70%. About 75% had only primary education or none. 97% were married, of whom 48% were widowed. 40% lived with spouses or partners, 35% with relatives. 44% lived independently, while 43% needed partial daily assistance. Less than 1% of their important relatives had dementia or other neurological/psychiatric disorders. Most had very mild dementia (0.5) or mild dementia (1) according to the Clinical Dementia Rating (CDR), with 14% having a Clinical Dementia Rating Scale Sum of Boxes scoring 0.5, indicating mild cognitive impairment(MCI) with no decline on other functions.

### Conclusions/lessons learned

Through the result of CDR and Mini-Mental State Examination (MMSE), the study focused mainly on very mild and mild dementia cases, which accounted for 60% of the total. In early intervention, both medical and non-medical, may delay disease progression and reduce economic burden. Therefore, improving awareness and understanding of dementia can lead to early detection and appropriate action, highlighting the importance of addressing dementia.

### Contact:

HUI-CHU Chuang  
Tungs' Taichung MetroHarbor Hospital, TAIWAN  
[t4298chu@gmail.com](mailto:t4298chu@gmail.com)

## Asking can help : Developing a question prompt list (QPLs) as a communication aid for the Geriatrics Clinic.

**CHENG Wan-Yi, HSU Pei-Jung, CHIANG Hui-Shan, LIN Jing-Yi**

### Background and objective

Engaging older adults in clinical communication is an essential aspect of high-quality elder care, patient safety and satisfaction in hospitals and Geriatrics clinics. A question prompt list (QPL) is a tool that lists possible questions a patient may want to ask their doctor. The purpose of this study was to develop a Question Prompt List (QPL) for the Geriatrics clinic. Although QPLs have been developed in other specialties like family medicine clinic by Taiwan Health Promotion Administration, one does not exist for Geriatrics. We look for develop a QPL for use in the Geriatrics clinic using a mixed-methods design.

### Methods/intervention

1.Participants: physicians, patients and caregivers, researchers.  
2.Methods for developing a QPLs: We did the complete observer and qualitative analysis the questions asked from patient-physician consulting hour for data collection in Geriatrics clinics of a Medical Center in Taipei city. After 1 month data collection, brochure and recommendations, open and axial coding, then draft QPLs. Draft QPLs reviewed by health professional and

refined using feedback from patients/caregivers , the new QPLs formatted. 3. Pilot testing: satisfaction survey.

### Results

1. QPLs: There are 11 questions list in the new QPLs. This search revealed 1674 data and encoded 6 categories. The six categories are: Test results, Medications, Treatment plan, Symptoms control, Home self-care (management), and Health care resources. 2. Pilot testing: We provided new QPLs to 100 patients (33 male/67 female, average age: 78.09 years old) before visiting the clinic. There is 90.7% satisfaction with the QPLs, 94.3% felt it import to the medical process, 95% think it helpful for patient-physician communication, 95% willing to use in the future.

### Conclusions/lessons learned

QPLs support and encourage patients to ask about the question in consulting hour, could improve patient-physician communication or patient outcomes needs to be further investigate.

### Contact:

CHENG Wan-Yi, TAIWAN  
[wanyicheng@gmail.com](mailto:wanyicheng@gmail.com)

## Effect Analysis of Health Education Intervention on Elderly Patients with Kidney Disease Complicated by Hyperlipidemia

**HSIEH Hsiu-Chuan, CHIEN Shiaw-Wen, LIM Paik- Seong, WU Jia-Min**

### Background and objective

Due to the increasing prevalence of hyperlipidemia resulting from an aging population and changing dietary and lifestyle habits, chronic kidney disease has become increasingly prevalent in Taiwan, with a prevalence rate of 11.9%. Cardiovascular disease is the primary cause of death in patients with chronic kidney disease, and hyperlipidemia constitutes a significant risk factor for cardiovascular events. Elevated levels of low-density lipoprotein cholesterol (LDL-C) have been linked to accelerated atherosclerosis and greater susceptibility to cardiovascular diseases. As such, the present study aims to assess the efficacy of health education interventions in reducing LDL-C levels among these patients.

### Methods/intervention

This cohort study was conducted from January 2021 to January 2022, and the inclusion criteria are (1) patients with chronic kidney disease over 65 years old (2) LDL-C greater than 100 mg/dL (3) visiting the nephrology clinic at least every three months. After enrollment, the health teacher will provide health education, which includes life guidance, diet guidance, and regular exercise. The doctor will decide whether to give blood lipid-lowering drug treatment according to the condition. The primary endpoint was the effectiveness of LDL lowering after one year of intervention.

### Results

A total of 279 patients were included in this study, with an average age of  $71.4 \pm 13.13$ , which include 154 males and 125



females. After one year of health education, there was significant lowering of serum level of LDL (p-value <0.001). The average LDL-C was  $132.7 \pm 32.5$  mg/dL before intervention and decreased to  $100.9 \pm 33.47$  mg/dL after intervention. We also performed a subgroup analysis of patients with and without usage of lipid-lowering agents. 196 patients of the cohort received lipid lowering agents while 83 patients received only health education. We found that both groups showed significant LDL lowering after intervention (p value<0.001).

#### Conclusions/lessons learned

Our study found that the introduction of health education was shown to exert clinical beneficial effect on the LDL lowering in elderly hyperlipidemic CKD patients.

#### Contact:

HSIEH HSIU-CHUAN, TAIWAN  
[a0955973157@gmail.com](mailto:a0955973157@gmail.com)

## A Survey of Bone Mineral Density, Fracture Risk and Sarcopenia of Elderly in the North of Hualien County (excluding Hualien City), the Eastern Taiwan

**CHEN Chien Ju, NG Seng Loong, WANG Jia Jie, FU Siao Syuan**

#### Background and objective

Sarcopenia, osteoporosis, and fractures are prevalent in the elderly population, representing significant risk factors for adverse health outcomes such as disability, falls, mortality, and other unfavorable health consequences. The aim of this investigation is to comprehensively evaluate the bone mineral density (BMD), skeletal muscle mass and function decline, and fracture risk profile among the elderly population residing in the northern region of Hualien County (excluding Hualien City) in Eastern Taiwan. This study seeks to elucidate the interplay between these factors, providing valuable insights into the overall health and wellbeing of this demographic group in the region.

#### Methods/intervention

In this study, the incidence of osteoporosis was evaluated using quantitative ultrasound, while the occurrence of sarcopenia was assessed using the SARC-CalF and SARC-F tools. Additionally, fracture risk was determined using the FRAX® tool. A cross-sectional study comprising 350 individuals aged 65 years and above was conducted between September 2021 and February 2022.

#### Results

The study sample consisted of 75 male and 275 female participants, with a mean age of  $75.83 \pm 0.77$  years. In this study, the T-score of bone mineral density (BMD) was  $-1.93 (\pm 0.77)$ , BMD was associated with gender, men's BMD ( $-1.47 \pm 0.720$ ) was significantly higher than women's ( $-2.05 \pm 0.73$ ). In the FRAX 10-year fracture risk assessment section, high risk group as the most common, with 261 (74.6%), followed by moderate risk, there are 21.4%, and the lowest risk group (4.0%). In the context of univariate analysis, it was found that both

sarcopenia and BMD had a statistically significant correlation with the FRAX 10-year fracture risk. Specifically, the FRAX 10-year fracture risk demonstrated a positive correlation with sarcopenia, while exhibiting a negative correlation with BMD.

#### Conclusions/lessons learned

These findings highlight the importance of considering both sarcopenia and BMD when assessing fracture risk in older adults. Further research is needed to explore the role of these factors in predicting fracture risk and to identify effective interventions for reducing fracture risk in this population.

#### Contact:

CHEN Chien Ju  
 Mennonite Christian Hospital, TAIWAN  
[cherylchen2008@gmail.com](mailto:cherylchen2008@gmail.com)

## Risk of coronary heart disease in the elderly associated with medication of depression: a population-based retrospective cohort study in Taiwan

**LIN Ya-Wen, LIN Ming-Hung, LIU Hui-Ping**

#### Background and objective

Depression is a major public health problem, the incidence of which is increasing and can lead to various physical and emotional problems, as well as impacting cardiovascular health. Therefore, this study evaluated whether patients with depressive symptoms are at an increased risk of developing coronary heart disease and whether antidepressants increase the risk of this disease.

#### Methods/intervention

This retrospective study collected data from the Taiwan National Health Insurance Research Database 2000–2018 of patients aged 50 years and above who were clinically diagnosed with depression regarding their first coronary heart disease events and prescribed antidepressants. The data were analyzed to determine associations between coronary heart disease, depression, and the prescribed antidepressants.

#### Results

The cumulative incidence of CHD (coronary heart disease) was 8.5% higher in the depression cohort than in the comparison cohort. The incidence of CHD in the depression cohort was 1.55-fold higher than in the comparison cohort, with a higher incidence of CHD in men than in women. Also, SNRI (Serotonin-norepinephrine Reuptake Inhibitors) and SGA (Second-generation antipsychotics) administered to manage depression were associated with a reduced risk of CHD.

#### Conclusions/lessons learned

The shared etiology and genetic, biological, psychological, and behavioral mechanisms of cardiovascular events and depression are associated with an increased risk of cardiovascular diseases in depressed patients in a Taiwanese cohort.

#### Contact:

LIN Ya-Wen  
 Hungkuang University, TAIWAN  
[linyawen221196665@gmail.com](mailto:linyawen221196665@gmail.com)

## A systematic literature review of self-management programs for metabolic syndrome in middle-aged and elderly adults

**CHEN Wen Chun, LIU Tz Jie, CHEN Mei Tsu**

### Background and objective

The high prevalence and incidence of metabolic syndrome in middle-aged and elderly adults have become a global health issue, and self-management is widely used in treating metabolic syndrome in middle-aged and elderly adults. However, there is still a lack of a systematic literature review.

### Methods/intervention

A systematic literature review to explore the physiological and psychological effects of self-management programs for metabolic syndrome in middle-aged and elderly adults. Six databases including CEPS, CINAHL, Cochrane Library, PubMed, Medline, and Ovid were searched, and 11 pieces of literature met the criteria. The quality of the research was assessed by Melnyk and Fineout-Overholt's (2005) literature evidence classification and Modified Jadad Scale. The evidence classification was between Levels II to III, scoring 3 and 7 points.

### Results

A total of 11 articles met the screening criteria. If the self-management program has a theoretical framework and professionals provide curriculum guidance, it will be more effective. Program implementation strategies can include education, behavioral goal setting, improving self-efficacy, peer support and experience sharing, self-monitoring, Rewards, problem-solving skills, coping strategies, and decision-making balance.

### Conclusions/lessons learned

This systematic literature review found that self-management programs with self-monitoring, discussion, and feedback have better medical management and role function effects.

### Contact:

CHEN Wen Chun  
St. Martin De Porres Hospital, TAIWAN  
[babka.shermie@msa.hinet.net](mailto:babka.shermie@msa.hinet.net)

## The development of a theory-based protocol for peer-led self-management in older adults with type 2 diabetes: process and content

**CHUNG Jui Jung, CHEN Wen Chun, LIU Tz Jie, CHEN Mei Tsu**

### Background and objective

As lifestyle patterns change, the global incidence of diabetes is increasing; additionally, the prevalence of diabetes increases with age. Older adults with diabetes face many obstacles to self-management due to effects of physiological function, social psychology, emotions, and health literacy. The use of peer

leaders with successful self-management experience, similar cultural background, and experience in disease care to guide older adults in learning self-management skills is an effective and efficient approach. This study aims to develop a peer-led self-management program for older adults with type 2 diabetes.

### Methods/intervention

The protocol consists of two phases. In phase 1, the peer-led self-management program uses experiential learning theory as the framework and self-regulation theory to guide the activity strategy. In phase 2, experts assess the validity of the preliminary protocol for application in practice using the content validity index, with scoring recorded on a 4-point Likert scale. The 4-week protocol is implemented 90 minutes per week (a total of 6 hours).

### Results

The content validity index value for the program was 0.88, indicating good performance in terms of content appropriateness, content correctness, and semantic clarity.

### Conclusions/lessons learned

The peer-led self-management protocol based on experiential learning and self-regulation theories showed satisfactory content validity. In further research, its feasibility and effect on self-management of older adults with diabetes will be evaluated in the community setting.

### Contact:

CHEN Wen Chun  
St. Martin De Porres Hospital, TAIWAN  
[babka.shermie@msa.hinet.net](mailto:babka.shermie@msa.hinet.net)

## Relationship between chronic diseases and bone density in the elderly

**LIN Kuan-Yu, CHEN Shueh-Fen, LI Ling-May, CHEN Wei-Ta, LIN San-Chi**

### Background and objective

The previous research shows that low bone density with accidental disability and mortality was highly correlation in the elderly (Ross et al., 2020). Many studies revealed that bone density was significantly correlated with the health status of the elderly (Antunes et al., 2020). Osteoporosis is a silent disease, therefore, how to monitor the bone density health status is an important issue in the promotion of the health of the elderly.

### Methods/intervention

Data were collected from regional teaching hospital in the north from May 2017 to November 2022. A total of 100 medical record samples were collected who were over 55 years old in this study, and the basic data of the research subjects include gender, height, weight, body mass index (BMI), history of chronic diseases.

### Results

There was a significant negative correlation between age and L-spine T-score ( $r=-.218$ ). The height ( $r=.417$ ), weight ( $r=.577$ ), BMI ( $r=.436$ ) with L-spine T-score were significant positive correlation. There were not statistically significant positive correlation between gender ( $r=.124$ ), presence of chronic

diseases ( $r=.099$ ) and L-spine T-score. In addition, There was a significant negative correlation between age and hip T-score ( $r=-.465$ ). The height ( $r=.272$ ), weight ( $r=.532$ ), BMI ( $r=.457$ ) with hip T-score were significant positive correlation. There was not statistically significant negative correlation between gender ( $r=-.144$ ), presence of chronic diseases ( $r=-.062$ ) and hip T-score.

### Conclusions/lessons learned

This study will provide the results of the correlation analysis between chronic diseases and bone mineral density in the elderly, based on the analysis results to promote the regular screening of bone density examination in the further. We will establish a reference for the prevention of osteoporosis and health promotion intervention methods in the elderly.

### Contact:

MINISTRY OF HEALTH AND WELFARE Keelung Hospital, TAIWAN  
[chingfeng01@gmail.com](mailto:chingfeng01@gmail.com)

## Effect of exercise and nutritional intervention using Fried frailty scale in community elderly with sarcopenic obesity

**CHEN Kuan-Ling, LIAO Jung-Ru, CHEN Yu-Chiao, ZHANG Yi-Ling**

### Background and objective

Sarcopenic obesity (SO) is a condition that combines sarcopenia and obesity, which increases the risk of health issues in elderly individuals, leading to frailty and disability. We aimed to reduce sarcopenic obesity in community elderly individuals through an exercise program and nutritional intervention.

### Methods/intervention

The participants ( $N=65$ ) with an average age of 74.6 in the health culture village were identified with excessive fat percentage and insufficient appendicular skeletal muscle mass (ASMI) through body composition analysis. They were assigned to three groups based on the Fried frailty scale. The robust group ( $N=29$ ) and pre-frailty group ( $N=34$ ) participated in >150 and 120-150 minute resistance training and aerobic exercise program while the frailty group ( $N=2$ ) participated in 90 minutes using elastic bands and lifted water bottles program per week for 12 weeks respectively. Nutritional workshop regarding SO health was also introduced to participants. Body composition of participants was measured before and after the program.

### Results

There were 65 elderly at the beginning and 54 left by the end of the program with an 83% attendance rate. There were 18 (33.3%) and 36 females (66.7%). After the intervention, the robust group ( $N=25$ ) with SO decreased by 24.0%, the pre-frailty group ( $N=27$ ) with SO decreased by 33.3%, and no difference was observed in the frailty group ( $N=2$ ). In total, the high-fat percentage of all participants decreased by 18.5%, and the insufficiency of ASMI increased by 14.8%. Overall, the elderly with SO decreased by 27.8%.

### Conclusions/lessons learned

A program combined with progressive resistance training and low-calorie high-protein diet can reduce fat percentage and

increase ASMI in elderly individuals with SO. The Fried frailty scale was effective in dividing the elderly into groups that could feasibly participate in the program. The frailty group may require a longer time to improve their physical activity.

### Contact:

CHEN KUAN LING  
 Chang Gung Health and Culture Village, TAIWAN  
[michelle35123@gmail.com](mailto:michelle35123@gmail.com)

## Exploring the impact of exercise lifestyle on the physical activity of senior citizens

**WU Pei Shuang, LI Jo Hsiang**

### Background and objective

Taiwan has the highest aging rate in Asia, and the dependency ratio will be one elderly person per person in 2060. so we should actively promote local aging strategies. However, the elderly born in Taiwan during the post-war baby boom are influenced by social culture and upbringing, and are unable to plan a good retirement life. In addition, they feel that they are old, and most of them are unwilling to exercise their bodies, which leads to an increase in the risk of weakness and hospitalization. Therefore, this study takes reablement as the orientation of life, detects potential health problems through an integrated assessment of the elderly, provides timely interventions, and encourages the elderly to implement them in their daily lives in order to restore or maintain daily bodily functions early.

### Methods/intervention

In this study, a total of 45 inpatients over 65 years old with a score of Activities of daily living (ADL) ranging from 40 to 90 at the time of admission were selected as the research subjects. The elderly personal managers develops an appropriate muscle strengthening exercise program based on the patient's activity level, or consults with the rehabilitation department to formulate a rehabilitation plan. The main purpose is to provide the appropriate intensity of exercise and to enhance the continuity of physical activity after discharge. In order to compare the difference in physical function of the inpatients before and after receiving the care program, ADLs were evaluated at the time of admission and discharge to understand the effectiveness of the improvement in physical function of the elderly.

### Results

The results showed that after the exercise care program, 14 senior citizens were discharged from the hospital with improved ADL function and 18 were discharged with the same ADL function, and the overall ADL improvement or leveling rate was 71.1%. It can be seen that the simple care exercise program can be effectively integrated into the daily life of the elderly, and the amount of exercise can be gradually increased to strengthen their muscle strength and endurance.

### Conclusions/lessons learned

This study prove that the care program that provides the elderly with exercise life can not only improve cardiorespiratory fitness, reduce bone loss, improve their body balance, reduce the risk of falls, but also maintains the elderly's daily functioning, enhances their self-efficacy, and promotes a good quality of life.

**Contact:**

WU Pei-Shuang  
Tungs' Taichung MetroHarbor Hospital, TAIWAN  
[bigpanzi122003@gmail.com](mailto:bigpanzi122003@gmail.com)

## Examining the consistency of the clinical frailty scale between family companions and geriatric case managers

**HSU Hung-Yi, WU Pei Shuang, WU Pei Chun, WANG Chen Wei**

**Background and objective**

Physical function declines with age, which increases the risk of elderly people developing many chronic diseases. At present, the comprehensive geriatric assessment (CGA) is mostly used in clinical practice to identify potential health problems in elderly people. Although CGA contains diverse and detailed items, the assessment process is time-consuming, and intervention measures cannot be provided promptly. However, Caitlin et al.(2021) developed the graphical clinical frailty scale (CFS) for emergency departments to help clinical nurses to quickly determine the severity of frailty in patients. In order to promptly identify frail elderly patients and save clinical manpower and time, this study revised the CFS developed by Caitlin et al. (2021) and used it as a preliminary screening tool for outpatient clinics, to be completed by family companions. Therefore, this study is intended to examine the consistency of the clinical frailty scale between family companions and geriatric case managers.

**Methods/intervention**

In this study, 70 elderly patients aged 65 years and over were recruited as subjects from the neurology, family medicine, integrative medicine, and thoracic medicine outpatient clinics. Family companions and geriatric case managers completed the CFS for the same patient, and the implementation period was one week. To determine the consistency of the assessment results between family companions and geriatric case managers, this study employed Spearman's rank correlation analysis.

**Results**

As a result of this investigation, it was found that: (1) The CFS accuracy of family companions and geriatric case managers was 93% ;(2) The assessment results for family companions and geriatric case managers were significantly consistent( $p<0.01$ ).

**Conclusions/lessons learned**

This study's results prove that the CFS assessment results for family companions and geriatric case managers were mutually consistent, indicating that family companions can use this questionnaire to self-assess the physical function of elderly patients to discover their potential frailties. On this basis, they can refer the patient to the hospital for further CGA as soon as possible, confirm frailty problems, examine the causes of abnormalities, and provide corresponding intervention measures to delay disability and ageing.

