Value Based Health Care: promises and realities

Jose M Valderas
Professor of Health Services & Policy Research, University of Exeter
Visiting Professor, National University of Singapore
Visiting Researcher, Université de Paris

One slide summary

- What guiding principle for improving health care performance?
- Fundamental shift from reward performance based on the adherence to the best evidence (care process) to a focus on what outcomes are achieved (value-based health care)
- Key role for outcomes that matter most to patients (patient reported outcomes and experiences).
- Crucially, it can be instrumental in reorienting health care for meeting the needs of people who suffer from multiple health conditions (multimorbidity).

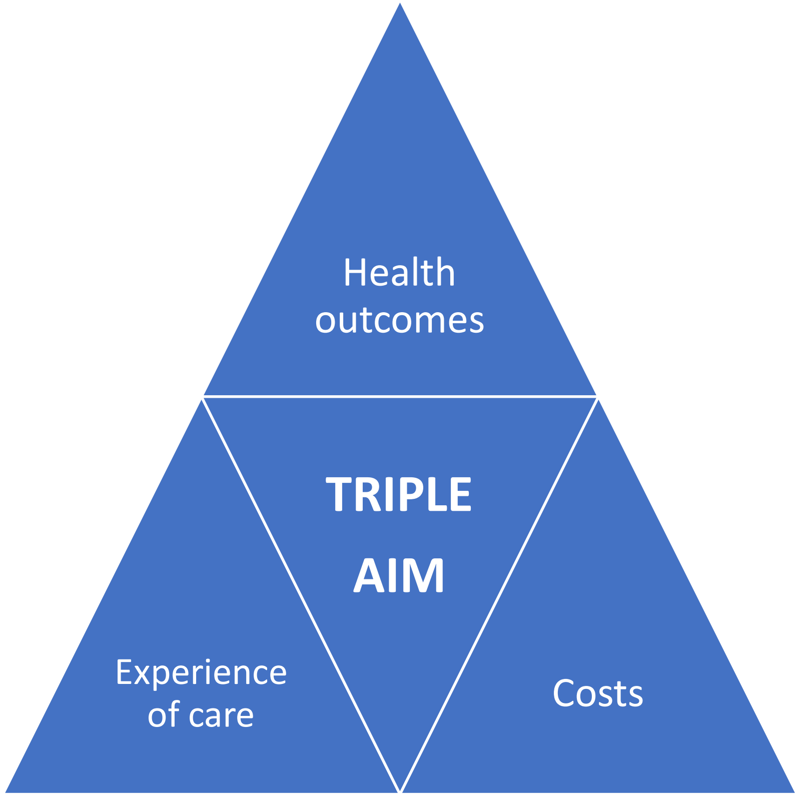
Value Based Healthcare

What is value based health care?

$$Value = \frac{Outcomes}{Resources}$$

Value based healthcare is health care that maximises value

$$Value = \frac{Outcome + Experience}{Resources}$$

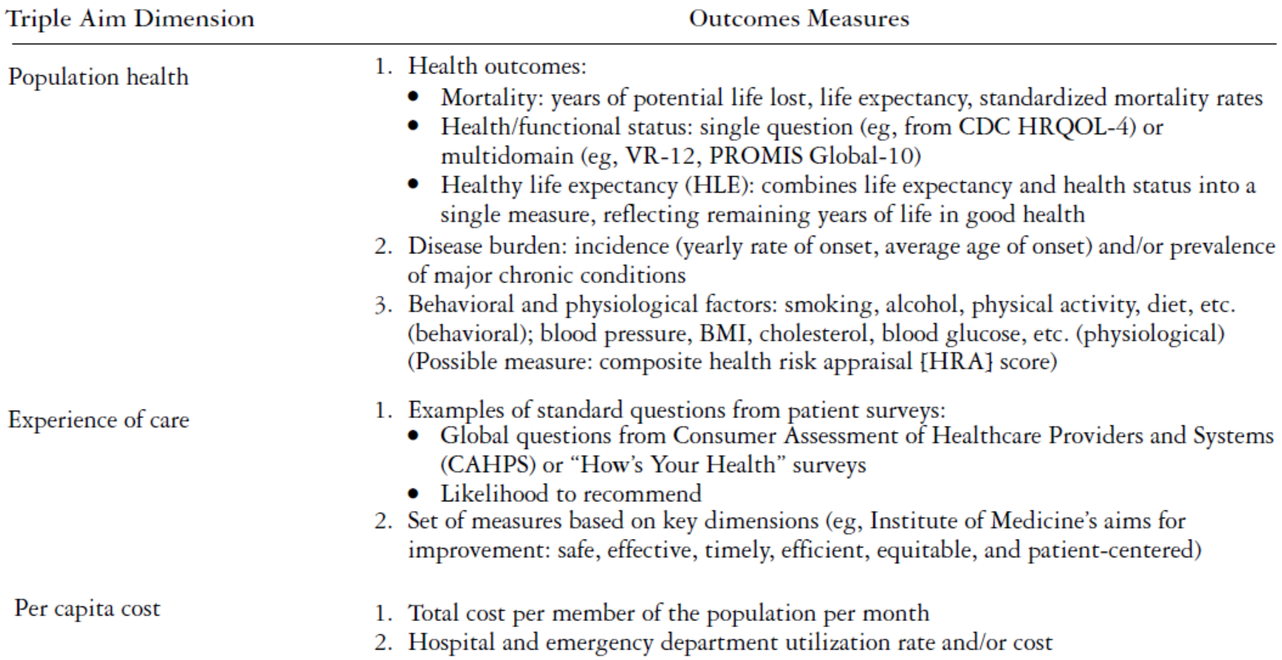


Health outcomes

TRIPLE AIM

Experience of care

Costs



Triple Aim Dimension	Outcomes Measures
Population health	1. Health outcomes: • Mortality: years of potential life lost, life expectancy, standardized mortality rates • Health/functional status: single question (eg, from CDC HRQOL-4) or multidomain (eg, VR-12, PROMIS Global-10) • Healthy life expectancy (HLE): combines life expectancy and health status into a single measure, reflecting remaining years of life in good health 2. Disease burden: incidence (yearly rate of onset, average age of onset) and/or prevalence of major chronic conditions 3. Behavioral and physiological factors: smoking, alcohol, physical activity, diet, etc. (behavioral); blood pressure, BMI, cholesterol, blood glucose, etc. (physiological) (Possible measure: composite health risk appraisal [HRA] score)
Experience of care	1. Examples of standard questions from patient surveys: • Global questions from Consumer Assessment of Healthcare Providers and Systems (CAHPS) or "How's Your Health" surveys • Likelihood to recommend 2. Set of measures based on key dimensions (eg, Institute of Medicine's aims for improvement: safe, effective, timely, efficient, equitable, and patient-centered)
Per capita cost	1. Total cost per member of the population per month 2. Hospital and emergency department utilization rate and/or cost

Berwick DM, et al. Health affairs. 2008.

Whittington JW et al. Milbank Quar 2015

Outcomes

- Death → Survival, longevity and life expectancy
- Disease → Incidence and prevalence, severity and disease specific degree of control
- Disability → Function
- Discomfort → Symptoms
- Dissatisfaction → General Health Perceptions and Health Related Quality of Life

Outcomes

- Death → Survival, longevity and life expectancy
- Disease → Incidence and prevalence, **severity** and disease specific degree of control
- Disability → **Function**
- Discomfort → **Symptoms**
- Dissatisfaction → **General Health Perceptions** and **Health Related Quality of Life**

What are PROMs

- “Any [health] measurement of a patient health status that comes directly from the patient”