**Contact:**

WANG CHEN WEI  
Tungs' Taichung MetroHarbor Hospital, TAIWAN  
[cwt12907@gmail.com](mailto:cwt12907@gmail.com)

## Exploring the effect of implementing integrated care for older people (ICOPE) approach in Taiwan's hospitals: A pilot study.

**HU Yi-Chun, WANG Yung-Huang, HSIEH Yung-Chi, WANG Chi-Hsien, WU Chien-Yuan, JOU Yann-Yuh, WEI Shi-Lun, WU Chao-Chun**

**Background and objective**

The health of the elderly is an important issue for countries around the world. Taiwan follows the World Health Organization's guidelines for ICOPE to evaluate six functions: cognition, mobility, vitality, vision, hearing, and depressive symptoms. Its purpose is to identify the risk factors of disability, with the aim of early detection and intervention, achieving the goal of healthy aging.

**Methods/intervention**

Total of 81,840 participants were recruited from 458 healthcare institutions. The individuals aged 65 or above with one or more chronic diseases as well as those aged 75 or above were accepted. The participants consisted of 34,744 males and 47,096 females, with an average age of  $73.89 \pm 6.44$  years. The intrinsic capacities of elderly were assessed by WHO ICOPE screening tools and detailed full assessment scales. The older adults who experiencing functional impairment were given with health education and directed towards available community resources, medical institutions, or long-term care facilities.

**Results**

The six intrinsic capacities were analyzed by detailed full assessment scales. Limited mobility (9.1%) was the most common functional impairment, followed by a cognitive decline (4.3%), malnutrition (2.4%), hearing loss (2.3%), visual impairment (2%), and depressive symptoms (1.4%). Our study found that the intrinsic capacities of the elderly in rural area were significantly lower than those in urban area ( $5.38 \pm 0.90$  vs  $5.55 \pm 0.81$ ,  $p < 0.001$ ). Additionally, the intrinsic capacities of aboriginal elderly were significantly lower than non-aboriginal elderly ( $5.33 \pm 0.97$  vs  $5.53 \pm 0.82$ ,  $p < 0.001$ ).

**Conclusions/lessons learned**

The study showed that the ICOPE approach was feasible and acceptable in the Taiwanese hospital setting. There were significant differences in the intrinsic capacity of elderly from different regions and ethnic groups. Future policy planning will focus on eliminating health inequality and exploring the scalability and sustainability of the ICOPE approach in Taiwan's healthcare system.

**Contact:**

WANG Chi-Hsien  
Health Promotion Administration, Ministry of Health and Welfare, TAIWAN  
[quitbrain@hotmail.com](mailto:quitbrain@hotmail.com)

## The role of primary prevention in the management of postoperative delirium – analysis of the updated guideline of the European Society of Anaesthesiology and Intensive Care

**NEUNER Bruno, SCHUBERT Maria, BETTELLI Gabriella, SPIES Claudia**

### Background and objective

Postoperative delirium (POD) is a serious adverse event after surgery and occurs disproportionately in older patients. The current update of the 2017-European Society of Anaesthesiology and Intensive Care (ESAIC) evidence-based and consensus-based guideline summarizes the most recent evidence and recommendations for the management of POD. The objective of this presentation is to analyze the recommendations concerning their levels of prevention.

### Methods/intervention

Each recommendation was analyzed using the common definitions of primary to tertiary prevention.

### Results

The current ESAIC guideline lists 13 evidence- and consensus-based recommendations. Of these, ten recommendations address primary prevention and only three recommendations address tertiary prevention (treatment). No recommendation deals with the screening for POD (secondary prevention) although the authors defined an expert-based gold standard for POD screening in future studies. The recommendations for primary prevention cover a broad range of activities from risk factor evaluation, prehabilitation, non-pharmacologic and pharmacologic measures up to neuromonitoring. The guideline additionally addresses interdisciplinary approaches, teamwork and education.

### Conclusions/lessons learned

The current update of the POD guideline reflects the central role of acute care hospitals for the primary prevention of POD. This involves disciplines such as surgery and anesthesia with, until now, rather little focus on prevention and health promotion. Perioperative curative-orientated disciplines play a crucial role in implementing and managing preventive strategies. This especially concerns the peri-operative care of older people with frailty and other impairments and at increased risk of POD. Changes in attitudes and the adoption of preventive and health promoting strategies into clinical routine are warranted.

### Contact:

NEUNER Bruno  
Charité-Universitätsmedizin Berlin, Department of  
Anesthesiology and Intensive, GERMANY  
[bruno.neuner@charite.de](mailto:bruno.neuner@charite.de)

## Performance Improvement of Dementia Care Team with a Balanced Score card

**SU Yi-Lin, TSENG Min, LAI Chia-Min, FU Mei-Chiung, LIN Hsiu-Li**

### Background and objective

As Taiwan enters into an aging society, the number of people with dementia has increased rapidly, which shows that medical care and care services for dementia are extremely urgent issues. The possible reasons for the impact of dementia care in this hospital include lack of dementia care service promotion organization, lack of dementia case referral process, lack of incentives for employee referrals, long waiting time for doctor's consultation, long waiting time for screening, dementia care service Insufficient advocacy, insufficient cooperation with the community to promote dementia care services, and lack of referrals for dementia community service bases. The purpose of this study is to build a comprehensive range of dementia care, and at the same time use systematic management tools to understand the effectiveness of care.

### Methods/intervention

In order to improve the quality and performance of the current team's dementia care service, this study applied the Balanced Scorecard to the dementia care team of a regional teaching hospital, and the implementation period was from January 1 to December 31, 2022.

### Results

Through team meetings, jointly formulate promotion strategies, goals and measurement indicators. After a year of improvement, the result was 651 dementia cases managed (115 very mild, 290 mild, 187 moderate, 59 severe), the diagnosis rate of dementia cases was 100%, referral to long-term care and bases The number of people is 126

### Conclusions/lessons learned

Utilizing medical expertise and comprehensive resources, providing whole-person, whole-family, whole-team, and full-process service models, and taking into account the quality of life of dementia patients and caregivers, is the perfect and comprehensive dementia care service.

### Contact:

YI-LIN Su  
Sijhih Cathay General Hospital, TAIWAN  
[eline@cgh.org.tw](mailto:eline@cgh.org.tw)

## Discussion on the Effectiveness of Promoting the Age-Friendly 4Ms Care Model

**PAN Chiu-Ju, HUANG Hsiu-Yen, HSU Tzu-Chuan, CHUO Ying-Hsiang, HUANG Hui-Ting**

### Background and objective

The WHO released the Integrated Caring for Older People (ICOPE) guidelines and put forward four priorities (4Ms) for establishing an age-friendly healthcare system, including consideration of what is important to the elderly (What Matters), Medication, Mentation and Mobility. It suggested that healthcare institutions should establish a systematic promotion

method or process to provide appropriate services and follow-up in response to the needs of the elderly.

#### Methods/intervention

This project aimed to improve the quality of elderly-friendly health care by promoting the 4Ms care model. From January to June 2020, the inpatient 4Ms care model was promoted in the internal medicine ward of a regional teaching hospital in northern Taiwan. The 4Ms assessment and care model is infused into the decision support system to improve the implementation rate of medical staff assessment and care consistency. Based on the 4Ms evaluation results, the elderly care team proposed an efficient inter-professional integrated care service model and regularly tracked the implementation results monthly.

#### Results

The implementation rate of the 4Ms assessment increased significantly from 84.5% during improvement (April-June 2020) to 97.8% after improvement (July-December 2020), and the care completion rate increased substantially from 81.2% to 96.1%. The incidence of falls decreased from 0.08% to 0.05%, while delirium decreased from 5.9% to 2.6%. 100% of 4Ms needs are referred to the elderly care team, improving the effectiveness of the hospital's rehabilitation and multi-services and the transfer of follow-up care resources.

#### Conclusions/lessons learned

By systematically promoting 4Ms care to comprehensively improve the executive ability of medical staff, especially the mental state (Mentation), early detection of high-risk cases of delirium and intervention measures can reduce delirium's incidence. In 2021, the 4Ms care model was extended to other inpatient wards and intensive care units in parallel models to improve the quality of elderly-friendly health care.

#### Contact:

HUANG HSIU-YEN  
Taiwan Adventist Hospital, TAIWAN  
[dodo112408@hotmail.com](mailto:dodo112408@hotmail.com)

## Exploring the effectiveness of prevention and delay of disability programs for Community care center

**LIANG Shiow-Ching, CHIEN Yu-Fang, YEN Chia-Chi, HUANG Ming-Jen**

#### Background and objective

Taiwan's long-term care policy 2.0 has been launched, including C-level alley Community care center. According to the risk factors of disability and dementia, develop prevention and delay disability care programs to delay the decline caused by aging. This article uses the preventive and delayed disability care program to conduct daily life training groups for the elderly in the base, and discusses the effectiveness of the implementation.

#### Methods/intervention

The purpose of this program is to promote the cognition and memory of the elderly. The program will be implemented in 2022, a total of 12 weeks, once a week, 2 hours each time. Conducted by program qualified trained professionals. Conduct pre-tests and post-tests of the elderly health questionnaire, including cognition, muscle strength, life function, nutrition and

oral cavity, and psychosocial aspects, conduct t-tests, and satisfaction surveys.

#### Results

Thirteen people participated in this program, and 11 people completed the pre- and post-test. 6 women and 5 men. The average age is 70 years old, 45.45% have graduated from high school, 36.36% have graduated from elementary school; 90.91% mostly live with their families; 81.82% feel healthy. The average pre-test score of the health assessment questionnaire was 80.94, and the average post-test score was 86.80. The T test reached a significant difference, and the cognitive function, muscle strength, and nutrition post-test scores increased, and there were significant differences. Life function and psychosocial posttest averaged, but no significant difference was found.

#### Conclusions/lessons learned

This study found that disability prevention programs can indeed help to improve or maintain the function of the elderly. Provide guidance and demonstrations to assist the elderly to carry out activities, which have achieved remarkable results in cognitive function, muscle strength, nutrition, etc. However, the improvement of life function and psychosocial orientation may require more time or increase the intensity of training.

#### Contact:

[allamia@mail2000.com.tw](mailto:allamia@mail2000.com.tw)

## The Role of Health Checkups

**TAKATANI Yasue, INOUE Fusako, MIYATA Shoichi, KONISHI Tsuyako, SAITOH Fumihiko, ORII Takayuki, NEGISHI Kyota**

#### Background and objective

We recently celebrated the 20th anniversary of the Oizumi Health Cooperative Hospital, a Tokyo Health Cooperative Association member, by promoting Health Promoting Hospitals (HPH) in Tokyo. Our goal was to create health for the entire community and expand our network of supporters. We also aimed to convey the importance of health management during the COVID-19 pandemic and the prevention of frailty through daily health checks.

#### Methods/intervention

In September and October 2022, we resumed health check activities that were suspended during the pandemic. Local community members and hospital staff worked on measuring blood pressure, grip strength, body fat, bone density, and toe strength. We also distributed flyers to promote the event and seek cooperation from other organizations and consumer cooperatives.

#### Results

Many people participated in the health check activities, including many who experienced it for the first time. We received positive feedback and observed a high interest in health compared to previous results. Over 550 people participated in the health checks, and over 3,300 flyers were distributed to 21 locations. In addition, ten nursing staff members participated as hospital staff.

### Conclusions/lessons learned

The COVID-19 pandemic has increased awareness of community health. The participation of nursing staff in measuring variables encouraged cooperative members to have a sense of security and trust. Health checks have a role in allowing cooperative members to voluntarily inspect their physical condition, raising awareness of health, and leading to improvements in lifestyle. Therefore, it is necessary to continue holding health checks regularly in collaboration with medical institutions.

#### Contact:

SAITOH Fumihito  
Oizumi Health Cooperative Hospital, JAPAN  
[fumisaitoh@gmail.com](mailto:fumisaitoh@gmail.com)

## The SARC-F scale combined with calf circumference measurement in assessing the risk of sarcopenia in diabetic patients.

**SU Shu Ying**

### Background and objective

Sarcopenia is a disease characterized by progressive and systemic reduction in bone muscle mass and strength. The risk of sarcopenia in elderly patients with diabetes is three times higher than that in non-diabetic patients. The SARC-F scale is a common objective measurement tool for sarcopenia, but its applicability to type 2 diabetes patients is unknown. This study aims to explore the application of the SARC-F scale combined with calf circumference measurement in assessing the risk of sarcopenia in diabetic patients.

### Methods/intervention

Convenience sampling was used to select diabetic patients aged 65 and above in an emergency department of a teaching hospital in Taiwan. The diagnosis criteria of the 2019 Asian Working Group for Sarcopenia (AWGS 2019) were used, and the SARC-F scale was used to assess the risk of sarcopenia, along with calf circumference(CC) measurement. After the establishment of the risk of sarcopenia, qualitative data was collected and analyzed to identify the risk of sarcopenia and associated nursing problems in diabetic patients.

### Results

The contacted patients, five diabetic patients met the inclusion criteria, with an average age of 74.8 years and average disease duration of 20 years. The average SARC-F score was 5.8, and the average CC was 30.8 cm. According to the AWGS 2019 diagnostic criteria, SARC-F score  $\geq 4$  or CC :M<34cm, F<33cm could be preliminarily diagnosed as sarcopenia. All five cases were early-stage sarcopenia, and the interview revealed that activity and exercise-related issues were the main nursing problems, followed by health awareness and nutritional metabolism issues.

### Conclusions/lessons learned

SCRC-F can directly evaluate sarcopenia-related symptom and activity capacity in clinical setting, and it is the first time applied to diabetes patients in ER. However, responsiveness and discriminant validity cannot be tested on the assessment tool, and it is recommended to study the empirical in the future, with

proper exercise and protein supplementation, the loss of muscle strength can be delayed

#### Contact:

SU Shu Ying  
Chang Gung Memorial Hospital, Linkou, TAIWAN  
[pandmilk@hotmail.com](mailto:pandmilk@hotmail.com)

## Effectiveness of illustrated leaflets intervention of physical restraints in caregivers: quasi-experimental research

**HUANG Ying-Moan, LU Wen-Chuan, YU Ching-Mei**

### Background and objective

Physical restraint was often used to prevent inpatients avoid slipping or injuring in the pipeline, it will endanger the life of patients if the care is inappropriate, and their knowledge of care is the focus of learning for caregivers. Most of the leaflets provided to caregivers who were in hospitals are oral and text leaflets. However, traditional leaflets have too much text and information, which may be affected the effects of learning. The purpose of this study is to explore whether the use of illustrated leaflets, compared with traditional leaflets, can improve knowledge of physical restraint among caregivers.

### Methods/intervention

This study was designed as a quasi-experimental two-group pre- and post-test research, and purposive sampling was adopted. The participants were received by caregivers of patients who used physical restraints in the acute ward of a regional teaching hospital in northern Taiwan from February to March 2022 (N=60). The experimental group used the illustrated leaflets designed by a focus group of 5 experts (N=30), and the control group used the traditional textual leaflets (N=30). The exclusion criteria were foreign and local caregivers; a self-designed questionnaire was used and they concluded as an evaluation of the learning effect and the knowledge and satisfaction scores after the two groups compared before and after the education. Finally, the Paired t-test was used for pre and post-test analysis of the two intervention groups.

### Results

Whether the experimental group or the control group, the use of illustrated leaflets can improve the caregivers' knowledge of physical restraints, but the average posttest score of the experimental group is 97.3, which is significantly higher than that of the control group (82 points), is a statistically significant difference ( $t=-6.71$ ,  $p<.001$ ), and the satisfaction rate is 95.6%.

### Conclusions/lessons learned

An illustrated leaflets can effectively improve caregivers' knowledge and willingness to use them. It is suggest that the traditional leaflets should replace by the illustrated leaflets in the future.

#### Contact:

LIN Yi-Fen  
Taipei city hospital, TAIWAN  
[b0569@tpech.gov.tw](mailto:b0569@tpech.gov.tw)

## To explore the effects of physical activity and acupressure on the well-being and cognitive ability of the elderly

CHENG Chun-Hua, WU Pei-Jen, CHENG Ya-Chen, LEE Pai-Lin

### Background and objective

In recent years, with the advancement of medical technology, the public has awakened awareness of learning for the elderly. Combined with the government's active promotion of lifelong learning and long-term care services, it is expected to achieve the goal of promoting the health of the elderly and delaying disability. The World Health Organization (WHO, 2012) proposes an active aging policy, hoping to achieve the goal of promoting the health of the elderly and delaying disability through health policy intervention and the creation of a friendly environment for the elderly. Most studies have pointed out that physical activity and acupressure can effectively improve the well-being and cognitive ability of the elderly, but few studies have explored whether the combination of physical activity and acupressure courses has different benefits for the elderly.

### Methods/intervention

We designed activities that combined physical activity with acupressure sessions. Adopting the intentional sampling method, recruiting students over 65 years old who are willing to participate in the activities in the senior center, a total of 20 students participated in this course activity combining physical activity and acupressure, and were divided into experimental group and control group by quasi-experimental method. The experimental group adopted physical group activities combined with acupressure courses, while the control group maintained the established health-promoting physical activities. 1 time a week, 2 hours each time, a total of 5 group activities. Use the Montreal Cognitive Assessment (MoCA) and the WHO-5 Happiness Scale to fill in before and after the activity to evaluate the effectiveness of the activity.

### Results

The study used SPSS 19 analysis and found that there was no significant difference between the experimental group and the control group before the intervention, but there were significant differences in the MoCA and WHO-5 happiness scales before and after the intervention ( $p < 0.001$ ), and the difference between the experimental group had a large effect size (Cohen's  $d = 0.78$ ), showing that physical activity and acupressure courses can help improve cognitive function and well-being.

### Conclusions/lessons learned

This study shows that the combination of physical activity and acupressure courses can improve the well-being and cognitive ability of the elderly. It is recommended that it is worth promoting in community elderly bases, and collect more participants' responses for further research.

### Contact:

CHENG Chun-Hua  
Kaohsiung Municipal Kai-Syuan Psychiatric Hospital, TAIWAN  
[kiwin8070@gmail.com](mailto:kiwin8070@gmail.com)

## Association of Long-Term Cardiovascular Risk in Patients with Percutaneous Endoscopic Gastrostomy (PEG) versus Nasogastric Tubes(NG) : A Retrospective Cohort Study

LIN Chiao-Chuan, HSU Hua-Yin, TSENG Yuan-Tsung

### Background and objective

As Taiwan's population ages, stroke, neurodegenerative diseases, and swallowing difficulties increase. Hospital tube feeding, particularly nasogastric (NG) feeding, has drawbacks. Our study aims to compare the impact of percutaneous endoscopic gastrostomy (PEG) and NG feeding on brain diseases and cardiovascular health.

### Methods/intervention

We conducted a retrospective cohort study in Taiwan using the National Health Insurance Research Database from 2002 to 2018. Diagnoses were coded based on the ICD-9 and ICD-10. From a pool of 2,000,000 individuals insured in the NHIRD, we selected patients who underwent PEG for inclusion. We identified the index date and followed patients until the end of 2018, occurrence of outcomes, or death, whichever came first. The study cohorts consisted of PEG patients and NG patients who had not undergone PEG. The primary outcome assessed was the incidence of brain and cardiovascular diseases. We calculated relative risk ratios and 95% confidence intervals using a crude relative risk model to compare individual risks.

### Results

During the 16-year follow-up, a total of 2,140 patients who underwent PEG or NG surgery were enrolled. The PEG group comprised 1,070 patients, while the comparison group consisted of 1,070 NG patients. The cumulative incidence of target diseases was significantly lower in the PEG group compared to the NG group. Prevalence of myocardial infarction was 3.0% in the PEG group and 3.3% in the NG group, with a relative risk of 0.91 (95% CI 0.57–1.46). Congestive heart failure prevalence was 28.7% in the PEG group and 31.2% in the NG group, with a relative risk of 0.91 (95% CI 0.80–1.04). Cerebrovascular disease prevalence was 18.1% in the PEG group and 17.8% in the NG group, with a relative risk of 1.02 (95% CI 0.85–1.22). Hospitalized stroke prevalence was 2.1% in the PEG group and 3.9% in the NG group, with a relative risk of 0.52 (95% CI 0.31–0.87).

### Conclusions/lessons learned

This longitudinal study provides evidence that PEG is associated with a reduced risk of stroke compared to NG feeding in elderly patients. Despite the limited number of epidemiological studies on PEG and NG, along with the methodological limitations of these studies and our incomplete understanding of the contribution of tube feeding to brain diseases, our findings offer valuable insights for decision-making regarding PEG or NG feeding in the elderly population.