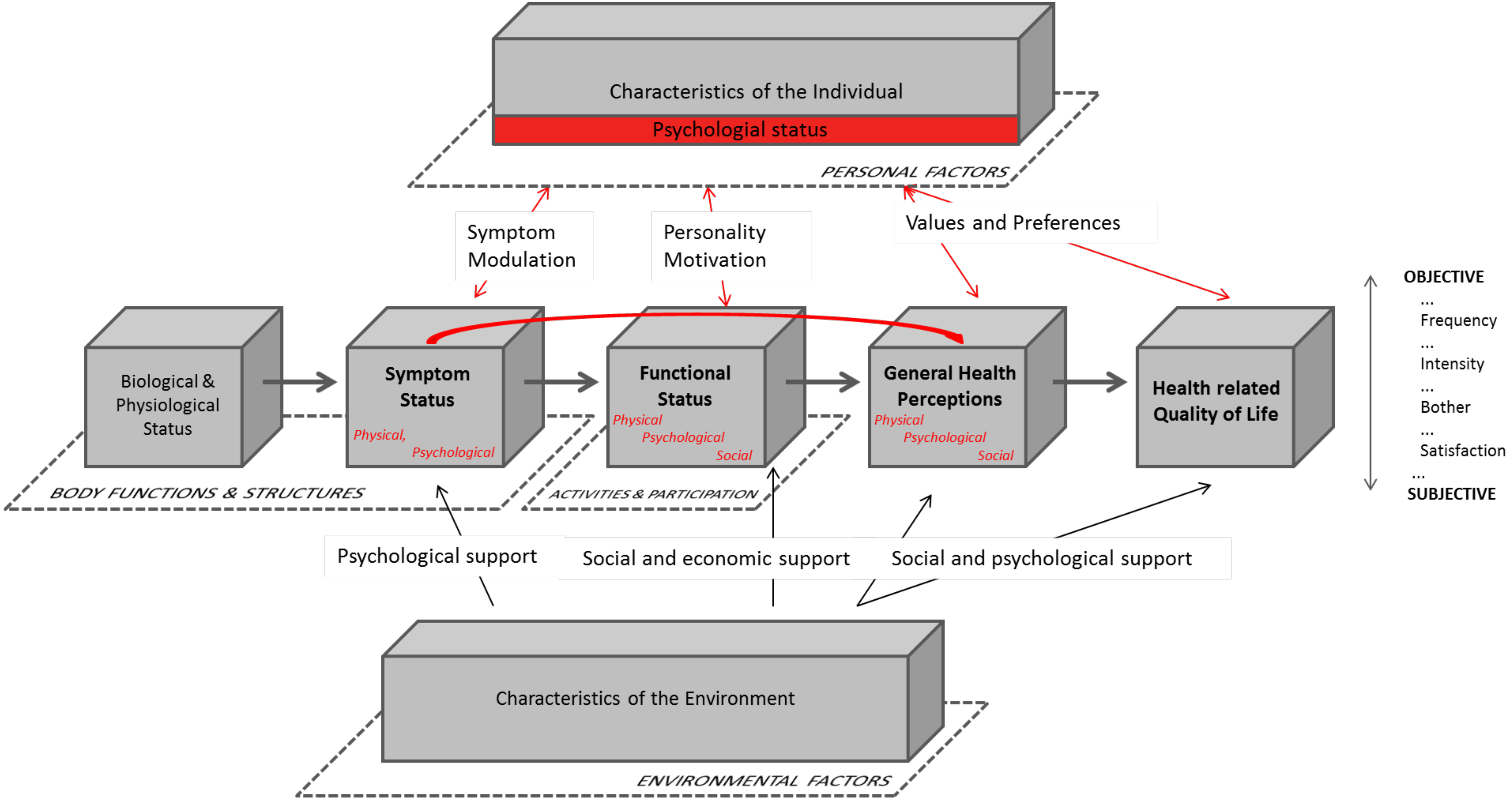
What are PROMs

- Stimulus (item):
  How much bodily pain have you had during the *past 2 weeks*?