### Contact:

TSENG Yuan-Tsung, Tainan Municipal Hospital (Managed By Show Chwan Medical Care Corporation), TAIWAN  
[b891040733@yahoo.com.tw](mailto:b891040733@yahoo.com.tw)



## Strategies to Improve Diet Quality of Community Group Meal Services for the Elderly

**CHOU Hsiu-Chuan, CHANG Hui-Ping, WEI Tzu-Chin, WANG Pei-Chu, LIN Chih-Hsuan, WU Ming-Jie, WU Chia-Tung, TAI Wei-Ting, GONG Ting-Chi, RUAN Ru-Yan, CHENG Yi-Chiao, LIN Meng-Hui**

### Background and objective

In January 2022, Taipei City became a super-aged society, and the Taipei City Government has been promoting community group meal services for the elderly. As of December 2022, 462 community dining sites have been established in Taipei City. However, the meals provided at each site vary in nutritional and hygienic quality, making it essential for dietitians to guide the site staff in providing a healthy diet.

### Methods/intervention

Dietitians identified several common problems, including inadequate calorie intake, insufficient high-protein foods, and inadequate ingredient diversity. They developed various strategies, such as providing nutrition education and cooking classes to site staff, designing nutrition education materials and cycle menus, conducting group nutrition education classes for the elderly who receive group meal service, and instructing food serving size and hygienic practices on-site.

### Results

So far, we have provided guidance to 450 community dining sites. The follow-up report of nutritional intervention showed an improvement rate of 47% for insufficient calorie intake, 48% for inadequate high-protein foods serving size, and 60% for lack of food ingredient diversity. Moreover, the satisfaction rate for the guidance provided was as high as 100%.

### Conclusions/lessons learned

Dietitian intervention effectively assists community dining sites in providing a healthy diet and improving the dining quality for the elderly. In the future, we plan to expand our service area based on the group meal nutritional intervention model.

### Contact:

CHOU Hsiu-Chuan  
Department of Dietetics and Nutrition, Taipei City Hospital, TAIWAN  
[a1515@tpech.gov.tw](mailto:a1515@tpech.gov.tw)

## Effects of Chronic Diseases and Community Care Intervention on Disability in the Elderly

**LIU Huoy-In, HUNG Yun-Hsiu, KANG Hsiao-Yen, FANG Shin-Shuan, HSU Shin-Tien, CHEN Kuang-Shuo**

### Background and objective

study mainly wants to explore 1. the correlation between different chronic diseases and various disabilities and 2. whether interventional measures such as providing health management advice, referral to medical care or community base resources are effective in improving disability.

### Methods/intervention

The inclusion criteria of the study were 258 patients who visited the hospital between May 2021 and February 2022, excluding people with disabilities, dementia patients, and long-term bed rest. The case first used the ICOPE Elderly Assessment Scale to screen and retested with six assessment tools (BTH, AD8, SPMSQ, SPBB, MNA, GDS15) to identify the items with disabilities. For disabled projects, interventions such as health management advice, referrals to medical care or community site resources are given, and functional status is reassessed 60-100 days after the intervention.

### Results

The differences between disability assessment scores of the elderly after interventional measures were analyzed: three scores, including mobile index SPBB ( $p < 0.0001$ ), nutritional index MNA ( $p < 0.0001$ ), and melancholic index GDS15 ( $p = 0.002$ ), were significantly improved.

### Conclusions/lessons learned

Different chronic diseases and the types of disability and the number of disabled items in the elderly are specifically correlated, and the short-term intervention of delayed disability measures can significantly improve the three disabilities of the elderly, namely mobility, nutrition and depression, and the overall number of disability items can also be effectively reduced.

### Contact:

LIU Huoy-in  
Taiwan Landseed Hospital, TAIWAN  
[hil7667@gmail.com](mailto:hil7667@gmail.com)

## Poster session 17: Promoting the health of children and young people

### Spiritual-Care to Adolescent and Young Adult (AYA) Patient with Leukemia by Creative Arts-related Activities

**CHAN Chik-Yi, CHANG Yu-Cheng, CHENG Wen-Ting, LIN Keng-Chen, CHEN Tsui-Chi**

### Background and objective

This article describes the spiritual-care experiences of AYA patient with leukemia who is facing disease progression and suffering from many physical, psychological, and spiritual problems. Cancer of blood cell is so-called leukemia. As the progress of modern medical care, survival rate of leukemic patients had been much prolonged and even can be cured.

### Methods/intervention

Spiritual care counselor joins the family conference with the medical team before the Allogeneic hematopoietic stem cell transplantation (Allo-HSCT) and builds up the relationship with this 21-year-old female patient in helping her to express her inner thoughts and needs by Art-related activities. Protective isolation care was implemented to reduce the risk of infection, but allo-HSCT resulted in social isolation. A good patient/spiritual care counselor relationship was built through sharing her favorite Korean idol based on this AYA patient's developmental needs.

### Results

Through the interaction after 6-month spiritual plan with Art-related activities engaged in regularly, which can lift up the mood of patient through experience sharing and spiritual support. The AYA patient is able to self care and awareness, the spiritual care increase the willingness for the AYA patient to walk out from her comfort zone to connect with the HSCT medical team during the protective isolation period. This AYA patient is willing to ask for hugging from the HSCT medical team member to build up connection with them.

### Conclusions/lessons learned

AYA patients have their own unique psychosocial development and needs. In addition to providing patient care, it is recommended that according to the development stage and needs of adolescents, healthcare professionals should incorporate the self-identified development characteristics at this stage and provide appropriate and individualized spiritual care. It is hoped that this spiritual care experience can be used as a reference for future clinical care of similar patients.

### Contact:

CHAN Chik Yi  
MacKay Memorial Hospital, CHINA  
[chikyichan2004@gmail.com](mailto:chikyichan2004@gmail.com)

## The Improvements of Eating Behaviors and Body Weight on Obese Children and Adolescents by the Multidisciplinary Team (MDT) Care in NTUCH

**TSAI Shu-Mei, CHEN Yen-Tsz, CHEN Pei-Shan, HUANG Hsi-Wen, CHANG Chih-Hsuan, YANG Hui-Ru, HSU Chien-Ting, CHANG Kai-Chi, CHEN Hui-Chuen, CHEN Pey-Rong, CHEN Huey-Ling**

### Background and objective

Pediatric obesity is a worldwide public health problem. According to the Nutrition and Health Survey in Taiwan (NAHSIT) in 2017-2020, the prevalence of overweight and obesity of 7-12 year-old children were 26.7%, 13-15 year-old adolescents were 30.6%, 16-18 year-old adolescents were 28.9% in Taiwan. Unhealthy eating behaviors and inadequate physical activities were the main reasons of energy imbalance contributed to pediatric overweight and obesity. Based on evidences-based guideline on children obesity prevention and management in

Taiwan, comprehensive multidisciplinary intervention is essential for pediatric weight control. Since March 2017, National Taiwan University Children's Hospital (NTUCH) started "The Health and Vitality Clinic" for overweight and obesity children and adolescents. This multidisciplinary clinic consists of pediatricians, physical therapists, clinical psychologist, dietitians and nurse coordinator. The purpose of this report is to demonstrate the effects of team approach on eating behaviors and anthropometric measurements.

### Methods/intervention

A total of 10 patients aged 7-18 years accompanied by their parents completed at least one-month program from February 2021 to January 2023. Healthy eating behaviors, individualized diet plan (includes daily energy requirement, food exchange concepts and so on), skills of eating out and healthy cooking methods were educated to patients and their parents. "Eating Behavior Scores" was used to measure change in eating behaviors, higher scores mean healthier eating behaviors. Besides, body height, body weight, body mass index (BMI) and BMI z-score were measured before and after interventions.

### Results

BMI z-score was significantly decreased from  $2.13 \pm 0.06$  to  $2.07 \pm 0.06$  ( $p=0.001$ ) after follow-up for one month. Eating behavior scores improved from  $21.9 \pm 37.9$  to  $25.1 \pm 16.6$  ( $p=0.02$ ). In addition, body height increased by an average of 1.04 cm ( $p=0.001$ ) and z-score increased by from  $1.05 \pm 0.30$  to  $1.13 \pm 0.31$  ( $p=0.03$ ).

### Conclusions/lessons learned

Multidisciplinary health care is effective in helping obese children and adolescents to improve eating behaviors and reduce body weight.

### Contact:

TSAI SHU-MEI  
National Taiwan University Hospital, TAIWAN  
[junemei624@gmail.com](mailto:junemei624@gmail.com)

## Using the concept of children's paradise to build a pediatric treatment room to reduce the fear of treatment for sick children

**TSENG Tzu-Wei, PAN Shiu-Fang, SHEN Yu-Hui**

### Background and objective

Hospitalization is extremely stressful for children. Medical treatment will make children have fear. Helping sick children increase their sense of security and divert their attention in an unfamiliar environment can alleviate children's fear of medical treatment. The unit combines electronic whiteboards to play their favorite cartoon films and treatment rooms are decorate as a playground, which can effectively divert children's fear and attention to save pediatric nursing labor costs, and improve the convenience of nursing staff in clinical practice.

### Methods/intervention

In the pediatric treatment room, popular cartoon patterns are used to decorate, and combined with electronic whiteboards,

children's favorite cartoon videos are played to divert children's attention to treatment fear. Unnecessary nursing hours to improve the quality of nursing care.

### Results

Based on the concept of a children's paradise, it is built in the pediatric treatment room to reduce the fear of treatment for sick children. The time for comforting children due to fear of crying is reduced from an average of 12 minutes to 4 minutes, and the unnecessary indirect nursing hours are reduced from 1.5 hours to 0.5 hours. Nursing staff job satisfaction increased from 60% to 90%.

### Conclusions/lessons learned

The fear for hospitalized children are caused by unfamiliar environments and treatment activities, which requires pediatric nurses to spend more time to help the child cooperate with treatment activities. By creating a treatment room in the children's playground can effectively reduce the crying emotions of the child due to fear. Ultimately increase the child's positive treatment experience that will shorten the time for pediatric nurses to calm their emotions, reduce the workplace pressure, and also increase nursing staff job satisfaction.

### Contact:

HSU Jason

Chang Bing Show Chwan Memorial Hospital, TAIWAN

[14998@cbshow.org.tw](mailto:14998@cbshow.org.tw)

## The Involvement of Pharmacist in Cancer Education for Elementary and Junior High School Students

**WADA Norihiro, NANAOKO Tsubakino**

### Background and objective

In Japan, the Basic Plan for the Promotion of Cancer Control aims to educate children to have correct knowledge about cancer and correct recognition of cancer patients. In this report, a pharmacist specializing in cancer gave lectures to elementary and junior high school students with the objectives of "enabling children to understand cancer correctly" and "enabling children to think proactively about the importance of health and life."

### Methods/intervention

As part of the school pharmacist program, a pharmacist specializing in cancer gave lectures on cancer to 48 sixth-grade elementary school students and 168 second-grade junior high school students and conducted pre- and post-lecture questionnaires to compare the results and investigate changes in the attitudes of elementary and junior high school students.

### Results

The questionnaire consisted of 10 questions about cancer pathology, treatment, lifestyle, and screening, as well as a question about the image of cancer. To the question, "Will you actively undergo cancer screening in the future?" 23 of 48 elementary school students answered "yes" and 42 answered "yes" afterwards, while 115 of 168 junior high school students answered "yes" and 156 answered "yes" afterwards, an increase for both groups. In response to the question about "image of cancer," "cancer cannot be cured" was selected by 11 elementary school students before and 4 after the lecture, and

by 45 junior high school students before and 30 after the lecture, showing a decrease in both groups.

### Conclusions/lessons learned

There are very few opportunities for people, including adults, to learn the correct knowledge about cancer. Cancer is not an incurable disease, and with early detection through screening and appropriate treatment, more than 90% of people can be cured. We believe that if children learn the correct knowledge about cancer from medical professionals who have expertise in the field and change their awareness, it will lead to a change in the awareness of their families and others around them.

### Contact:

WADA Norihiro

Sensyuu Medica General Incorporated, JAPAN

[wada@kpg.co.jp](mailto:wada@kpg.co.jp)

## Spiritual health promotion-the application of picture books in spiritual care for children with cancer and their families

**LIN Ya-Chen, CHENG Sung-Yuan, LEE Shu-Chen**

### Background and objective

Hospitalized children with cancer and their parents often fall into anxiety, depression, and anger. They are overwhelmed by the unknown future, lose sense of meaning in life, and have spiritual distress. Spiritual care counselors use picture books to promote spiritual health of children and parents, so that their focus is no longer only on the disease, but the realization of the meaning of life.

### Methods/intervention

"Picture books" have a positive impact on children's emotional, social, cognitive, language learning, and imaginative development (Huang Huei-Ling, 2005), and relieve children's sadness and frustration in illness: (1) Train students from Child Care Department to read picture books. (2) After volunteer service in ward, the counselor discusses with them. (3) Teach parents to read picture books for children, and thus enhance parent-child relationship. (4) Provide various picture books processed by the ultraviolet sterilizer for parents to borrow.

### Results

1.Children: inject rich stories and imagination, and forget the pain, relieve discomfort. 2.Parents: Picture books also help parents sort out their emotions and get comfort, healing and peace; Volunteer Reading gives parents a chance to rest. 3.Student: Some students had empathy and understanding for people. Most of the students thought that this kind of participation was very meaningful and with achievement. 4.Medical staff: During the co-reading of the picture book, the medical staff had more topics to interact with parents. The medical environment became warmer and more harmonious, and everyone's body and soul were healed.

### Conclusions/lessons learned

Spirituality is the foundation of human nature, which is related to a person's belief, meaning of existence, relationship

connection, hope, transcendence, and connection with higher power. When a person is suffering, spiritual health will strengthen the inner strength and influence how the person face the situation. There was once a sick child born with a rare disease. The parents read picture books for their child. Although they were extremely sad, they gained a transcendent power to face difficulties because of being able to help their child.

**Contact:**

LIN YA-CHEN, TAIWAN  
[gina.a625@mmh.org.tw](mailto:gina.a625@mmh.org.tw)

## Interventions to promote healthy eating habits among children hospitalised in a rehabilitation center

**LEVINTON-ASHKENAZY Natasha,  
 BENALTABET Rakela, GLUCK Chemda,  
 SHAKLAI Sharon**

**Background and objective**

A proportion of children admitted to Loewenstein Rehabilitation Centre demonstrate unplanned weight gains during they hospitalisation, above expected rates for their age. Reasons include decreased mobility, reduced activity, confinement to wheelchair, emotional eating, routine changes, as well as increased eating out of home and ultra-processed food due to increased length of hospital stay. The objectives are to prevent and decrease unplanned weight gain, educate and support the child and their family unit on lifestyle interventions and its influence on rehabilitation outcomes.

**Methods/intervention**

Following initial nutritional assessment, children who are overweight or obese or who experienced unplanned rapid weight gain were included. Dieticians instituted menu changes according to the children's preferences and updated the food protocol for special events. The intervention also included weekly follow-up, experiential nutritional education for children and their caregivers and a separate educational program and pilates for caregivers. The multidisciplinary team involved dieticians, professional medical coach, psychotherapist, paediatrician and nurses.

**Results**

From 1.12.22-31.3.23, 10 children were included. At admission, these children had an average age of 13.1 years and average BMI of 27.2 kg/m<sup>2</sup>. During hospitalisation average BMI increased to 29.8 kg/m<sup>2</sup>. Following intervention, average BMI decreased by an average of 1.4 kg/m<sup>2</sup>.

**Conclusions/lessons learned**

Intensive dietician involvement that included both the child and their family unit, together with multidisciplinary intervention halted unplanned weight gain, and resulted in weight reduction among paediatric inpatients at Loewenstein Rehabilitation Centre. These positive results demonstrate the importance of intensive intervention and lifestyle changes among the whole family unit.

**Contact:**

BENALTABET Rakela  
 Loewenstein Hospital, ISRAEL  
[rakelab@clalit.org.il](mailto:rakelab@clalit.org.il)

## The effect of application of a customer-made exergame program on balance and motor skills in preschool children with developmental coordination disorder

**LIOU I-Hsiu, LIN Pei-Yi, CHEN Jin-Shuen,  
 CHERNG Rong-Ju**

**Background and objective**

Children with developmental coordination disorder (DCD) are characterized with motor skills difficulty which interferes with their activities of daily living. Due to their motor skills difficulty, children with DCD tend to stay in low level of physical activity which leads to risk of overweight and obese. To improve motor skills and increase physical activity in children with DCD is important. The purpose of this study was to investigate the effect of a laboratory designed customer-made exergame training program on balance and motor function in preschool children with DCD.

**Methods/intervention**

25 preschool children with DCD and 16 typically developing preschool children (TD) participated in the study. Only children with DCD received training. The training program was a laboratory-designed customer-made exergame, which is a combination of program with exercise principle and cartoon video game. The program was executed for 45 min/time, 2 times/week and for 4 weeks. The outcome measures included the percentile rank scores of Movement Assessment Battery for Children (MABC-2) and its balance subtest score. Outcome measures also included the time duration of single leg standing, the trajectory of the center of pressure (COP), the number of success trial of the task and the average trajectory of COP in each success trial.

**Results**

The results showed that children presented significant improvement in the balance performance as demonstrated by the increased percentile rank of balance subtest of MABC-2, the increased time duration of one leg standing, and decreased trajectory of COP during one leg standing after training. They also showed an improvement in motor skill with increased success rate of the game and decreased trajectory per number of success trial of the game..

**Conclusions/lessons learned**

The results suggest that the laboratory designed customer-made exergame program is effective on balance and motor skills in children with DCD. Further study may examine the effect of such programs on children's physical fitness.

**Contact:**

LIQU I-Hsiu  
Department of Physical Medicine and Rehabilitation, Kaohsiung  
Veterans General Hospital, TAIWAN  
[bruce\\_pelagia@msn.com](mailto:bruce_pelagia@msn.com)

## A Preliminary Study on the Effect of Blended Fitness Program Intervention on Healthy Weight to Adolescents

**WU Chia-Shan, LIN Shih-Ling, CHEN Mei-Fang**

**Background and objective**

In view of the increasingly serious problem of overweight among adolescents, obesity has brought on physical, psychological and interpersonal problems. Coupled with the impact of the Covid-19 Pandemic, it is impossible to carry out face-to-face exercise courses from time to time. Therefore, this study starts from schools, aiming at the designs for a blended course program with physical and online learning, further exploring the effects of blended fitness program intervention on adolescent healthy weight.

**Methods/intervention**

This study adopts a pre-post-test research design. Taking the case of nursing student in southern Taiwan as object, we design a four-week, twice a week, 60-minute fitness training program each time, and make an online learning video on health literacy, so as to strengthen the integration and discussion on health promotion literacy.

**Results**

A total of 40 female students participated in study, with an average age of 18.5 years ( $\pm 1.26$ ). After the motion intervention program, their body weight, BMI (body mass index (BMI)), waist circumference and body fat percentage all decreased, the average waist circumference reaching a significant difference ( $t=4.469$ ,  $p < .001$ ). The average body fat rate reaching a significant difference ( $t=4.649$ ,  $p < .001$ ). Students' know-how on health literacy has improved, reaching a significant difference ( $p < .001$ ), and the number of days and hours of exercise per week has also increased.

**Conclusions/lessons learned**

This project is a pioneering research to test the feasibility of designing a blended curriculum project based on school education. The research results show that blending can enhance students' participation in health promotion activities. It is expected that in the future, the effectiveness of the program can be further tested through experimental research, provided as a reference for school health promotion and the community.

**Contact:**

WU Chia-Shan  
National Tainan Junior College of Nursing, TAIWAN  
[chiashan@ntin.edu.tw](mailto:chiashan@ntin.edu.tw)

## Increase the sense of well-being of hospitalized children- a preliminary study of the effect clown intervention in Taiwan

**CHU Chiu-Hua**

**Background and objective**

Hospitalized children often experience anxiety and emotional stress which either difficult to detect or manage. Clown intervention has been used to improve the emotional well-being of hospitalized children and has been proved to be an effective way in western healthcare system. Dr. Red Nose Association was just established in 2017 and in Taiwan and there was few research to evaluate the effect in hospitals of Taiwan. To understand the effect of clown intervention in hospitalized children in different culture, we performed a preliminary study in a pediatric ward in a hospital in Taiwan

**Methods/intervention**

The questionnaire was filled out by parents with a total sample of 41. Multi-factor analysis of variance was used. 5 independent variables included: age, length of hospital stay, subjective severity of illness, frequency of interaction with the clown, and subjective emotional anxiety during hospitalization. The four outcome variables were the extent of the anxiety alleviated, the extent of the children complying with the treatment, and the perception of improvement of the pain.

**Results**

The results showed that age and subjective severity of illness has statistically significant effect on all outcome variables. Hospitalization experience and previous exposure to clown intervention had a significant effect in helping with compliance to treatment, and perception of pain improvement, respectively. Multiple factorial analysis showed that age had a significant impact on increasing willingness to receive medical care, improving subjective pain experience, and enhancing ward atmosphere ( $p < 0.05$ ). Hospitalization experience had a significant impact on increasing willingness to receive medical care ( $p < 0.05$ ). The subjective severity of illness and prior exposure to clown had significant effects on all outcome variables ( $p < 0.05$ ).

**Conclusions/lessons learned**

These findings provide valuable insights for healthcare professionals in designing clown interventions to promote health and well-being of hospitalized children. It is also effective in eastern culture.

**Contact:**

LIN Ming-Nan  
Dalin Tzu Chi Hospital, TAIWAN  
[mnlin@tzuchi.com.tw](mailto:mnlin@tzuchi.com.tw)

## Poster session 18: Promoting maternal and newborn health

### Spiritual Care for Patients of Tocolysis with Art Creation

**HUANG Li-chun, PAN Ruei-Yi, CHENG Sung-Yuan, HUANG Chung Ted**

#### Background and objective

Pregnancy is full of joy for most family, but when pregnant women face tocolysis, they may feel shocked, anxious, lost and powerless. During the COVID-19 epidemic, due to the infection control policy, family could not be with pregnant women, making them even more lonely. A patient was already anxious during hospitalization, but unexpectedly faced allergies to antiabortifacient. She had suicidal thoughts, and was referred to the spiritual counselor.

#### Methods/intervention

Spirituality is the human desire for harmonious connectedness with self, others, an ultimate Other, and the environment (Elizabeth J. Taylor). The closer the relationship, the healthier the spirit. The counselor used art creation to guide the patient from spiritual distress to spiritual well-being: 1. With others—There was tension between the patient and her family. Her mom told her to give up the baby, but her husband wanted it. So she had inner conflicts and often cried, which troubled the medical team. Through personal consultations with the patient and her family, the counselor helped them understand their worries and love for each other, and used love as the basis of communication to promote their connections. 2. With the environment—The counselor found the patient is interested in painting through consultations. The patient had suicidal thoughts, so safe materials requiring no scissor are used. The patient focused on the drawing process instead of negative emotions when painting. 3. With self—The patient considered giving up the baby because of severe allergies, but her negative emotions were transferred through painting. Her self-worth was enhanced and maternal love was inspired, and she decided to keep the baby. 4. With an ultimate Other—The counselor prayed for the patient, and invited her to pray for the development of the fetus at each stage of growth, so as to stabilize the inner strength of her.

#### Results

The patient no longer had suicide intent, and the spiritual strength enabled her to transcend difficulties.

#### Conclusions/lessons learned

The combination of external media and spiritual direction can effectively stimulate one's inner strength. The media could be art or anything triggering one's interests.

#### Contact:

LICHUN Huang  
MacKay Memorial Hospital, TAIWAN  
[rebecca.a303@mmh.org.tw](mailto:rebecca.a303@mmh.org.tw)

## Perinatal health status and health outcomes of offspring of pregnant women with disabilities in Taiwan: an assessment and recommendation study

**CHANG Yu-Chia, YANG Cheng-Chia**

#### Background and objective

Approximately 10% to 12% of women of reproductive age have a disability, those are more prone to delayed prenatal care initiation and increased risk of adverse health conditions that can affect maternal and infant outcomes. Therefore, it is crucial to have a better understanding of their health status and needs to achieve health equity. The purpose of this study is to investigate the health outcomes on both mothers with disabilities during the pregnancy/delivery process and their offspring, and to compare the differences among various categories and levels of disability.

#### Methods/intervention

This retrospective population-based cohort study linked data from the 2014-2017 Taiwan Maternal and Child Health Database to the National Disability Registration System and National Health Insurance Databases to obtain medical claims. Generalized Estimating Equations with Poisson distributions and logistic regression models were used to evaluate the association between prenatal care, delivery and childbirth outcomes.

#### Results

A total of 15,084 infants were born to mothers with disabilities between 2014 and 2017 in Taiwan. Pregnant women with intellectual and developmental disabilities had the lowest utilization of prenatal care services, compared to those with other types of disabilities. Their newborns were more likely to have pre-term birth, low-birth weight, shorter gestation, and lower Apgar score (less than 7). Their infants also had higher risks of admission to an emergency department, hospitalization, and death. Mothers with a very severe level of disability were more likely to have a pre-term birth, low or very low-birthweight and lower Apgar score newborns, and higher risk of accidental infant death, when compared to those with a mild level of disability severity.

#### Conclusions/lessons learned

Mothers with intellectual and developmental disabilities, as well as those with very severe disabilities, not only received inadequate prenatal health services, but also had significantly worse health outcomes for their offspring.

#### Contact:

CHANG Yu-Chia  
National Quemoy University, TAIWAN  
[ycchang@email.nqu.edu.tw](mailto:ycchang@email.nqu.edu.tw)

## Stress, sleep, and maternal efficacy among Taiwanese mothers with a preterm infant

**CHEN Yong-Chuan, HUANG Ya-Fang, KE Hui-Ju, LIN Pin-Hua, LIU Hsiu-Feng, PU TsaiChieh, LEE Shih-Yu**

### Background and objective

Preterm births occur in 8-12 % of all pregnancies. Having an infant hospitalized in the intensive care unit (ICU) is stressful. Mothers are not all created equal, and marked individual differences in parenting behavior, which may be derived from their stress perception. Thus, mothers are vulnerable to stress-related symptoms such as sleep disturbances, depressive symptoms, fatigue, and low maternal efficacy. This study aimed to investigate the association of maternal stress with sleep disturbance, depressive symptoms, fatigue, and self-efficacy. Focus on the role of sleep disturbance in linking stress to maternal self-efficacy among Taiwanese mothers with a preterm infant hospitalized in the ICU.

### Methods/intervention

This ongoing study currently has 41 mothers (mean age= 36.1, SD= 5.1) from a medical center in Central Taiwan. Mothers completed questionnaires to measure their stress (PSS: IH: Parental Stressor Scale: Infant Hospitalization), sleep (GSDS: General Sleep Disturbance Scale), depressive symptoms (EPDS: Edinburgh Postnatal Depression Scale), fatigue (LFS: Lee's Fatigue Scale), and self-efficacy (SENR: Self-efficacy in the Nurturing Role Questionnaire).

### Results

The mean score for the PSS-IH was 3.4 (SD= 0.72), indicating mothers perceived moderate stress levels from their infant's hospitalization. Mothers reported being most distressed by the child's appearance, followed by parental role and ICU environment. The GSDS mean score was 3.7 (SD= 1.0), and 75.6% scored above the cut-off point of 3, indicating they were poor sleepers. The fatigue mean scores were 6.06 and 4.93 for night and morning, respectively, indicating clinically significant fatigue severity. The EPDS mean score was 12.49, and 61% were above the cut-off point of 10. SENR mean score was 4.75, indicating that the mothers had a moderate level of self-efficacy in the nurturing role. Mothers who experienced more sleep disturbance had more morning fatigue but less maternal self-efficacy, and those with higher self-efficacy experienced fewer depressive symptoms.

### Conclusions/lessons learned

Results indicate that mothers with hospitalized preterm infants are vulnerable. Their sleep and physical and mental health deteriorate and warrant further study.

### Contact:

LEE Shih-Yu  
Hungkung University, TAIWAN  
[700light@gmail.com](mailto:700light@gmail.com)

## Bottlenecks in the Intervention of Improving Maternal and Newborn Health in Rural Areas of Tanzania: A convergent mixed-method approach

**KIM Hyeyun, KIM Jiye, LEE Seohyeon, CHO Minkang, KIM Hyekyeong**

### Background and objective

The Maternal and Newborn Health (MNH) Improvement Kishapu Project aimed to decrease the Maternal Mortality Ratio among women of reproductive age and improve newborn health in one of the most vulnerable areas in Tanzania. This study identified the main bottlenecks hindering outcomes from project design matrix and proposed various measures for overcoming these obstacles.

### Methods/intervention

This study was designed in a convergent mixed method in that survey, in-depth interview, and focus group discussion were conducted. This research assumes that there is a bottleneck as a primary barrier if health outcomes are not achieved. The Tanahashi framework selected three outcome indicators related to effective coverage of antenatal and postnatal care.

### Results

As integrating results, the occurrence of bottlenecks in MNH service utilization found in quantitative analysis seems to be caused by a combination of obstacles in the stages of availability, accessibility, and acceptability found in qualitative analysis. The significant bottlenecks which hindered MNH service use were as follow: Lack of healthcare personnel, capacity gap, poor transportation conditions (supply), lack of support from family (demand), sociocultural norms and lack of knowledge about MNH (enabling environment), and negative experiences with using health facility services (quality).

### Conclusions/lessons learned

Factors omitted in the project logic model were acting as obstacles in each stage of the Tanahashi model in a complex way, affecting outcome performance and MNH promotion. To improve the poor coverage of MNH services and achieve sustainability of intervention effects, continuous activities to change community awareness of MNH and the utilization of its services should be included. It is also essential to reinforce the infrastructure of maternal health supported by policy.

### Contact:

KIM Hyeyun  
Korea Institute for Health and Social Affairs, KOREA  
[hykim127@ewhain.net](mailto:hykim127@ewhain.net)

## Poster session 19: Integration of hospitals and primary care with community-based health and social services

Guided by the folk belief center, build a healthy community and jointly fulfill corporate social responsibilities

**TUNG Chia-Hsien, CHANG Li-Jen, LAI Huey-Jen**

### Background and objective

With the mission of caring for the health of the public, coordinating with policies, and caring for the disadvantaged, we connect social resources to work together, exert influence to protect the health of the public, achieve disease control, protect health, prolong the value of life and deepen service, sustainable care, and fulfill corporate social responsibilities. Take it from the society, use it from the society, and build a healthy community.

### Methods/intervention

Linking the spiritual belief center "Fengyuan Tzu Chi Palace-Mazu Temple", Mazu is the advantage of the people's beliefs and the medical team of the hospital, to build a community health resource platform, to provide services, health education, referrals, and care in the form of themed services and customer relationships. Implement "early detection, early treatment", use integrated marketing methods to establish exclusive services, provide information in real time, and finally provide services through customer relations and introduce public health policies to expand the scope of services.

### Results

With the hospital team as the main force, supplemented by the resources of Fengyuan Tzu Chi Temple combined with community resources, it will check the physical, mental and spiritual health of the people. In the past four years, 2,224 people (40 games) have served, 819 men (37%), 1405 women (63%), 541 abnormal people (24%), and 315 people (58%). Active care and follow-up and timely referral to medical services, the overall service has received broad support, recognition and affirmation, and it is ongoing in 2012.

### Conclusions/lessons learned

Many companies have begun to attach importance to corporate social responsibility. In addition to obtaining the maximum benefit, they must also take into account the rights and interests of employees, consumers, the community and the environment. Mazu connects resources from all walks of life for the belief, dependence and spiritual sustenance of the general public and extends its tentacles to the community. , let the public gain health and happiness, and work together to fulfill corporate social responsibilities.

### Contact:

SHEN HsuPing  
Feng Yuan Hospital of the MOH, TAIWAN  
[hph@fyh.mohw.gov.tw](mailto:hph@fyh.mohw.gov.tw)

## Hepatitis C Detection and Prevention Campaign

**CHEN Li-Yueh, LI Shu-Zhen, HE Ming-Yin, CHIANG Hui-Chaun, LAY Huey-Jen**

### Background and objective

According to statistics from the Ministry of Health and Welfare in 2021, about 12,035 people died each year due to chronic liver disease, liver cirrhosis, and hepatic cancer. Hepatic cancer ranks second in the causes of cancer death. High popularity of hepatic cancer in Taiwan is mainly related to the high prevalence of hepatitis B and C.

### Methods/intervention

1. Participating in the pilot plan for the treatment of chronic hepatitis B and C of the National Health Insurance Department. 2. Interdisciplinary formation of hepatitis medical care team. 3. Tracing slip through the net. 4. Accurate screening, expanding social resources combined with hospital care capacity. 5. Improve people's health awareness.

### Results

According to statistics, until 2022, a total of 4,853 people were screened for hepatitis B and C. Screening results: 70 people were positive for hepatitis B and 1,557 people were positive for hepatitis C. Physicians suggested that further hepatitis C virus nucleic acid (HCV RNA) treatment was indicated. Among the 92 people, 46 people were detected positive for hepatitis C virus nucleic acid, and all accepted for oral anti-virus treatment. The cure rate of hepatitis C was 100%.

### Conclusions/lessons learned

In order to respond to the demands of WHO and make hepatitis C disappear from Taiwan, our hospital conducts precise screening for high-risk groups and regions, so that all resources worked efficiently, and patients can be detected and treated early, Liver disease will be cured and Hazards are minimized.

### Contact:

SHEN HsuPing  
Feng Yuan Hospital of the MOH, TAIWAN  
[hph@fyh.mohw.gov.tw](mailto:hph@fyh.mohw.gov.tw)

## Preliminary study on the establishment of active reporting indicators of hospitals to prevent child abuse incidents in the community

**LI Chi-Hung, HAN Li-Nine, CHEN Pei-Chi**

### Background and objective

To strengthen social security, the Taiwan government approved "The policy of strengthening social safety network" (2018-2020) on February 26, 2018. This policy, which emphasizes providing service centering on families and communities, can prevent child abuse, domestic violence, and other issues through establishing a cross-system collaboration by the social network. In the social



safety network, hospitals play an extremely important role. The cooperation between hospitals and the network is key to achieving the purpose of child protection and prevention.

### Methods/intervention

According to the statistics from the Taiwan government, in 2019, a total of 73,973 cases of suspected mistreatment of children were reported, of which 70% were under the age of 6, and 50% were under the age of 3. It is showing that children under the age of 6 are the high-risk group of the reported cases. Therefore, in this article, we use the "vulnerable families" in the "Social Safety Net-Ecare" reported by the departments from 2018 to 2019 as the actual data. First, we analyzed the reported cases which are preschool children (under 6 years old), and then we used the reported cases in 2020. From the regression analysis, we found high-risk factors such as "teenage births", "illegitimate children", "complicated emotional relationships with caregivers" and others. These high-risk factors from the hospitals' data are consistent with the risk factors of "vulnerable families" defined in "The policy of strengthening social safety network". The preliminary study has found apparently that the hospitals and government indicators reach a consistent direction.

### Results

It is hoped that the results presented in this article will be used by hospitals to establish high-risk indicators of children from vulnerable families. Through case-by-case management and tracking mechanism, it can provide caring services for children who cannot fully express themselves or have weak self-care functions. This not only contributes to the efforts to realize the idea of "prevention is better than cure" with the government but also gives full play to the hospitals in the primary prevention of the social safety network.

### Conclusions/lessons learned

It is our mutual responsibility to make sure the healthy growth of children.

#### Contact:

LI Chi-hung  
MacKay Memorial Hospital, TAIWAN  
[sandylee@mmh.org.tw](mailto:sandylee@mmh.org.tw)

## Discussion on the impact of the hospital-based community base service model on the health of the elderly-Taking a central regional hospital in Taiwan as an example

**CHOU Chia Ni, GAO Ting-Ling, FU Chiung-Hui**

### Background and objective

This study explores the impact of developing community services based on hospitals on the health of the elderly? What are the differences between different service models and frequencies? From this, a localized health promotion service model is constructed.

### Methods/intervention

This study uses empirical research methods and secondary data analysis to conduct three-year data analysis of elderly activity participation and health ability for the elderly who used community base services in the hospital from 2020 to 2022, and evaluate them through the frequency of medical visits and service usage. physical profile.

### Results

During the period from 2020 to 2022, total of 221 cases, with an average age of 79 years, served 66,537 person-times, and conducted 44,481 health promotion activities. After tracking service usage and health status for three years, it was found that only 37 elderly people were able to participate in activities for three consecutive years, and they would leave due to factors such as death, traffic, and epidemics. The Kihon Checklist scores were 9.0, 8.2, and 7.8 points, respectively. It was found that the elderly's mobility continued to decline through continuous intervention stimulation, and the abnormal blood pressure was 2%. The rate of outpatient visits was 0.34%, 0.38%, and 0.38%; Hospitalization rate accounted for 0.38%, 0.24%, 0.33%. Elderly who did not participate in community activities stably (attend classes 3-4 times a month), 13% had abnormal blood pressure, 84% had a history of disease; the rates of outpatient visits are 0.35%, 0.48%, and 0.45%, and the hospitalization rates are 0.29%, 0.39%, and 0.35%.

### Conclusions/lessons learned

The hospital-based community base service emphasizes continuous physiological monitoring, assessment, and course intervention related to medical and health care, so that the elderly can pay attention to their physical condition. The elders in the community can discover the importance of exercise, diet, nutrition and preventive medicine, so as to keep their function and physical condition stable state, thereby reducing the use of medical needs, reducing the possibility of hospitalization, and reducing medical expenses.

#### Contact:

CHOU CHIA NI  
China Medical University Beigang Hospital, TAIWAN  
[sum19841984@hotmail.com](mailto:sum19841984@hotmail.com)

## HPH Intervention Interview sheet and support for financial difficulty and social isolation

**YUKI Yoshie, MAEDA Motoya, FUCHI Ryuichi, YAMAHARA Misato, NOGUCHI Ai**

### Background and objective

During the Pandemic, socially vulnerable groups were forced to live harder. As financial difficulty and social isolation are significant determinants of health, we sought for ways to provide intervention on all such cases.

### Methods/intervention

From J-HPH pilot study, 4 questions were added to existing inpatient screening interview sheet: (Q1,2 financial difficulty) 1. Did you have any difficulty in making ends meet last year? 2. Is it difficult to manage before payday? (Q3,4 solitary) 3. How often do you see/talk with your friends? 4. With your family/relative? For financial cases, case worker would visit and refer them to

social services; for solitary cases, hospital's Friends Association staff would invite them to community hobby circles or exercise classes.

### Results

Out of 3027 total inpatients in 2022, 179 financial cases were spotted among 2486 respondents; 19 applied for Social Welfare and 52 used Free/Low-cost Medical Service. For solitary, 933 cases were found among 1511 respondents. Due to Pandemic restrictions, intervention just started from September 2022 and 50 people were introduced to community hobby circles or exercise classes.

### Conclusions/lessons learned

The 4 questions are useful to identify intervention targets without asking sensitive questions on income or relationship. Previously concerned cases were referred to social services only when hospital staff noticed Social Determinants of Health during hospitalization. With this interview sheet, screening of every case became possible and more intervention is provided. Solitary intervention is still few and needs to be increased. Possible collaboration with Community-Based Integrated Care System and Medical Association is underway.

### Contact:

YUKI Yoshie  
Nishiyodo Hospital, JAPAN  
[yuki.yoshie@mbm.nifty.com](mailto:yuki.yoshie@mbm.nifty.com)

## Partnership of Government and Healthcare Professional Organizations for Geriatric Emergency Department Implementation in Taiwan

**WU Chien-Yuan, YANG Chia-Jung, TAN Tian-Hoe, NG Chip-Jin, HUANG Chien-Cheng, WU Chao-Chun**

### Background and objective

As the world's population ages, improving geriatric emergency care has become increasingly important. However, the extent to which collaboration between the government and healthcare professional organizations affects this issue remains unclear. This study aimed to provide clarification.

### Methods/intervention

From January 1, 2021, to November 30, 2021, the Taiwan Health Promotion Administration and Taiwan Society of Emergency Medicine (TSEM) collaborated to establish geriatric emergency departments in 13 emergency departments (EDs) based on the acute care for elders model. Experts from the Taiwan Association of Gerontology and Geriatrics and Taiwan Association of Critical Care Nurses were also involved in developing the Taiwan Geriatric Emergency Department Guide (TGED) and individual goals for each ED. Communication, benchmarking, regular meetings, education, and follow-up were conducted through communication software and a monthly checklist.