- Response (scale)

None, Very mild, Mild, Moderate, Severe, Very severe

- Scoring (domains, weights)
  - Bodily pain domain (%, t-score)
  - Physical Health Summary



Characteristics of the Individual

Psychologial status

PERSONAL FACTORS

Symptom
Modulation

Personality
Motivation

Values and Preferences

Biological &
Physiological
Status

**Symptom
Status**

Physical,
Psychological

**Functional
Status**

Physical
Psychological
Social

**General Health
Perceptions**

Physical
Psychological
Social

**Health related
Quality of Life**

OBJECTIVE
...
Frequency
...
Intensity
...
Bother
...
Satisfaction
...
SUBJECTIVE

BODY FUNCTIONS & STRUCTURES

ACTIVITIES & PARTICIPATION

Psychological support

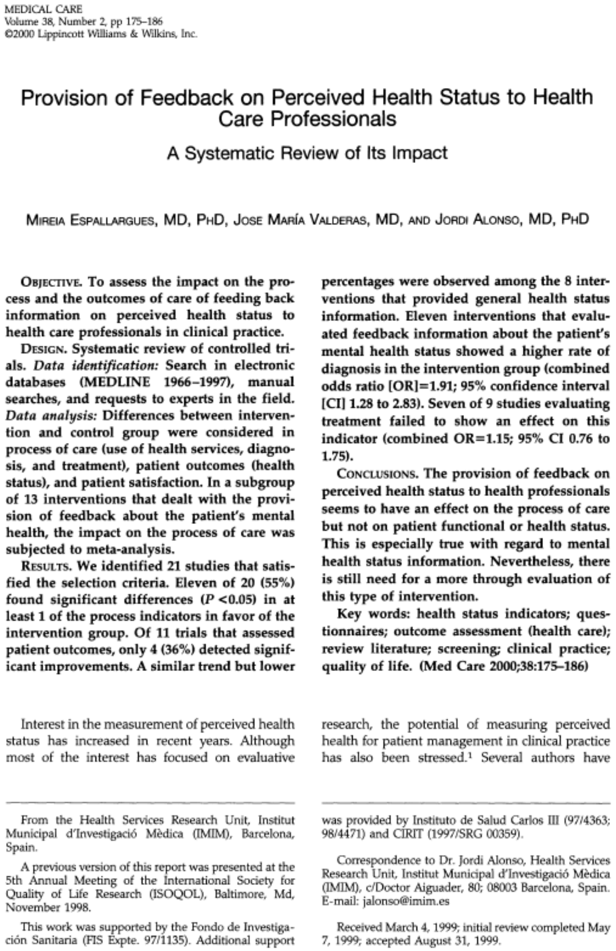
Social and economic support

Social and psychological support

Characteristics of the Environment

ENVIRONMENTAL FACTORS

Gonçalves DC, Alonso J, Valderas JM. Qual Life Res 2012



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Provision of Feedback on Perceived Health Status to Health Care Professionals

A Systematic Review of Its Impact

MIREIA ESPALLARGUES, MD, PHD, JOSE MARÍA VALDERAS, MD, AND JORDI ALONSO, MD, PHD

OBJECTIVE. To assess the impact on the process and the outcomes of care of feeding back information on perceived health status to health care professionals in clinical practice.

DESIGN. Systematic review of controlled trials. *Data identification:* Search in electronic databases (MEDLINE 1966–1997), manual searches, and requests to experts in the field. *Data analysis:* Differences between intervention and control group were considered in process of care (use of health services, diagnosis, and treatment), patient outcomes (health status), and patient satisfaction. In a subgroup of 13 interventions that dealt with the provision of feedback about the patient's mental health, the impact on the process of care was subjected to meta-analysis.

RESULTS. We identified 21 studies that satisfied the selection criteria. Eleven of 20 (55%) found significant differences ($P < 0.05$) in at least 1 of the process indicators in favor of the intervention group. Of 11 trials that assessed patient outcomes, only 4 (36%) detected significant improvements. A similar trend but lower percentages were observed among the 8 interventions that provided general health status information. Eleven interventions that evaluated feedback information about the patient's mental health status showed a higher rate of diagnosis in the intervention group (combined odds ratio [OR]=1.91; 95% confidence interval [CI] 1.28 to 2.83). Seven of 9 studies evaluating treatment failed to show an effect on this indicator (combined OR=1.15; 95% CI 0.76 to 1.75).