### Results

Despite the challenges posed by COVID-19, 10 out of 13 EDs achieved their overall goals (76.9%). According to TGED, the

achievement rates for the seven domains were as follows: interdisciplinary team (100%), education (92.3%), equipment and supplies (100%), environment (92.3%), care protocol (100%), quality indicator (100%), and monitor indicator (92.3%). A practice guide and an education guide were also developed for future promotion of geriatric EDs based on the experiences and results of the 13 EDs.

### Conclusions/lessons learned

The successful implementation of a new model for collaboration between the government and healthcare professional organizations in Taiwan provides an important reference for improving geriatric emergency care in the future.

### Contact:

KANG CHIUCHEN, TAIWAN  
[jane.kang@hpa.gov.tw](mailto:jane.kang@hpa.gov.tw)

## Collaborative Efforts between Government and Healthcare Professional Organizations in Taiwan to Continuously Promote Geriatric Emergency Department

**WU Chien-Yuan, CHUNG Yuan-Fang, YANG Chia-Jung, TAN Tian-Hoe, NG Chip-Jin, HSU Chien-Chin, HUANG Chien-Cheng, WU Chao-Chun**

### Background and objective

The collaboration between the government and healthcare professional organizations in developing a Geriatric Emergency Department (GED) in Taiwan has shown promising results. However, the continuous promotion of GED remains unclear. Therefore, this study aims to clarify the continuous promotion of GED.

### Methods/intervention

The Taiwan Health Promotion Administration, along with the Taiwan Society of Emergency Medicine and nine hospitals, collaborated to promote GED continuously. Geriatricians, nurses, pharmacists, and social workers also participated in the promotion. From June 2, 2022, to December 31, 2022, the following steps were adopted: (1) Establishing an expert committee; (2) Setting goals; (3) Establishing a counseling mechanism and preparing a checklist; (4) Developing a communication platform; (5) Providing Taiwan with a GED practical manual for reference; (6) Creating a list of suggested lecturers for geriatric care education; (7) Planning joint and individual meetings and district co-academic conferences; (8) Following up on the progression according to the checklist; and (9) Setting future goals and revising the Taiwan GED practical manual.

### Results

The GED in the nine hospitals showed a significant improvement in seven domains, including an interdisciplinary team, education, equipment and supplies, the environment, care protocols, quality indicators, and monitor indicators. Nineteen care protocols were adopted, which included 216,860 eligible

patients, and transitional care was successful in 49,143 patients. Almost all of the 176 participants who attended the district co-academic conferences agreed that the conference had benefited them. Future goals were also set, and the Taiwan GED practical manual was revised.

#### Conclusions/lessons learned

The collaboration between government and healthcare professional organizations successfully promoted GED in Taiwan and can be used as a reference for other countries.

#### Contact:

KANG CHIUCHEN, TAIWAN  
[jane.kang@hpa.gov.tw](mailto:jane.kang@hpa.gov.tw)

## Development of a community-based NCD prevention and management program using mHealth in Cambodia

**KWON Eunjoo, KIM Hyunseung, RYOO Seungwan, CHOI Hyungyu, RYU Jinyoup, HWANG Oknam, KIM Yukyung, YANG Youngran, CHO Seon, PARK Jae-Young, LEE Eun-Hee, KIM In-One**

#### Background and objective

Non-communicable diseases (NCDs) are the leading causes of death at a global level and a serious public health threat to developing countries. In this regard, responding to NCDs is a particularly important and strategic challenge for developing countries. The mHealth is effective tools in delivering public health intervention, with the ability for overcoming the financial and geographic barriers.

#### Methods/intervention

The purpose of this study is to describe the activities for local residents in Cambodia, entitled "NCDs Prevention and Management Program using mHealth in Prek Pnov of Cambodia, which is a Korea International Cooperation Agency (KOICA) Public Private Partnership (PPP) program conducted by forming a consortium between Korea Association of Health Promotion (KAHP) and Jeonbuk National University. This program was developed with community-based participatory approach using mHealth and cooperative partnerships between various sectors including Health Promoting Hospitals (HPHs) were built.

#### Results

The community-based NCDs prevention/management program was developed for capacity building and participation of the community. The village health supporting group and peer educators in Prek Pnov of Cambodia, participated in the NCDs program. Specific practices to prevent and manage NCDs was included the followings: 1) support for inspection equipment and workers empowerment of health worker's ability 2) establishment and operation of a health information system 3) developing materials for prevention and management of NCDs, support for healthy lifestyle club etc.

#### Conclusions/lessons learned

The community-based participatory approach using mHealth can be a useful tool to prevent and manage NCDs in developing

countries. Specially, mHealth and ICT framework are effective way to prevent and manage NCDs in developing countries during public health crisis such as COVID-19 pandemic. KAHP and Jeonbuk National University are implementing NCDs prevention and management program developed until December, 2024, in Prek Pnov of Cambodia.

#### Contact:

KWON Eunjoo  
 Mediceck Research Institution, KOREA  
[4ever35@hanmail.net](mailto:4ever35@hanmail.net)

## The Study of Improving Referral Behavior from Primary Care Clinics to Community Medical Centers in Taiwan

**CHEN Ming-Shu, LIN Wo-Chuan, CHEN Tsou-Chi**

#### Background and objective

As the global population ages and chronic diseases continue to increase, building the capacity of healthcare systems has become an important issue. How to effectively improve the referral behavior of primary care clinics so that patients can obtain better medical services is an important healthcare policy issue.

#### Methods/intervention

This study aimed to explore the factors affecting referral behavior from primary care clinics to community medical centers and to propose strategies for improving the referral rate. It is a cross-sectional study that collected data from March 1, 2022, to April 20, 2022. A total of 254 questionnaires were collected from the primary care clinic physicians in New Taipei City, Taiwan. The data were utilized in the SPSS 26.0 (version 3.6.3) for statistical analysis.

#### Results

The results showed that the referral experience factors, including "the number of patients referred in the past month," "whether the physician joined the family doctor program," "referral cognition," "daily outpatient volume," and "years of practice," would affect the overall referral behavioral intention of physicians. ( $p < 0.05$ )

#### Conclusions/lessons learned

Improving referral behavior from primary care clinics to community medical centers or teaching hospitals is crucial for promoting in Taiwan. This study provides insights into the factors affecting referral behavior and proposes strategies for improving the referral process.

#### Contact:

CHEN Ming-Shu  
 Asia Eastern University of Science and Technology, TAIWAN  
[tree1013@gmail.com](mailto:tree1013@gmail.com)

## The necessity of utilizing HPH and SDH questionnaires.

**KONISHI Tsuyako, SUZUKI Mika,  
YASUOKA Jyuniti, ISIKAWA Ai, DOI Nao,  
NEGISHI Kyota**

### Background and objective

Due to the spread of COVID-19, it has become difficult to connect with others. Additionally, as aging populations increase, there has been a rise in single living and elderly households in urban areas, leading to an increase in the percentage of people who lack social connections in their communities.

### Methods/intervention

The "HPH & SDH questionnaire" was revised and introduced into electronic medical records in collaboration with other departments. The 8th mid-term plan sets the goal of creating a "fair society where no one is left behind" and utilizes the questionnaire to catch problems and solve SDH issues as part of the annual policy.

### Results

The questionnaire was not fully utilized due to the effort required, especially in responding to feverish patients in outpatient departments. 2) With the annual policy and nursing department interventions, SDH item consultations were forwarded to the organization and multiple cases were linked to the community.

### Conclusions/lessons learned

It is said that having social connections is as effective for longevity as quitting smoking. The two examples presented here recognize isolation as a hindrance to health in medical institutions, communicate this to the community, and become social prescriptions with a connection to the community. Learning the "HPH&SDH Questionnaire" within the corporation is also considered to have been effective during this process. Particularly as living alone is expected to increase in the future, it is important to continue staff education in order to practice health promotion in business activities. Furthermore, it is necessary to raise awareness of the significance of the "HPH&SDH Questionnaire," systematize it, and utilize it at an early stage in all business locations to quickly identify and resolve issues.

### Contact:

KONISHI Tsuyako  
Tokyo Health Cooperative Association, JAPAN  
[t-konishi@tokyo-health.coop](mailto:t-konishi@tokyo-health.coop)

## Creating a watchful eye through the food pantry

**SAITO Keiko, SIRASU Hisaaki, TUKUI  
Tomizou, SINODA Satae, MOTIDA Fujiko ,  
YAMAGUTI Hiroki, NEGISHI Kyota**

### Background and objective

The spread of COVID-19 has led to an increase in financially struggling individuals, such as those who have lost their jobs. There has been a growing demand from cooperative members to provide support.

### Methods/intervention

1) Establish an executive committee within the council to work on this issue collectively. 2) Provide food distribution from the perspective of HPH and provide continuous support to financially struggling individuals in the community. 3) Provide health consultations and support for those in need, and cooperate with other organizations to expand the circle of support.

### Results

1) A wide range of age groups have utilized the services. 2) A cooperative system has been established with the community and other organizations. 3) There has been a change in the awareness of cooperative members toward their local community.

### Conclusions/lessons learned

Food pantries have aimed to be a place where anyone can stop by without hesitation. In addition to simply distributing food and daily necessities, they are seeking ways to provide support as a consultation center for problems in daily life, and want to connect those in need with government assistance. The organizing committee has been practicing while exploring the role of the food pantry and feeling the challenge of "how to connect with those in need of support." By seeking the cooperation of many people and connecting with local organizations, the committee's perspective has also broadened. They want to continue their activities as a program that can also provide community monitoring, taking into account not only economically disadvantaged individuals but also considerations for isolation, etc.

### Contact:

KONISHI Tsuyako  
Tokyo Health Cooperative Association, JAPAN  
[t-konishi@tokyo-health.coop](mailto:t-konishi@tokyo-health.coop)

## Community Integration Service Model in Taiwan

**CHEN Hsiangyi, CHANG Wenling, HUANG  
Deyang**

### Background and objective

Community integrated case service managers assist cases in the community with care needs, draw up care plans, link care resources, and follow up service quality. In 2022, there are more than 2,000 case managers in Taiwan. Mackay Memorial Hospital has a total of 16 case managers, with an average of 140 cases per person.

### Methods/intervention

Case classification and classification management in Mackay Memorial Hospital: 1. For high-risk, single, elderly and vulnerable cases with high needs, we will increase telephone care twice a month and increase home visits once a quarter. 2. Actively link multiple services to help disabled families.

**Results**

In 2022, a total of 1998 special cases were served, 7 of which were listed as high-risk cases, and a total of 15 special home visits were provided.

**Conclusions/lessons learned**

Establish a hierarchical and classified case management model to effectively provide help to disabled families and allow personal management personnel to manage resources more effectively.

**Contact:**

CHEN Hsiang yi  
Mackay memorial hospital tamsui campus, TAIWAN  
[joylight722@gmail.com](mailto:joylight722@gmail.com)

## The effectiveness of promoting the community integrated care service model under the COVID-19 epidemic ~ Experience in Taiwan

**CHUNG Hsiu-Ling, HSU Cyong-Ru, CHANG Su-Yu**

**Background and objective**

In 2022, there were 240,725 people over 65 years old in Beitou District, accounting for 20%. Aging and COVID-19 bring about life changes, through community integration care service model, multimedia application, continuous health care; Practice local aging and healthy aging.

**Methods/intervention**

1. Formulate policies for health promotion and long-term exposure. 2. Long-term photos provide health promotion, family care, disability delay and consultation. 3. Use the hospital website, FB fan group, LINE group, AR interactive sports APP, TALK SHOW movie. 4. Strengthen participation motivation and self-management at health gathering point. 5. Volunteers care for the weak, greet people by telephone, and communicate digitally.

**Results**

1.299 health promotion activities with 5,410 participants. 2. Deferred disability program: The progress rate of sitting up and standing on one leg in 30 seconds after 12-week activity intervention was 54%, and the depression was improved by 35%. 3. 35 cases of high concern were taught to send out the platform and register online. 4. 995 people inquired about the long-distance photo service, accounting for 86%. 5. Referral of 48 long-term photos, care services and transportation accounted for 52%. 6. Satisfaction survey 199 people aged 75-84 accounted for 40%, and they were 100% satisfied with the consultation and service process. 7. The health collection point distributed 2,710 points to encourage continuous participation. 8. There are 23 long-term photo volunteers, 38% of whom are over 65 years old and have served for 14,898 hours.

**Conclusions/lessons learned**

Building a friendly community and virtual care platform is found to be effective in delaying disability and improving depression, strengthening interpersonal relationships and providing holistic health care.

**Contact:**

SIOU LING jhong  
Taipei Municipal Gan-Dau Hospital, TAIWAN  
[sljhong@gandau.gov.tw](mailto:sljhong@gandau.gov.tw)

## Poster session 20: Interventions for health promotion in the local community and for the population served

### Benefit Analysis of Structural Group Activities on Community-Based Dementia Care Centers

**CHUANG Hui-Chu, HUANG Shang-Chien, CHANG Yu-Jung**

**Background and objective**

The aging population worldwide benefits from medical advancements, but age-related health issues like dementia and functional decline persist. Studies have shown that regular exercise indirectly prevents dementia and improves physical health. Currently, the non-pharmacological therapies, like the "Programs to Prevent or Delay Disability for Elderly Care," use training modules to delay dementia. This study will analyze the two different types of modules and compared them to achieve the goal of preventing and delaying disability or dementia.

**Methods/intervention**

The recruitment period was from January 7, 2022 to July 11, 2022, and the primary target group was elderly individuals with dementia at Community-Based Dementia Care Centers in Taichung, Taiwan. The effectiveness will be assessed through Kihon Checklist pre and post-tests. The criteria included: 1. Mild to moderate dementia patients aged 65; 2. Able to communicate, understand and follow the instructions; 3. Able to walk without assistance from others; 4. Able to complete the 12-week activity program for each of the two training modules.

**Results**

It was found that there was a significant difference in two modules ( $p < 0.05$ ). In the first modules, the analysis results showed that the cognitive function, the oral nutrition, and the muscle training, all had significant differences, while the rest did not. On the other hand, the results of the second modules showed that the muscle training and the psychosocial factors had significant differences, while the rest did not.

**Conclusions/lessons learned**

In this result we can find that the choice of medical professionals leading participant training can affect its effectiveness. The results may serve as evidence-based references for similar centers. The activity selection should consider individual case history, physical condition, lifestyle, and emotional reactions, and adjust the difficulty level to enhance motivation.

**Contact:**

HUI-CHU Chuang  
Tungs' Taichung MetroHarbor Hospital, TAIWAN  
[t4298chu@gmail.com](mailto:t4298chu@gmail.com)

## Medical social workers's experience of the middle-aged providing for the elderly cases: a case study of ShowChwan Memorial Hospital

NIEN Yu-Chi

### Background and objective

Taiwan has entered the aged society. With the phenomenon of population aging and low birth rate, the family structure is becoming miniaturized, and "the middle-aged providing for the elderly" has become a common phenomenon in today's society. The purpose of this study is to explore the services provided by medical social workers in response to the needs of the middle-aged providing for the elderly cases, and to provide reference for the development of medical social workers in the future.

### Methods/intervention

The secondary data and content analysis were conducted based on the case records of the elderly patients who were served by medical social workers during 2021-2022.

### Results

There were 504 elderly cases, 86 of which are the middle-aged providing for the elderly type cases. The demand for services were sequentially hospice care, economic, and care issues. Medical social workers provide emotional support and empathy at four aspects of physical, psychological, social and spiritual care in the issues of hospice care, including discussion and review of the meaning of life, good death planning, assistance in disease awareness, restoration of relationships, etc.; in economic and care issues, they provide support through economic assessment and resource inventory, referral to internal and external units such as economy, auxiliary equipment, care resources, etc., to improve the crisis situation of the case and achieve the goal of relieving problem.

### Conclusions/lessons learned

Elderly cases account for nearly 40% of the total medical social worker services. In the future, due to the impact of population structure, the issue of the middle-aged providing for the elderly needs more attention. Suggestions: (1) Strengthen the knowledge of hospice care and long-term care; (2) Improve the professional acuity of case services; (3) Expand the resource library to handle the various needs of individual cases.

### Contact:

CHIA WEN Lai  
Show Chwan Memorial Hospital, TAIWAN  
[chd7203270@hotmail.com](mailto:chd7203270@hotmail.com)

## Effectiveness of Community Health Promotion Center programs for local residents in South Korea

LEE Seohyeon, KIM Jiye, LEE Jiyoung, KWEON Sujeong, LEE Yunkyoung, LEE Jaewon, KIM Hyekyeong

### Background and objective

The Community Health Promotion Center (CHPC) is a local health promotion institution that focuses on vulnerable areas. Programs are implemented through resident participation and cooperation with local resources to manage and support the health of residents. However, the effectiveness of these programs has not been identified and verified. Therefore, this study aims to determine the effectiveness of the CHPC programs provide evidence for the nationwide dissemination.

### Methods/intervention

Data on health behaviors, medical check-up and health care utilization for the county where each center is located, from 2015 to 2020, were collected from the National Health Insurance Service (NHIS) System. First, the differences between 2020 and the year each center was opened were calculated for obesity rate, abdominal obesity rate, recommended physical activity rate, smoking rate, and high-risk drinking rate in the county of the center. The results were then compared to 65 centers that were not opened in 2020. A meta-analysis was conducted to calculate the effect size of the CHPC program for each indicator by comparing the performance data of all 72 centers after their opening with the data of the entire county of the NHIS for that year.

### Results

Since the opening of the CHPCs, the smoking rate in the county has decreased by 72.3%, high-risk drinking has decreased by 87.7%, and recommended physical activity has increased by 90.8% in the centers. Among all centers, 63.1% and 64.6% of obesity and abdominal obesity rates were lower than those of all cities and provinces in each county. The meta-analysis found that center users were 0.866 times less likely to smoke and 0.700 times or 0.712 times less likely to be obese than the entire county population. However, users were 0.806 times or 0.811 times less likely to practice the recommended physical activity than their county's population.

### Conclusions/lessons learned

The establishment of CHPCs has improved the health of local residents. Therefore, CHPCs should be established nationwide, and programs tailored to local needs should be implemented for effective health promotion.

### Contact:

LEE SeoHyeon, KOREA  
[czerny208@naver.com](mailto:czerny208@naver.com)

## A Preliminary Study on the Steps and Effects of Hospitals in Promoting Dementia-Friendly Services

CHOU Chia Ni, YANG Si-Mei, LIN Yi-Ru

### Background and objective

In 2018, Taiwan announced the action goal in the "Dementia Prevention and Care Policy Guidelines and Action Plan 2.0" that by 2025, more than 7% of the national population will have a correct understanding of dementia, and more than 7% will have a friendly attitude (health and welfare Ministry, 2018). Therefore, the hospital promotes the measures and interventions of dementia-friendly services, hoping to improve the public's understanding of dementia and prevent it early

### Methods/intervention

This study uses empirical research methods to analyze and discuss the effectiveness of the steps implemented by a central Taiwan hospital in promoting dementia-friendly community services from 2019 to 2022. Research design and implementation steps Step 1: Establish a dementia base and a community-friendly service model The second step: communication, advocacy, friendly knowledge and friendly environment construction Step 3: Analyze its effectiveness through questionnaire survey and medical treatment status

### Results

From 2019 to 2022, the hospital promoted a total of 64 awareness campaigns, reaching a rate of 12.11% for dementia (community awareness rate: number of people in class/number of people aged 15-64=4661 people/38477 people). Let the public sector, primary and secondary schools, and private businesses promote interactive dementia experience activities and use course satisfaction and pre- and post-tests to verify its effectiveness (average satisfaction is 86%, and the average dementia cognition after the course is 90 points). In addition, there were a total of 2,970 dementia service cases in the past three years, and the outpatient visit rates from 2019 to 2022 were 2.81%, 3.11%, and 3.08%, respectively.

### Conclusions/lessons learned

The establishment of a dementia-friendly community environment needs to be promoted through multiple channels to eliminate the differences between local community residents and community development associations, so as to strengthen the prejudices of the elderly and the general public, thereby increasing their willingness to seek medical treatment and reducing the risk of disease progression. Therefore, it is necessary to make good use of long-term care resources and integrate with hospitals, governments, and industry and academia.

#### Contact:

KAO TING-LING

China Medical University Beigang Hospital, TAIWAN

[n4878@mail.bh.cmu.edu.tw](mailto:n4878@mail.bh.cmu.edu.tw)

## Using QR Code to improve the effectiveness of diabetes education

LEE Yi-Lien, CHANG Yi-Ling

### Background and objective

In recent years, the rapid increase of diabetes has not only affected our health, but also brought high cost of medical expenses. Therefore, how to plan an efficient and quality care model is an important issue. Recently, the use of QR Code has become more and more extensive, and it is hoped that technology will be to improve the self-health management ability of high-risk groups of diabetes and "control sugar" for diabetics.