CONCLUSIONS. The provision of feedback on perceived health status to health professionals seems to have an effect on the process of care but not on patient functional or health status. This is especially true with regard to mental health status information. Nevertheless, there is still need for a more through evaluation of this type of intervention.

Key words: health status indicators; questionnaires; outcome assessment (health care); review literature; screening; clinical practice; quality of life. (Med Care 2000;38:175–186)

Interest in the measurement of perceived health status has increased in recent years. Although most of the interest has focused on evaluative research, the potential of measuring perceived health for patient management in clinical practice has also been stressed.[1] Several authors have

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From the Health Services Research Unit, Institut Municipal d'Investigació Mèdica (IMIM), Barcelona, Spain.

A previous version of this report was presented at the 5th Annual Meeting of the International Society for Quality of Life Research (ISOQOL), Baltimore, Md, November 1998.

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Correspondence to Dr. Jordi Alonso, Health Services Research Unit, Institut Municipal d'Investigació Mèdica (IMIM), c/Doctor Aiguader, 80; 08003 Barcelona, Spain. E-mail: jalonso@imim.es

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Qual Life Res
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The impact of measuring patient-reported outcomes in clinical practice: a systematic review of the literature

J. M. Valderas · A. Kotzeva · M. Espallargues · G. Guyatt · C. E. Ferrans · M. Y. Halyard · D. A. Revicki · T. Symonds · A. Parada · J. Alonso

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Abstract
Objective The purpose of this paper is to summarize the best evidence regarding the impact of providing patient-reported outcomes (PRO) information to health care professionals in daily clinical practice.
Methods Systematic review of randomized clinical trials (Medline, Cochrane Library; reference lists of previous systematic reviews; and requests to authors and experts in the field).
Results Out of 1,861 identified references published between 1978 and 2007, 34 articles corresponding to 28 original studies proved eligible. Most trials (19) were conducted in primary care settings performed in the USA (21) and assessed adult patients (25). Information provided to professionals included generic health status (10), mental health (14), and other (6). Most studies suffered from methodologic limitations, including analysis that did not correspond with the unit of allocation. In most trials, the impact of PRO was limited. Fifteen of 23 studies (65%) measuring process of care observed at least one significant result favoring the intervention, as did eight of 17 (47%) that measured outcomes of care.
Conclusions Methodological concerns limit the strength of inference regarding the impact of providing PRO information to clinicians. Results suggest great heterogeneity of impact; contexts and interventions that will yield important benefits remain to be clearly defined.

Keywords Patient-reported outcomes · Quality of life · Health status indicators · Outcome assessment · Clinical practice

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J. M. Valderas
National Primary Care Research and Development Center,
The University of Manchester,
Manchester, UK
e-mail: jose.valderas@manchester.ac.uk

J. M. Valderas · J. Alonso (✉)
Health Services Research Unit, Institut Municipal d'Investigació Mèdica (IMIM-Hospital del Mar), PRBB. Doctor Aiguader, 88, 08003 Barcelona, Spain
e-mail: jalonso@imim.es

A. Kotzeva · M. Espallargues · A. Parada
Catalan Agency for Health Technology Assessment and Research (CAHTA), Roc Boronat, 81-95, 08005 Barcelona, Spain

A. Kotzeva
e-mail: akotzeva@aatrm.catsalut.net

M. Espallargues
e-mail: mespallargues@aatrm.catsalut.net

G. Guyatt
McMaster University, Hamilton, Canada
e-mail: guyatt@mcmaster.ca

C. E. Ferrans
College of Nursing (MC 802), University of Illinois at Chicago, Chicago, IL, USA

M. Y. Halyard
Mayo Clinic, Scottdale, AZ, USA

D. A. Revicki
Center for Health Outcomes Research, United Biosource Corporation, Bethesda, MD, USA

T. Symonds
Worldwide Outcomes Research (IPC160), Pfizer Global Research and Development, Kent, UK

J. Alonso
Department of Experimental and Life Sciences,
Universitat Pompeu Fabra, Barcelona, Spain

Routine provision of information on patient-reported outcome measures to healthcare providers and patients in clinical practice (Protocol)