### Methods/intervention

All 120 of diabetic outpatients were enrolled from the section of metabolism in the medical center. We randomized these subjects into two groups. The experimental group (n=60) scans QR Code information about health education, and the ones in the control group (n=60) received the routine nursing protocol for outpatient. The follow-up duration was three months(January

10, 2022, to March 10, 2022). At the conclusion of the activities, the two groups' self care, cognition test, Health Education satisfaction and HbA1c reduction rate were compared.

### Results

In the experimental and control groups, the health-promoting perception score, 92 vs. 75; health education, satisfaction 92 and 78. Drug & diet compliance and health beliefs were significantly improved, the rate of progression of HbA1c reduction was 3.2% and 1.0%, with significant differences between the two groups. This shows that using QR code for health education can help to improve health self-management.

### Conclusions/lessons learned

The use of QR codes enhances patient access to diabetes without being affected by time and geography so that patients can view the information they need at any time. In the future, this method can be extended to other diseases.

#### Contact:

LEE Yi-Lien

Chi Mei Medical Center, TAIWAN

[su67015@gmail.com](mailto:su67015@gmail.com)

## Teaching and learning for Elderly CKD patients

CHANG Yi-Ling, LEE Yi-Lien

### Background and objective

A total of 115 patients with CKD (chronic kidney disease) were collected, 78% of whom were over 65 years old. How to provide appropriate health education methods for elderly patients, improve the effectiveness of health education, and delay the progress of CKD is the main goal of early comprehensive CKD care.

### Methods/intervention

All 115 of CKD outpatients were enrolled from the section of Nephrology in the medical center. We randomized these subjects into two groups. The experimental group (n=58) multimedia information about health education, and the ones in the control group (n=57) received the routine nursing protocol for outpatient. The follow-up duration was three months (March 1, 2022, to May 30, 2022). At the conclusion of the activities, the two groups' self care, cognition test, Health education satisfaction and Inspection rate were compared.

### Results

In the experimental and control groups, the health-promoting perception score, 90 and 70, health education, satisfaction 90 and 75, Inspection rate was 93% and 67%, Drug compliance and health beliefs were significantly improved, with significant differences between the two groups. This shows that using multimedia for health education can help to improve health Knowledge, attitude and practice regarding.

### Conclusions/lessons learned

The use of multimedia makes the boring health education curriculum vivid and lively. It can also deepen the impression on patients' minds and promote the elder's ability to control their own health and care. In the future, we will implement a variety of health education methods for elderly patients, increase their

interest in health education, and conduct personalized corresponding teaching.

**Contact:**

LEE Yi-Lien

Chi Mei Medical Center, TAIWAN

[su67015@gmail.com](mailto:su67015@gmail.com)

## Experience sharing on the promotion of compassionate care communities - Cooperating to build a network of hospitals and communities - Taking Tai-pei, Taiwan as an example

**LIN Hsin-Yi, WANG Samuel Shih-Chih, WU Yi-Ling**

**Background and objective**

Compassionate community is mainly a concept promoted by Professor Bradford in the UK. These include: providing education and information about health, providing social support to individual and community; encouraging rethinking of palliative care and promoting the collaboration between the fields of health promotion and palliative care promotion. In 2018, Taiwan established the first compassionate community in East Asia. The study mainly focuses on Wanhua and Zhongzheng Districts in Taipei City, pre-sending the process of the cooperation between hospitals and communities to promote compassionate communities.

**Methods/intervention**

When constructing a compassionate community, it is also necessary to consider the cultural background of the community in different time and space, the network resources of the community, and the key figures in the community. Connecting with non-profit organizations through assistance with community leaders, we can find consensus and work together. Therefore, find out the characteristics of the community and humanistic characteristics.

**Results**

Through the organization of activities, establish relationships with the community. The normal activities held are as follows: Health concepts and health courses, Discuss life education, Creative arts and culture courses, Visiting disabled or disadvantaged residents of the community. Total Number of Participants 4317, 2019-2021 year.

**Conclusions/lessons learned**

The construction of a compassionate community cannot rely solely on the promotion of the hospital. Through the point-line-surface of the community network connection, Wanhua Tianhou Temple is promoted with the spirit of charity; Tangkuoli mainly cares for marginalized people; Jiaganzai is promoted with integrating ecological education into life education; Gutingzhuang mainly focuses on caring for foreign care workers. The four compassionate communities develop different characteristics, and they can also support and co-operate with each other. They have also stepped out of their own differences and representativeness.

**Contact:**

LIN Hsin-yi

TAIPEI CITY HOSPITAL, TAIWAN

[A1928@tpech.gov.tw](mailto:A1928@tpech.gov.tw)

## Anthropometric changes in female participants in the combined aerobic and resistance training program longer than one year: A cohort study

**LIM Jung-Sun, OH Bumjo, HWANG Hee-Jin, OH Han Jin**

**Background and objective**

To analyze the anthropometric changes in women who had participated in the combined resistance and aerobic training program for more than a year and to determine the effect of exercise on weight loss.

**Methods/intervention**

A total of 9,128 women aged between 20 and 60 years who had registered in the Curves program, which employs a combination of resistance and aerobic training exercises, longer than one year were included in our analysis. The women were divided into groups according to exercise frequency:  $\leq 1$  day/week, 1 day/week, 2 days/week, and  $\geq 3$  days/week. Weight and waist circumference were measured at the beginning and end of the follow-up period.

**Results**

The average follow-up duration was  $625.3 \pm 151.2$  days. Waist circumference and bodyweight decreased in proportion to the frequency of exercise participation. The achievement of more than 5% weight reduction was observed to be high in proportion to the frequency of exercise participation in each group. The odds ratios of 5% weight reduction between the exercise groups were 1.47, 1.58, and 2.05 for the 1 day/week, 2 day/week, and  $\geq 3$  day/week groups, respectively.

**Conclusions/lessons learned**

Women who had participated in the combined resistance and aerobic training program for more than a year had lost weight in a dose-response manner.

**Contact:**

LIM Jung-sun

Seoul National University Boramae Medical Center, KOREA

[angela4sunny@gmail.com](mailto:angela4sunny@gmail.com)

## Discussion on the impact and the significance of Mobile Phone Courses for Senior Citizens in Community

**CHEN Yu Shin, JIAN Hui-Qing, CHENG Chin-Chia**



### Background and objective

With the comprehensive popularization of 4G mobile networks and the diversified development of smart phone applications, the time spent by our citizens using mobile phones is increasing year by year. According to the survey by the National Development Commission, the Internet access rate of the elderly exceeds 90%. Furthermore, due to the rise of the pandemic in 2019, the opportunities of going out have decreased, which indirectly increased the demand for mobile phone courses among senior citizens

### Methods/intervention

15 willing elders were recruited through posters and social media, and participated in a 24-week group course once a month, two hours each time. The course offered understanding and using commonly used mobile phones functions. The major topics include understanding mobile devices, introduction to smartphone systems, common functions of smartphones, common settings, etc. This study adopts a pre-test/post-test design. The design concept of the questionnaire is based on the comprehension of the more commonly used mobile phone functions, such as: sending LINE(an app) texts, talking on the phone, taking pictures, watching news and videos, and shopping online. The effectiveness of the course is measured by the improvement of the participants' everyday life satisfaction.

### Results

The pre-test questionnaire of the course shows: 12 females, 3 males, with an average age of 72 years old. Among the more commonly used functions of mobile phones are 93.3% sending messages, 86.6% talking on the phone, and 53.3% of taking pictures, while reading news accounted for 26.6%, and shopping online accounted for 13.3%. After the course, 100% of them can send texts on LINE(an app), talk on the phone and take photos, 53.3% can watch news and videos, and 26.6% can shop online. Overall, the satisfaction shown by degree of happiness in elderly life of the trainees increased from 85 points to 100 points. In the questionnaire after the course ended, the course satisfaction rate was 99% on average, and 100% of the participants would like to continue to participate in the future course.

### Conclusions/lessons learned

The results of this study found that the seniors participating in group activities can not only increase themselves the opportunities for interpersonal interaction, but also gain comfort and support from their peers. Consequently, engaging in such group activities could enhance their sense of well-being in life and promote their physical and mental health.

#### Contact:

CHEN YU SHIN  
kaohsiung Municipal Ta-Tung Hospital, TAIWAN  
[chen92201@gmail.com](mailto:chen92201@gmail.com)

## Results of Low-Dose Computed Tomography in lung cancer screening

**CHEN Wen-Chieh, YEN Yu-Ying, TSAI Yi-Cheng, CHIU Chiung-Ling, HUANG Ming-Ren, YEN Chia-Chi**

### Background and objective

Cancer is the top cause of death in Taiwan, among which lung cancer is the most deadly cancer. In July 2022, the Ministry of Health and Welfare promoted the Low-Dose Computed Tomography (LDCT) detection program. Our hospital actively promoted LDCT to detect lung cancer cases in early stage and provide follow-up clinical treatment suggestions.

### Methods/intervention

In September 2022, our hospital joined the "Lung Cancer Early Detection Program" of the Ministry of Health and Welfare. People who meet one of the risk factors of lung cancer: 1. Family history of lung cancer: male 50 to 74 years old or female 45 to 74 years old; 2. Has heavy smoking history: Smokers aged 50 to 74 who have smoked more than 30 packs per year, who wish to quit smoking and agree to smoking cessation services, or who have quit smoking for less than 15 years and have health insurance can be examined every two years. The services include: 1. Setting up lung cancer screening teams, including thoracic, family, radiology and community health teams. 2. Conduct education and training of medical and administrative personnel. 3. Make publicity posters, leaflets and QR code for public announcement, and provide online assessment and appointment for common folks. 4. Provide on-demand inspection services. 5. Set up a special consultation line. 6. For those with abnormal screening results, we take the initiative to contact and assist them to seek medical treatment in hospital, so as to receive clinical treatment as soon as possible.

### Results

From September to December 2022, the number of people who received LDCT reached 510, and the hospital was awarded the first prize in the category of "Non-Cancer Diagnosis and Treatment Quality Certification Hospital" and won public commendation.

### Conclusions/lessons learned

Lung cancer screening has been developed into the fifth cancer screening in Taiwan. The LDCT screening is expected to identify more possible cases of lung cancer and help those with abnormal screening results receive appropriate treatment in early stage to avoid disease deterioration.

#### Contact:

CHEN Wen-chieh  
Kaohsiung Municipal Min-Sheng Hospital, TAIWAN  
[yokokimo9496@gmail.com](mailto:yokokimo9496@gmail.com)

## A Preliminary Study on the Changing Burden of Conscientious Care for Family Caregivers of Dementia Cases Receiving Long-Term Care Services

**TAUG Tsui-Hsi, MA Shu-Ling, HUANG Shu-Wan**

### Background and objective

In 2022, the proportion of the elderly population in Taiwan has reached 18.4%, of which 7.64% have dementia (Ministry of the Interior, Executive Yuan, Taiwan, 2022), and more than 80% of dementia are cared for by family caregivers, and their caregiving problems would change depending on the progress of the

disease. The purpose of this study was to examine the change in the self-care load of family caregivers of dementia cases receiving long-term care services after discharge from a regional hospital.

#### **Methods/intervention**

The subjects of this research are 44 family caregivers of dementia cases in hospital. The structured questionnaires are used to interview the caregivers to understand their care loading and care problems, also provide discharge preparation services to long-term care, track service usage and care load of caregivers for three months after discharge.

#### **Results**

The analysis of before the provision of services, the mean caregiving load of family caregivers ( $M=7.61$ ,  $SD=2.34$ ) was higher than the mean caregiving load after the provision of services ( $M=5.14$ ,  $SD=1.76$ ), with a statistically significant difference ( $t=5.341$ ,  $p<0.05$ ). The care load of family caregivers was associated with the use of services for patients using home care ( $t=-1.742$ ,  $p=0.089$ ); home rehabilitation ( $t=-0.821$ ,  $p=0.417$ ); assistive devices and accessibility improvements ( $t=1.980$ ,  $p=0.054$ ); transportation ( $t=0.289$ ,  $p=0.362$ ); and provision of respite services ( $t=0.965$ ,  $p=0.340$ ), no significant differences were achieved.

#### **Conclusions/lessons learned**

This study found that the provision of long-term care services for family caregivers with dementia can improve caregiving burden, but that the provision of a single service does not improve the caregiving burden.

#### **Contact:**

TAUG Tsui-Hsi  
Kaohsiung Municipal Ta-Tung Hospital, TAIWAN  
[tracy880447@gmail.com](mailto:tracy880447@gmail.com)

## Index

### A

ACCOLLA Pierpaolo .....	52
AGUZZOLI Cristina .....	7, 16, 45
AHN Ju Hee .....	57, 63, 75, 76
AHN Sungvogue .....	30
AITA Livia .....	24
ÄMARIK Maarja .....	28
AMIT Inbal .....	46
ANASTASIA Daniela .....	33
ANDREATTI Maurizio .....	16
ANGUERA Marta .....	63
ANKRI Hadar .....	46
ANNUNZIATA Antonietta .....	16
ARÉVALO Maribel .....	151
ASHERMAN Adi .....	51
ASI Signe .....	28

### B

BACK Seung Ho .....	74
BADER Tarif .....	49
BARNEA Royi .....	46
BARREAU Berangere .....	35, 67
BAUMGARTEN Adi .....	49
BENALTABET Rakela .....	180
BERGHOLTZ Jana .....	34
BERTRAN Carme .....	27, 151
BESTIACO Nicoletta .....	16
BETTELLI Gabriella .....	173
BIZZARINI Emiliana .....	33
BJÖRKMAN Ida .....	34
BLASCO Irene .....	63
BOKSTRÖM Tomas .....	44
BONNET Nicolas .....	39
BRAEM Clémence .....	20
BRIANSÓ Maria .....	63
BRUNELLI Laura .....	24, 33, 52

### C

CAI Chen-Ze .....	140
CAI Liyun .....	133
CALCI Mario .....	33
CAMILLI Andrea .....	33
CAMPANELLA Fabio .....	52
CAPORALE Denis .....	33
CAPUTO Tiziana .....	16
CAQUARD Marylene .....	67
CARBONELL Silvia .....	17, 27, 63, 151
CARUSO Vitalba .....	33
CAUSSER Claudia .....	45
CAUTERO Peter .....	33
CAVALLARI Stefania .....	16

CELEBRE Cinzia .....	16
CHAE Jisoo .....	134
CHAN Yun-Hsiang .....	93
CHAN Chik-Yi .....	177
CHAN Hsin-Lung .....	31, 74, 78
CHAN Lin-Chien .....	117, 118
CHANG Betty Chia-Chen .....	98
CHANG Brian .....	12
CHANG C.-H. ....	98
CHANG Cheng-Fen .....	81
CHANG Cheng-Jung .....	124
CHANG ChiaChi .....	155
CHANG Chia-Hui .....	84
CHANG Chia-Mei .....	69, 79
CHANG Chiao-Wen .....	154
CHANG Chih-Hsuan .....	178
CHANG Hao-Chih .....	112, 154
CHANG Hsu-Chaio .....	165
CHANG Huang-Yu .....	81, 116, 117
CHANG Hui-Ping .....	177
CHANG I-Wen .....	18
CHANG Kai-Chi .....	178
CHANG Ke-Yu .....	23
CHANG Ko .....	97
CHANG Li-Jen .....	184
CHANG Li-Yin .....	106
CHANG Mei-Yen .....	130
CHANG Meng Ling .....	142
CHANG Pei-Chen .....	95
CHANG Pei-Tzu .....	119
CHANG Pi-Yu .....	149, 162
CHANG Shin-Tsu .....	88
CHANG Shu-Ju .....	129
CHANG Shu-Yi .....	90
CHANG Su-Yu .....	189
CHANG Tzu-Pin .....	88
CHANG Wenling .....	83, 188
CHANG Y.-H. ....	98
CHANG Ya-Ching .....	94
CHANG Ya-Hui .....	37
CHANG Yi-Ling .....	191
CHANG Ying-Ying .....	84
CHANG Yu-Cheng .....	177
CHANG Yu-Chia .....	90, 182
CHANG Yu-Jung .....	167, 189
CHANG Yu-Ling .....	78
CHANG Yu-Ping .....	161
CHANG-TSAI Ting-Yu .....	140
CHAO Yuan-Ping .....	50
CHEN Ai-Chin .....	162
CHEN Anthony .....	96
CHEN Changhua .....	84
CHEN Chia-Chun .....	77
CHEN Chia-Hsin .....	67, 121
CHEN Chia-Yu .....	135
CHEN Chien Ju .....	169
CHEN Chien Min .....	144

- CHEN Chin-Ling..... 166  
 CHEN Chiu-Chen ..... 69, 79  
 CHEN Chuen-Fei ..... 24  
 CHEN Chun-Po ..... 37  
 CHEN Er-Mei ..... 155  
 CHEN Fang-I ..... 41, 80  
 CHEN Hsiangyi ..... 83, 188  
 CHEN Hsuan-En ..... 83  
 CHEN Huey-Ling ..... 178  
 CHEN Hui-Chuan ..... 56  
 CHEN Hui-Chuen ..... 178  
 CHEN Hui-Fei ..... 109, 122  
 CHEN Hui-Fei ..... 110  
 CHEN Hui-Min ..... 131  
 CHEN Hui-Shan ..... 133  
 CHEN Hui-Zhen ..... 140  
 CHEN I-Ju ..... 58  
 CHEN Jianzhou ..... 137  
 CHEN Jin-Shuen ..... 88, 180  
 CHEN Jiyuen-Tieng ..... 156  
 CHEN Jo-Fan ..... 112, 154  
 CHEN Kuang-Shuo ..... 177  
 CHEN Kuan-Hung ..... 96  
 CHEN Kuan-Ling ..... 171  
 CHEN Li-Chin ..... 144  
 CHEN Li-Chiu ..... 38  
 CHEN Li-Yueh ..... 184  
 CHEN Mei Jung ..... 86  
 CHEN Mei Tsu ..... 29, 124, 148, 170  
 CHEN Mei-Fang ..... 181  
 CHEN Mei-Ju ..... 55, 153  
 CHEN Mei-Lin ..... 165  
 CHEN Mei-Ying ..... 23  
 CHEN Ming-Jen ..... 119  
 CHEN Ming-Shu ..... 31, 187  
 CHEN Pei Chi ..... 100  
 CHEN Pei Jung ..... 91, 104  
 CHEN Pei-Chi ..... 184  
 CHEN Pei-Chun ..... 58  
 CHEN Pei-Jiun ..... 22  
 CHEN Pei-Shan ..... 178  
 CHEN Pey-Rong ..... 178  
 CHEN Ping-An ..... 87  
 CHEN Ren-Chich ..... 97  
 CHEN Saint Shiou-Sheng ..... 160  
 CHEN Shey-Ying ..... 144  
 CHEN Shih-Chia ..... 158  
 CHEN Shu Nuan ..... 107  
 CHEN Shu Nuen ..... 142, 146  
 CHEN Shueh-Fen ..... 114, 170  
 CHEN Shuling ..... 125  
 CHEN Shu-Nu ..... 137  
 CHEN ShuNuen ..... 155  
 CHEN Shu-Nuen ..... 68  
 CHEN Shu-Qi ..... 88  
 CHEN SungYun ..... 155  
 CHEN Sung-Yun ..... 68  
 CHEN Tsou-Chi ..... 31, 187  
 CHEN Tsui-Chi ..... 101, 177  
 CHEN Tzu-Chi ..... 126  
 CHEN Wan-Ju ..... 88, 107  
 CHEN Wei-Liang ..... 42, 50  
 CHEN Wei-Ta. 99, 100, 114, 116, 117, 123, 134, 135, 140, 155, 160, 164, 165, 170  
 CHEN Wen Chun ..... 29, 124, 148, 170  
 CHEN Wen-Chieh ..... 96, 193  
 CHEN Wen-Hsiu ..... 151  
 CHEN YaFang ..... 155  
 CHEN Ya-Fang ..... 68  
 CHEN Yan-Ru ..... 127  
 CHEN Yen-Tsen ..... 167  
 CHEN Yen-Tsz ..... 178  
 CHEN Yi-Chun ..... 56  
 CHEN Yi-Hui ..... 141  
 CHEN Yi-Ju ..... 164  
 CHEN Yi-Ru ..... 56  
 CHEN Yong-Chuan ..... 70, 183  
 CHEN Yu Hua ..... 114  
 CHEN Yu Shin ..... 192  
 CHEN Yu-Chiao ..... 171  
 CHEN Yu-Chun ..... 122  
 CHEN Yueh-Hao ..... 112  
 CHEN Yu-Hsia ..... 38  
 CHEN Yu-Hsuan ..... 87  
 CHEN Yu-Hua ..... 69, 79, 123, 141  
 CHEN Yu-Wei ..... 141  
 CHEN Yu-Wen ..... 59  
 CHEN Zi-Qi ..... 97  
 CHENG Chien-Hung ..... 154  
 CHENG Chih-Chien ..... 72  
 CHENG Chin-Chia ..... 89, 145, 192  
 CHENG Chun-Hua ..... 176  
 CHENG Hao-Min ..... 113  
 CHENG Hsing-Jung ..... 128  
 CHENG Kai-Hsuan ..... 24  
 CHENG Shu-Chen ..... 23  
 CHENG Shu-Fang ..... 94, 146  
 CHENG Sung-Yuan ..... 43, 132, 179, 182  
 CHENG Su-Zu ..... 155  
 CHENG Tsai-Pu ..... 22  
 CHENG Wan-Yi ..... 105, 168  
 CHENG Wen-Ting ..... 177  
 CHENG Ya-Chen ..... 176  
 CHENG Yi-Chiao ..... 177  
 CHENG Yueh-Mien ..... 137  
 CHENG Yun Ju ..... 83  
 CHERNG Rong-Ju ..... 180  
 CHIANDETTI Lucrezia ..... 24  
 CHIANG Cheng-Yang ..... 118  
 CHIANG Cheng-Yen ..... 90  
 CHIANG Chien-Dai ..... 42  
 CHIANG Hsiu-Tzy ..... 81  
 CHIANG Hui-Chaun ..... 86, 113, 184  
 CHIANG Hui-Shan ..... 105, 168  
 CHIANG Tsay-I ..... 111  
 CHIEN Hsu-Min ..... 93, 123, 141  
 CHIEN Kuo-Lun ..... 80  
 CHIEN Meng-Fen ..... 122  
 CHIEN Shiaw-Wen ..... 168  
 CHIEN Wan-Ching ..... 129

CHIEN Ying-Pei.....	99
CHIEN Yu-Fang.....	174
CHIH Pei-Jyun .....	146
CHIN Mei-Hui.....	22, 108
CHIN Wei-Leng .....	110, 127
CHIU Chiung-Ling.....	193
CHIU Ian.....	161
CHIU Michelle.....	81
CHIU Ting-Fang.....	160
CHIU Yi-Wen.....	75
CHIVA GIURCA Bogdan.....	54
CHO Mei-Ling .....	110
CHO Minkang .....	183
CHO Seon .....	160, 187
CHOI Hyemin.....	60
CHOI Hyungyu .....	187
CHOI Kyung-Eun (Anna).....	77
CHOU Chia Ni .....	185, 190
CHOU Chien Chi.....	121
CHOU Chien-Chi .....	103
CHOU Chih-Liang.....	67, 121
CHOU Chou-ni .....	125
CHOU Frank Huang-Chih .....	164
CHOU Hsiu-Chuan .....	177
CHOU Ming-Yueh .....	97
CHOU Shu-Ping.....	99
CHOU Tien-Hung .....	96, 126
CHOU Wan-Yun .....	129
CHOU Wei-Yu .....	101
CHOU Yi-Ying.....	134
CHOU Yu-Hsiang.....	151
CHOU Yu-Shu.....	84
CHRISTENSEN Robin .....	40
CHRYSIKOU Evangelia.....	26, 29
CHU Chiu-Hua.....	181
CHU Da-Chen.....	61
CHU Hsi-Yin .....	62, 77
CHU I-Chen .....	161
CHU Nain-Feng .....	56, 156
CHU Shiow-Ling .....	150
CHU Su-Chun .....	139
CHU Wan-O .....	164
CHUANG Hui-Chu .....	167, 189
CHUANG Wan Ju .....	142
CHUNG Ching Hui .....	31, 132
CHUNG Hsiu-Ling.....	189
CHUNG Hui Ching .....	42
CHUNG Jui Jung .....	170
CHUNG Pei-Rong .....	91
CHUNG Seo-Jin .....	80
CHUNG Yuan-Fang.....	186
CHUNG Yu-Ting .....	150
CHUO Ying-Hsiang .....	73, 147, 166, 173
CIESIELSKA Maria.....	14
CIGALOTTO Alessandro .....	24
CIROI Cristina.....	45
COMETTO Giorgio .....	7
CONTE Alessandro.....	33
CORTESE Vito.....	16
COSTONGS Caroline .....	12, 54

COTTA RAMUSINO Enrico .....	140
-----------------------------	-----

---

**D**

D'ALLEVA Mattia .....	24
DALTON Susanne Oksbjerg .....	41
DAN-MO Peir .....	131
D'ANTONI Fabio .....	33, 52
DE FAVERI Silvia .....	17
DEL GIUDICE Pietro .....	16
DEL ZOTTO Stefania .....	16
DEVETTI Paola .....	33
DIETSCHER Christina .....	47
DING Rou Yun .....	86
DOI Nao.....	188
DU Yi-Jing .....	74
DU Yuan Xi .....	93
DUDINE Luisa .....	16

---

**E**

ENDRIGHI Roberta .....	127
ETTL Brigitte .....	136

---

**F**

FAN Jin-Wen.....	133
FAN Kuan-Yu .....	58
FAN Wen-Chieh.....	88, 107
FANG Chun-Kai.....	20, 31, 43
FANG Hui-Shan.....	21
FANG Jui-Lan .....	96
FANG Shin-Shuan .....	177
FANG Wen-Hui .....	42, 49, 50
FATTOR Bruno.....	127
FERNÁNDEZ-AGUILERA Mònica .....	17, 63
FIORILLO Francesca .....	52
FITZPATRICK Patricia .....	22
FONTANET Gisel.....	63
FORGIARINI Mariarita .....	24, 33
FORNERO Giulio .....	34
FRIEDMAN Rebecca .....	49
FRÖGÉLI Elin.....	53
FRUM Etti.....	19
FU Chiung-Hui .....	185
FU Mei-Chiung .....	173
FU Siao Syuan.....	169
FUCHI Ryuichi.....	185
FUJISHIRO Maki.....	163
FUKUSHIMA Hiroshi .....	129
FUNAKOSHI Mitsuhiko .....	26

**G**

GAO Ting-Ling .....	185
GARCIA Laura .....	63
GAU Bih-Shya .....	38
GILI Raen-Rosen .....	51
GLOVER James .....	19, 20
GLUCK Chemda .....	180
GOBBATO Carlo Antonio .....	33
GODEFROY Clémence .....	66
GONG Ting-Chi .....	177
GRANAT Adi .....	19, 51
GRANIERO Francesco .....	24
GRANOT Osnat .....	51
GRAS-LEGUEN Christele .....	67
GRILLONE Lucrezia .....	33
GRÖNE Oliver .....	27
GUITERAS Carme .....	63

**H**

HAARMANN Alexander .....	35, 71
HAKER Zipi .....	19
HÄKKINEN Eeva .....	19, 20
HAM Hyung Suk .....	73
HAN Chia-Yeuan .....	94, 146
HAN Li-Nine .....	184
HARA Hotaka .....	159
HARADA Kazumi .....	144
HARAN SILUK Yael .....	49
HASANI Fekrije .....	27
HASHIMOTO Kazuyo .....	163
HAUET Quentin .....	67
HE Ming-Yin .....	184
HIROTA Noritake .....	163
HO Chin-Yo .....	47
HO Chin-Yu .....	58
HO Hsuan .....	107
HO Ja Hyun .....	60
HOCHET Marianne .....	39
HONG Hua-Jun .....	165
HONG Meng-Han .....	156
HONG Wei-Wei .....	110
HOU Chi-Chun .....	106, 122
HOU ChunMei .....	155
HOU Yi Cheng .....	118
HOUDEK Lukáš .....	32, 43
HSIAO Hsu-Feng .....	124
HSIAO Sheng-Huang .....	61
HSIEH Chiu-Ping .....	95
HSIEH Fang-Pei .....	112
HSIEH Fu-Hsiang .....	165
HSIEH Hsiu-Chuan .....	168
HSIEH Hui-Chun .....	106
HSIEH Kuan-Ying .....	164
HSIEH Ming-Chuan .....	122
HSIEH Ming-Hsin .....	84
HSIEH Shang-Lin .....	81
HSIEH Shu-Hua .....	88
HSIEH Yen-Yu .....	94
HSIEH Yun-Chen .....	117, 118
HSIEH Yung-Chi .....	172
HSING Hui-Fen .....	158
HSU Che-Wei .....	68, 70
HSU Chia-Chen .....	161
HSU Chien-Chin .....	186
HSU Chien-Ting .....	178
HSU Chi-Sung .....	86
HSU Cyong-Ru .....	189
HSU Hsin-Tien .....	151
HSU Hua-Yin .....	120, 176
HSU Hui-Min .....	99
HSU Hung-Yi .....	21, 23, 172
HSU Kuo-Fang .....	135
HSU Pei-Jung .....	50, 105, 168
HSU Shan-Chiao .....	114
HSU Shin-Tien .....	177
HSU Shu-Fen .....	82, 119
HSU Shu-Ling .....	124
HSU Shu-Wei .....	60
HSU Tzu-Chuan .....	66, 147, 166, 173
HSU Wan-Ti .....	81
HSU Wen-Chuan .....	37
HSU Yen-Chen .....	161
HSU Yi-Chen .....	112
HSU Yu-Ying .....	96
HU Kai-Fang .....	151
HU Lien-Fen .....	103
HU Li-Juan .....	129
HU Nai-Fang .....	69, 79
HU Shu-Chen .....	122
HU Ya-Chieh .....	37
HU Yi-Chun .....	113, 172
HU Yi-Fen .....	103
HU Yu-Wen .....	83
HUANG Chien-Cheng .....	186
HUANG Chien-Min .....	26, 154
HUANG Chien-Yen .....	150
HUANG Chung Ted .....	62, 182
HUANG Deyang .....	83, 188
HUANG Fong-dee .....	97
HUANG Hsiao-Ling .....	31, 107
HUANG Hsiu-Ling .....	135
HUANG Hsiu-Yen .....	147, 166, 173
HUANG Hsi-Wen .....	178
HUANG Hui-Chu .....	90
HUANG Hui-Ting .....	73, 115, 122, 147, 156, 166, 173
HUANG Jing-Yi .....	129
HUANG Kuei-Ying .....	82
HUANG Li Ching .....	146
HUANG Li-chun .....	182
HUANG Ling-Ting .....	122
HUANG Ling-Ya .....	30
HUANG Ming-Jen .....	155, 174
HUANG Ming-Ren .....	96, 97, 119, 193
HUANG Ming-Yii .....	138
HUANG Nine-Yin .....	21
HUANG Nuan-Ting .....	129

HUANG Pai-Yu .....	87
HUANG Pin-Chun.....	50
HUANG Qiao-Ying.....	67, 121
HUANG Shang-Chien .....	189
HUANG Shu-Ping .....	68
HUANG Shu-Wan.....	193
HUANG Su-Fang .....	96
HUANG Su-Ling.....	149, 162
HUANG Tsz-Huei.....	18
HUANG Tuz-Wen .....	103, 145
HUANG Wan-Yun .....	88
HUANG Wei-Hsin.....	69, 78, 79
HUANG Wen-Ho .....	103
HUANG Wen-Hui .....	122
HUANG Wen-Tsung .....	124
HUANG Wen-Yin.....	155
HUANG Ya-Fang.....	70, 183
HUANG Ya-Jing .....	107
HUANG Ya-Ling.....	144
HUANG Yi-Ling.....	147
HUANG Ying-Moan.....	93, 175
HUANG Yi-Zhen .....	133
HUANG Yu-Hui.....	109, 122, 137, 142
HÜBEL Ursula .....	45
HUEH Kuang Chieh .....	130
HUF Wolfgang .....	136
HUNG Shou-Hung.....	50
HUNG Chen-Yi .....	68
HUNG Chun-Chi .....	50
HUNG Ling-Chun .....	103
HUNG Min-Huei.....	87
HUNG Shih-Yu .....	126
HUNG Ta-Chua .....	81
HUNG Ta-Chuan .....	31
HUNG Wei-Chieh.....	110, 127
HUNG Wei-Wei.....	127
HUNG Yun-Hsiu .....	177
HUSCSAVA Herbert .....	53
HUSK Kerry .....	54
HWANG Hee-Jin .....	192
HWANG Lee-Ching .....	24, 98
HWANG Oknam.....	187
HYEKYEONG Kim.....	131
HYNŠTOVÁ Lenka .....	148

## I

IBAÑEZ Rocío .....	17, 63
IMAI Kouichi .....	159
IMAMURA Shotarou.....	129
INIESTA Cristina .....	17, 63
INOUE Fusako.....	174
INOUE Teruhiro .....	159
ISIKAWA Ai .....	188
ISLERTAS Zeynep .....	35

## J

JAKS Rebecca .....	35, 71
JAN Shin-Lung .....	158
JENSEN Bente Thoft .....	41
JENSEN Sofie Anne-Marie Skovbo.....	40
JERNG Jih-Shuin .....	144
JHU Yi-An.....	18
JIAN Hui-Qing.....	192
JIANG Cheng-Han .....	138
JIYE Kim .....	131
JIYOUNG Lee .....	131
JLANG Meng-Zhe.....	165
JO Hwayeon .....	115
JOENSEN Ulla Nordström.....	40
JOLIVET Anne .....	35
JOO Yunjung.....	65, 102
JOSSOME Aline.....	35
JOU Yann-Yuh.....	113, 172
JUNG Myungin .....	76
JUNG Se Hee .....	73
JUNG Seungyoun.....	80
JUNG Yu Jin .....	57, 63, 75, 76
JUVINYÀ Dolors .....	17, 27, 151

## K

KANEKO Makoto .....	159
KANG Hsiao-Yen.....	177
KANNUKENE Angela .....	28, 95
KAO Hui Shan .....	114
KAO Pi-Chin .....	92
KAO Shih-Kai .....	24
KAO Tung-Wei.....	42, 49, 50
KAO Yu-Yun .....	149
KE Chien-Chih.....	138
KE Hui-Ju .....	183
KEE Ng Teik Dicky .....	48, 51, 64
KELLEHER Cecily .....	22
KERLEY Mary .....	22
KERR Christine.....	104
KERZENMACHER Tobias.....	104
KICKBUSCH Ilona .....	13
KIM Hanna .....	65, 102
KIM Hyekyeong .....	30, 80, 115, 134, 183, 190
KIM Hyekyung .....	64
KIM Hyeyun.....	183
KIM Hyunseung .....	187
KIM In-One .....	65, 102, 160, 187
KIM Jiye .....	30, 64, 80, 134, 183, 190
KIM Kue Sook .....	60, 74
KIM Myoungjun .....	30
KIM Suyoung .....	160
KIM Yukyung .....	187
KIM Yuri.....	30, 80
KLEMM Victoria .....	53, 136
KLINKE Christian.....	29
KO Chial I.....	111

KO Hui-Wen.....	139
KO Ming-Chung .....	163
KOALICK Susann .....	40
KOCABOVA Zuzana.....	43
KONDO Katsunori.....	159
KONISHI Tsuyako.....	174, 188
KRAJNOVIĆ Dušanka.....	35
KRAUS-DORON Nurit.....	19
KROMMER Elisabeth .....	136
KU Chia-Ling .....	103, 145
KU Ming-Chou .....	94
KUNG Chuan-Yu .....	135
KUO Chen-Chan.....	60
KUO Chia-Wei.....	55
KUO Han-Lin .....	75
KUO Hsien-Hua.....	132, 153
KUO Hsien-Wen.....	132, 153, 155
KUO Hui Yu .....	111
KUO Tien-Ho .....	81
KUO Ya-Ling.....	109, 122
KURI Ihab.....	19
KURIBAYASHI Hisako .....	159
KWEON Sujeong .....	115, 190
KWON Eunjoo.....	160, 187

---

**L**

LACROIX Sylvie.....	67
LADNER Joel .....	66
LAHLAL Mina .....	104
LAI Chia-Min .....	173
LAI Chia-Wen.....	68, 70
LAI Chih-Kuan .....	38
LAI Chiu-Chun .....	123, 135
LAI Hsiu-Chun .....	96
LAI Huey-Jen.....	184
LAI Jin Lien .....	111
LAI Jui-Chen .....	165
LAI Shao-Hua .....	131
LAI Shu-Chen .....	141
LAI Shu-Hui .....	94
LAI Wan-Zhen .....	74
LAI Yu-Hua.....	144
LAN Cheng-Chieh.....	132
LAQUA Franziska .....	104
LARDIERI Gerardina .....	16
LARONNE Anat .....	28
LAURIDSEN Susanne Vahr .....	40, 41
LAY Huey-Jen .....	86, 113, 184
LAZZER Stefano .....	24
LE RHUN Anne .....	35
LEE Chen-Yoy.....	100
LEE Ching-Yun.....	162
LEE Chun-Wei .....	82
LEE Chunyeong.....	57, 60
LEE Eun-Hee .....	65, 102, 160, 187
LEE Han-Chen .....	110, 127
LEE HeyJean.....	120
LEE Hsiao-Ping .....	123
LEE Hyojung .....	148
LEE Jaekyung.....	57, 60
LEE Jaewon.....	115, 190
LEE Jason Jiunshiou .....	47, 58, 160
LEE Ji Hong .....	60
LEE JiHyun .....	115
LEE Jiyoung.....	64, 190
LEE Kee Hyoung .....	60
LEE Mei-Yu .....	31
LEE Pai-Lin .....	176
LEE Pei-Hsuan.....	118, 142
LEE Sang Ah.....	64, 115
LEE Sang Yoon .....	73
LEE Seohyeon.....	64, 183, 190
LEE Seung Yeon .....	164
LEE Shih-Yu.....	70, 183
LEE Shu Yen .....	79, 86
LEE Shu-Chen .....	69, 79, 179
LEE Shu-Chiung .....	150
LEE Sung Jin.....	74
LEE SunHee .....	120
LEE Szu-Wei.....	99
LEE Yeran .....	148
LEE Yi-Lien .....	191
LEE Yu Jeong.....	74
LEE Yunkyung.....	190
LEMBER Margus.....	95
LEVI Michal.....	49
LEVINTON-ASHKENAZY Natasha .....	180
LEVIN-ZAMIR Diane.....	11, 35
LEW Ya Hui.....	48, 51, 64
LI Chi-Hung.....	184
LI In-Fun .....	20, 158
LI Jo Hsiang.....	171
LI Ling-May ....	99, 100, 114, 116, 117, 123, 134, 140, 155, 160, 164, 165, 170
LI Ling-Mei.....	135
LI Mei-Fang .....	139, 165
LI Pei-Hua .....	140
LI Ruei-Ling.....	32
LI Shu-Hui .....	129
LI Shu-Zhen .....	113, 184
LI Wen-Hui .....	166
LI Yi.....	113
LI Yu-Meng .....	74
LI Zheng-Fu.....	138
LIANG Chih-Kuang .....	97
LIANG Hsiao-Yi .....	123, 141
LIANG Li-Jen .....	69
LIANG Meei-Huey.....	157
LIANG Mei-Zhen .....	131
LIANG Peilun .....	65
LIANG Shiow-Ching .....	155, 174
LIAO Feng-Ching.....	128
LIAO Jung-Ru .....	171
LIAO Ling-Yu .....	66, 166
LIAO Mei-Chen .....	97
LIAO Sui-Ling .....	158
LIAO Wan-Ling .....	158
LIAO Wen-Tsz.....	23



- LIAO Ying Min ..... 151  
 LIAO Yi-Wen ..... 90  
 LICHTENECKER Ruperta ..... 9  
 LIEN Chi-Hsun ..... 21  
 LIEN Chuan-Wen ..... 93  
 LIEN Hsin-Yi ..... 163  
 LIM Jung-Sun ..... 192  
 LIM Paik- Seong ..... 168  
 LIN Che-Jung ..... 164  
 LIN Cheng-Sheng ..... 86  
 LIN Chiao-Chuan ..... 120, 176  
 LIN Chih-Hsuan ..... 177  
 LIN Chin Yeh ..... 148  
 LIN Chin-Lon ..... 37  
 LIN Chiu-Yen ..... 151  
 LIN Chi-Wei ..... 110, 127  
 LIN Fang-Yu ..... 115  
 LIN Hsin-Yi ..... 192  
 LIN Hsiu-Li ..... 173  
 LIN Hui-Ying ..... 111  
 LIN Hung-Yu ..... 114  
 LIN I-Chuan ..... 81  
 LIN Jian-liang ..... 137  
 LIN Jin-Ding ..... 157  
 LIN Jing-Yi ..... 49, 50, 105, 168  
 LIN Kai-Han ..... 68  
 LIN Keng-Chen ..... 43, 177  
 LIN Kuan-Yu ..... 170  
 LIN Lan-Ping ..... 157  
 LIN Li-En ..... 98  
 LIN Linda ..... 59, 68, 83  
 LIN Mei-Hsiang ..... 66  
 LIN Meng-Hui ..... 177  
 LIN Ming-Hung ..... 169  
 LIN Ming-Nan ..... 37  
 LIN Min-Ling ..... 58, 158  
 LIN Pei-Yi ..... 180  
 LIN Pei-Ying ..... 107  
 LIN Pin-Chun ..... 86  
 LIN Pin-Hua ..... 183  
 LIN San-Chi .... 99, 100, 114, 116, 117, 123, 134, 135, 140,  
 155, 160, 164, 165, 170  
 LIN San-I ..... 105, 106  
 LIN Shih-Ling ..... 181  
 LIN Shu-Ch ..... 122  
 LIN Shu-Chi ..... 115, 156  
 LIN Sz-Ching ..... 61  
 LIN Tzu-Shun ..... 38  
 LIN Tzu-Yin ..... 77  
 LIN Wan-Ting ..... 140  
 LIN Wan-Ying ..... 58  
 LIN Wei-Ting ..... 94  
 LIN Weizhong ..... 125, 136, 137  
 LIN Wo-Chuan ..... 187  
 LIN Xin-Yu ..... 150  
 LIN Ya-Chen ..... 179  
 LIN Yan-Ju ..... 117, 118  
 LIN Ya-Wen ..... 169  
 LIN Yen-Ju ..... 22  
 LIN Yeu-Tyng ..... 56  
 LIN Yi-Chun ..... 102  
 LIN Yi-Fen ..... 126, 157  
 LIN Yi-Hsuan ..... 56  
 LIN Yi-Ru ..... 190  
 LIN Yu-Chen ..... 18  
 LIN Yu-Ching ..... 73  
 LIN Yuen-Yuen ..... 82  
 LIN Yu-Hui ..... 119  
 LIN Yu-Ling ..... 86  
 LIN Yu-Ting ..... 116  
 LINDERT Lara ..... 77  
 LINDGREN Pamela ..... 34  
 LIOU Huoy-In ..... 177  
 LIOU I-Hsiu ..... 88, 180  
 LIU Bie-Ching ..... 59  
 LIU Chang-Pan ..... 81  
 LIU Chia-Hui ..... 62, 77  
 LIU Chien-Yu ..... 59, 83  
 LIU Cui-Yao ..... 162  
 LIU He-Zhen ..... 113  
 LIU Hsiu-Feng ..... 183  
 LIU Hui-Lin ..... 107  
 LIU Hui-Ping ..... 169  
 LIU Jin Ming ..... 111  
 LIU Jo-Yun ..... 56  
 LIU Li-Jin ..... 90  
 LIU Mei-Na ..... 89  
 LIU Tz Jie ..... 29, 124, 148, 170  
 LIU Wen-Chi ..... 62, 77  
 LIU Yi-Der ..... 153  
 LIU Yu-Fen ..... 113  
 LLEE Wei Ping ..... 86  
 LO Hsin-Yi ..... 106, 122  
 LO Michael ..... 59  
 LO Ya-Wen ..... 18  
 LÓPEZ-VILLEGAS Antonio ..... 147  
 LU Chia-Chih ..... 99, 100  
 LU Chia-Wen ..... 165  
 LU Chung-Ying ..... 32  
 LU Chu-Yun ..... 110  
 LU I-Cheng ..... 103, 145  
 LU I-Jung ..... 74  
 LU Jia-Wen ..... 133  
 LU Jia-Yi ..... 137  
 LU Shin-I ..... 31, 74  
 LU Su-Chen ..... 50  
 LU Tzu-Chen ..... 87  
 LU Wen-Chuan ..... 157, 175  
 LU Ying-Chen ..... 41  
 LU Ying-Wen ..... 74  
 LUGANO Manuela ..... 16  
 LUO Yu-Ling ..... 129  
 LUOLAI Wenyu ..... 152  
 LYDOM Line Noes ..... 40  
 LYONS Ailsa ..... 22

**M**

MA Hon-Kwing .....	38
MA Shu-Ling .....	193
MAASSEN Alison .....	44
MACMULLEN Helen .....	23
MAEDA Motoya .....	185
MÄGI Liisi .....	28
MAHLA Marge .....	28
MARKOVA Gabriela .....	43
MARUYAMA Kumiko .....	159
MATRELLA Mariagrazia .....	140
MATTSON Ana .....	22
MENUT Vanessa .....	67
MERILÄINEN Päivi .....	10
MESAGLIO Maura .....	33
METZLER Birgit .....	45
MIEDEMA Elke .....	46
MIKIHARA Misato .....	159
MILLÀ Anna .....	63
MINAMOTO Isamu .....	15
MIYATA Shoichi .....	174
MOIZS Mariann .....	16
MOLNÁR Regina .....	52
MOLTÓ Roger .....	63
MOMPÓ Carme .....	63
MORET Leila .....	35
MOTIDA Fujiko .....	188
MOTOMURA Takako .....	159
MOTTICA Michela .....	16
MUGAMI Odelia .....	49
MUKOYAMA Arata .....	15

**N**

NAGASHIMA Kayo .....	159
NANAKO Tsubakino .....	179
NAVARA Eduard .....	104
NEGISHI Kyota .....	174, 188
NEKOZUKA Yoshio .....	14
NEUNER Bruno .....	173
NG Chip-Jin .....	186
NG Seng Loong .....	169
NIEN Chia-Chi .....	87
NIEN Ya-Hui .....	160
NIEN Yu-Chi .....	190
NOAH LEVIN Ifat .....	49
NOGUCHI Ai .....	185
NOWAK Peter .....	47
NWOBO John .....	19, 20

**O**

OH Bumjo .....	192
OH Han Jin .....	192
OH Yumi .....	148
OHNO Giichiro .....	14

OKABE Toshihiko .....	14
OKAMOTO Yumiko .....	159
OLEV Jutta .....	38
ORII Takayuki .....	174
ORREGO Carola .....	95
OU Yun-Ning .....	117, 118

**P**

PAI Chen-Ni .....	109
PAN Chiu-Ju .....	173
PAN Ruei-Yi .....	43, 132, 182
PAN Shiu-Fang .....	178
PAN Tzu-Cheng .....	96
PAPADONIKOLAKI Eleni .....	29
PARK Changwoo .....	65, 102
PARK Hyeran .....	160
PARK Jae-Young .....	160, 187
PASCOLI Eva .....	52
PASTARUS Ilona .....	28
PASTORE Elisa .....	133
PAULIK Edit .....	52
PENG Tao-Chun .....	42, 49, 50
PENG Yu-Ting .....	97
PERESSINI Alberto .....	33
PÉREZ Anna-Carol .....	17, 27, 151
PFAFF Holger .....	77
PI Shih-Hsuan .....	20, 43
PIZZIN Cristina .....	45
PLUNGER Petra .....	44
PÖLLUSTE Kaja .....	28, 95
PORTOLAN Patrizia .....	16
POTURA Eva .....	53
PU TsaiChieh .....	183
PUJIULA Jordi .....	63
PUMAR David .....	63

**R**

RABILLER Erwan .....	35, 67
RAMJI Rathi .....	39
RASMUSSEN Mette .....	39, 40, 41
RATH Stephanie .....	33
REGATTIN Laura .....	52
REITERER Florian .....	38
RIDEL Catia .....	66
RIPOLL Ruth .....	63
RISI Marina .....	16
RÖHL Claas .....	11
ROJATZ Daniela .....	33, 54
RON Reut .....	28, 46
RONCHESE Federico .....	16
ROPERO Sandra .....	63
ROSA Ilaria .....	33
ROSENBERG Jacob .....	40
ROSENBERG Sari .....	51
RÖSNER Hannah .....	53, 136
RUAN Ru-Yan .....	177

RUIZ Joana .....	63
RUSSIAN Stefano .....	16
RUTTEN-VAN MÖLKEN Maureen .....	44
RYOO Seungwan .....	187
RYU Jinyoup .....	187

---

**S**

SABATIER Thibaut .....	66
SAITO Fumihito .....	159
SAITO Keiko .....	188
SAITOH Fumihito .....	159, 174
SAKAGAMI Eri .....	159
SAKURASHITA Miki .....	15
SANG AH Lee .....	131
SANTIÑÀ Manel .....	17, 27, 63, 151
SANTNER Martina .....	69
SAVOIA Aldo .....	33
SAVVOPOULOU Eleftheria .....	29
SCARPINI Gian Carlo .....	133, 140
SCARPIS Enrico .....	33
SCHLACHER Angelika .....	47
SCHUBERT Maria .....	173
SCHÜTZE Denise .....	71
SEGAL Niza .....	51
SEOL Dongwon .....	57, 60
SHAIKH Faisal .....	23
SHAKLAI Sharon .....	180
SHALA Fazli .....	27
SHALOMON Inbal .....	19
SHAO Shu-Ling .....	101
SHATKANI Tal .....	19, 51
SHE Sih Mai .....	138
SHEN Chen-Wei .....	143
SHEN Pei-Chi .....	139
SHEN Wen-Chuan .....	156
SHEN Yan-Ling .....	78
SHEN Yi Hsuan .....	47
SHEN Yi-Chun .....	87
SHEN Yu-Chun .....	22, 108
SHEN Yu-Hui .....	139, 178
SHIH Ai-Wei .....	114
SHIH Jia-Yin .....	105, 106
SHIH Ming-Feng .....	50
SHIH Whei-Mei .....	90
SHIH Yu-Cing .....	98
SHIN Nana .....	80
SHOTOV Kfir .....	51
SHUE Jonathan Hao-Hsiang .....	50
SHUN Wung-Ping .....	23
SIE Ning-Huei .....	37
SIM Eun Jung .....	60
SIM YoungEun .....	120
SIMÓN Rosa .....	27, 151
SINODA Satae .....	188
SIRASU Hisaaki .....	188
SITTER Barbara .....	53
SØBERG FINBRÅTEN Hanne .....	35
SON Kazumi .....	159

SONG Kyoung Jun .....	60
SPEERS Chris .....	23
SPIES Claudia .....	173
STAFUZZA Jacopo .....	24
STEJSKALOVÁ Veronika .....	148
STRAMETZ Reinhard .....	53, 136
STRÄßMAYR Christa .....	35, 71
STROZER Clara .....	107
STUMMER Florian .....	12
SU Che-yi .....	87
SU Chi-Chun .....	91
SU Ching .....	109
SU Pei-Hung .....	59, 72
SU Shu Ying .....	175
SU Wenshin .....	125
SU Yi-Ching .....	30
SU Yi-Lin .....	129, 173
SUN Feng-Ching .....	30, 137
SUN Shu-Fen .....	88
SUÑER-SOLER Rosa .....	63
SUNG Pei-Wei .....	69, 79
SUNG Yi-Hsiang .....	141
SUNG Young Hee .....	57, 63, 75, 76
SUZUKI Mika .....	188
SYU Yu-Ya .....	124
SZÖRÉNYINÉ VÁNYI Gabriella .....	16
SZYPER-KRAVITZ Martine .....	46

---

**T**

TAI Shu-Chuan .....	161
TAI Wei-Ting .....	177
TAKATANI Yasue .....	174
TAKEI Yayoi .....	15
TAL Orna .....	46
TAMBURLINI Rossella .....	33
TAN Tian-Hoe .....	186
TANG Pei-Ling .....	96, 130
TAPPEINER Waltraud .....	127
TARBAL Arian .....	151
TASI Chih-Hsuan .....	127
TASI Mei-Chu .....	90
TAUG Tsui-Hsi .....	193
TEJERO Palmira .....	63
TENG Hsiu-Yun .....	86
TEUFL Lukas .....	69
TIEN Jung-Chen .....	74
TING Hsiao-Chen .....	107
TØNNESSEN Hanne .....	39, 40, 41
TSAI Ching-Yao .....	163
TSAI Chin-Yun .....	94
TSAI Chung-Cheng .....	145, 146
TSAI Hong-Long .....	21
TSAI Hsiao-Wen .....	103, 145
TSAI Li-Hui .....	89, 145
TSAI Mei-Yueh .....	106, 109, 122
TSAI Mei-Yuen .....	122
TSAI Meng-Hsia .....	105, 106
TSAI Ming-Chi .....	89, 145

TSAI Min-Xian .....	31
TSAI Pao-Ping .....	118, 126
TSAI Pei-Chen .....	37, 93
TSAI Ru-Ying .....	56
TSAI Sheng-Hua .....	81, 134
TSAI Shih-Tzu .....	56
TSAI Shu-Mei .....	178
TSAI Wan-Yi .....	95, 111
TSAI Weide .....	81
TSAI Xin-Ting .....	105, 106
TSAI Yen-Ping .....	78, 108, 129
TSAI Yi Fan .....	146
TSAI Yi-Cheng .....	193
TSAI YiChun .....	152
TSAI YiFan .....	155
TSAI Yin-Chih .....	143
TSAI Yi-Yen .....	137
TSAI Yuan-Hsin .....	94
TSAI Yu-Wei .....	88
TSAMI Christina-Anastasia .....	26
TSENG Hsiang-Kuang .....	83, 103
TSENG Min .....	173
TSENG Tzu-Wei .....	92, 139, 178
TSENG Yuan-Tsung .....	120, 176
TSENG Yu-Ching .....	123
TSIANTOU Eleni .....	29
TSOU Meng-Ting .....	24
TSUGIMATSU Taiga .....	159
TSUN Hsiang-Lei .....	109
TU Hung-Pin .....	151
TU Min-Chi .....	68, 146
TU Shu-Yun .....	156
TUAN Sheng-Hui .....	88
TU'ITAHl Sione .....	9
TUKUI Tomizou .....	188
TUNG Ann-Chen .....	21
TUNG Chia-Hsien .....	184
TUNG Chung-Liang .....	121
TUNG Chun-Liang .....	67
TUNG Heng-Hsin .....	82
TURELLO David .....	33
TZOU Li-Ping .....	97

---

## U

UIBU Ere .....	28
UMAMI Afriza .....	52
URSELLA Giacomo .....	24
USTUNOMIYA Reiko .....	163

---

## V

VALIOTIS George .....	7
VAN VLIET Jolanda .....	44
VANDER Tatiana .....	49
VELLA Filomena .....	16
VERREPT Hans .....	19, 20
VICENTE Mireia .....	17, 63

VITTADELLO Fabio .....	127
VOITL Peter .....	53

---

## W

WADA Eri .....	144
WADA Norihiro .....	144, 179
WAHL Anna .....	33
WANG Chen-Wei .....	132, 172
WANG Chen-Ya .....	93
WANG Chia-Fen .....	73, 122
WANG Chia-Jen .....	150
WANG Chih-Chia .....	50
WANG Chi-Hsien .....	172
WANG Ching-Hui .....	106
WANG Chin-Hui .....	122
WANG Chun-Mei .....	20
WANG Fong-Chin .....	59, 72
WANG Hsiang-Ping .....	111
WANG Hsiu-Hung .....	30
WANG Jia Jie .....	169
WANG Jiun-Yi .....	81
WANG Jun-Yan .....	138
WANG Pei-Chu .....	177
WANG Ping-Jen .....	21
WANG Samuel Shih-Chih .....	192
WANG Shi-Yang .....	97
WANG Shun-Mu .....	135
WANG Sophie .....	27
WANG Tsae- Jyy .....	79
WANG Tsyr-Fen .....	132
WANG Wan-Ting .....	130
WANG Ya-Hui .....	108, 167
WANG Yi-Fang .....	97
WANG Yung-Huang .....	172
WANG Zilin .....	136
WARD Andy .....	11
WASSERSTEIN Irit .....	49
WEI Fang-Chun .....	78
WEI Pin-Lun .....	135
WEI Shi-Lun .....	113, 172
WEI Tzu-Chin .....	177
WENG Wei Ya .....	146
WHITE Lanny .....	90
WIESER Heike .....	127
WU Bao-Tzung .....	111
WU Bao-Tzung .....	112
WU Chao-Chun .....	42, 113, 172, 186
WU Chao-Yen .....	101
WU Chen-Lu .....	93
WU Chia-Shan .....	181
WU Chia-Tung .....	177
WU Chien-Yuan .....	113, 172, 186
WU Chi-Hsiang .....	92
WU Chih-yu .....	155
WU Chi-Wen .....	140, 160
WU Der-Min .....	56
WU Hsing-Ling Carol .....	84
WU Hung Hsuan .....	118

WU Jia-Ling .....	129
WU Jia-Min .....	21, 23, 168
WU Jin Jen .....	146
WU Jing-Hui .....	118
WU Jung-Chen .....	95
WU Jyun-Sian .....	101
WU Kai-chen .....	87
WU Linkun .....	73
WU Mei-Chuan .....	87, 139
WU Mei-Yu .....	128
WU Meng-Ping .....	61
WU Ming-Jie .....	177
WU Pei Shuang .....	171, 172
WU Pei-Chun .....	132, 172
WU Pei-Jen .....	176
WU Wei Chun .....	142
WU Wei-Hsin .....	99, 100, 165
WU Ya-Li .....	43
WU Yi-Chen .....	18, 153
WU Yi-Ling .....	192

---

**X**

XIAO Jia-Ying .....	113
XIE Pei-Ying .....	138
XIE Yi-lin .....	138
XU Pei-Ling .....	133

---

**Y**

YAMAGUTI Hiroki .....	188
YAMAHARA Misato .....	185
YAMINY Liraz .....	19
YAN I Ching .....	91
YAN Jiaqi .....	125, 136, 137
YANG Cheng-Chia .....	90, 182
YANG Chia-Jung .....	186
YANG Chih-Kai .....	116, 117
YANG Chwei-Shiun .....	82
YANG Hsin-Ju .....	99, 167
YANG Hui-Fei .....	118, 126
YANG Hui-Ru .....	178
YANG Li-Chiung .....	150
YANG Li-Hui .....	18
YANG Mei-Chu .....	56
YANG Ming-Chin .....	130
YANG Shih-Chen .....	161
YANG Shu-Han .....	138

YANG Si-Mei .....	190
YANG Sunyoung .....	30
YANG Ting-Yu .....	41
YANG Tsung-Hsien .....	105, 106
YANG Wan-Chun .....	23
YANG Yi-chu .....	87
YANG Yi-Chun .....	86, 111, 112
YANG Youngran .....	187
YANG Yu-Chen .....	55
YANG Yu-Chun .....	109
YANG Yunhee .....	148
YANG Yu-Ru .....	119
YAO Wen-Zhen .....	140, 155
YASUOKA Jyuniti .....	188
YE Yu-Shi .....	23
YEE Pei Ni .....	48, 51, 64
YEH Chu-Chuan .....	68
YEH Han-Wen .....	101
YEH ShuTing .....	152
YEN Chia-Chi .....	96, 97, 119, 130, 155, 174, 193
YEN I Ching .....	104
YEN Kuei-Hua .....	126
YEN Mei-Hua .....	112
YEN Ting .....	38
YEN Yu-Ying .....	193
YIN Po-Hsun .....	145
YONA Yael .....	19
YOU Jian-Wei .....	149
YU Chin-Ching .....	139
YU Ching-Mei .....	157, 175
YU Ernest Wen-Ruey .....	47, 58
YU Jia-Rong .....	157
YU Su-Hsia .....	147
YU Tzu-Ying .....	122
YUAN Ping-Fang .....	100
YUKI Yoshie .....	185

---

**Z**

ZAGO Daniela .....	52
ZARARI Jeton .....	27
ZEIKE Sabrina .....	77
ZENG Wei-Jie .....	90
ZHAGON Orna .....	19
ZHANG Yi-Ling .....	171
ZHENG Mingfen .....	125, 136, 137
ZILLMANN Nadine .....	35
ZORATTI Raffaele .....	33, 45

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