Gonçalves Bradley DC, Gibbons C, Ricci-Cabello I, Bobrovitz NJH, Gibbons EJ, Kotzeva A, Alonso J, Fitzpatrick R, Bower P, van der Wees PJ, Rajmil L, Roberts NW, Taylor RS, Greenhalgh J, Porter I, Valderas JM

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This is a reprint of a Cochrane protocol, prepared and maintained by The Cochrane Collaboration and published in *The Cochrane Library* 2015, Issue 3

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WILEY

Cascade of effects

Patient-physician communication

Diagnosis and notation

Pharmacological treatment

Disease control

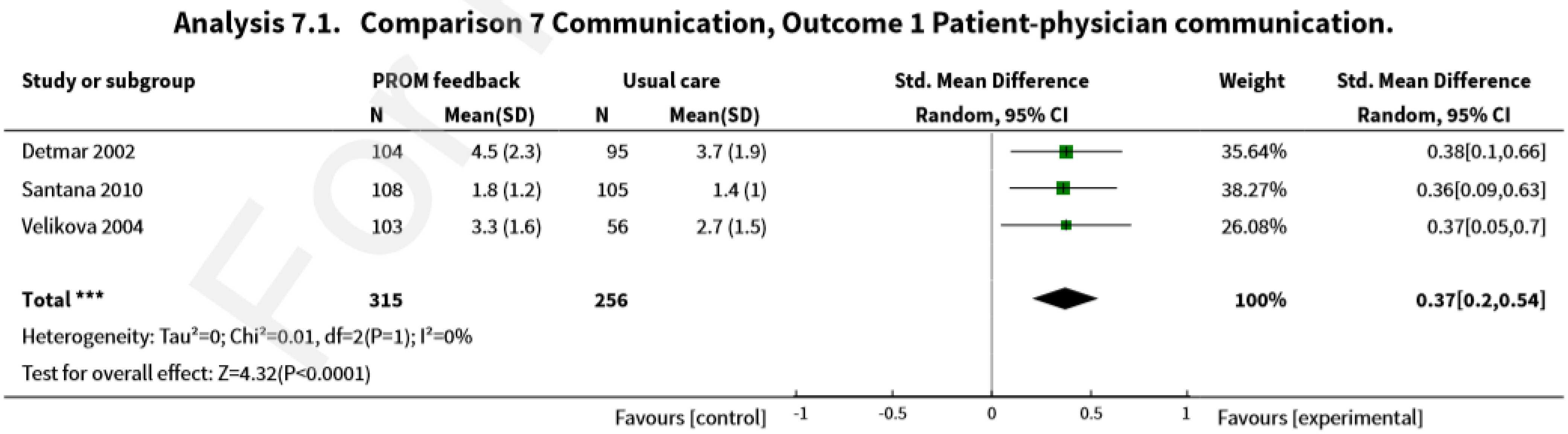
Physical functioning

Mental functioning

Social functioning

Quality of life

Communication



Analysis 7.1. Comparison 7 Communication, Outcome 1 Patient-physician communication.

Study or subgroup	PROM feedback		Usual care		Std. Mean Difference	Weight	Std. Mean Difference
	N	Mean(SD)	N	Mean(SD)	Random, 95% CI		Random, 95% CI
Detmar 2002	104	4.5 (2.3)	95	3.7 (1.9)		35.64%	0.38[0.1,0.66]
Santana 2010	108	1.8 (1.2)	105	1.4 (1)		38.27%	0.36[0.09,0.63]
Velikova 2004	103	3.3 (1.6)	56	2.7 (1.5)		26.08%	0.37[0.05,0.7]
Total ***	**315**		**256**			**100%**	**0.37[0.2,0.54]**

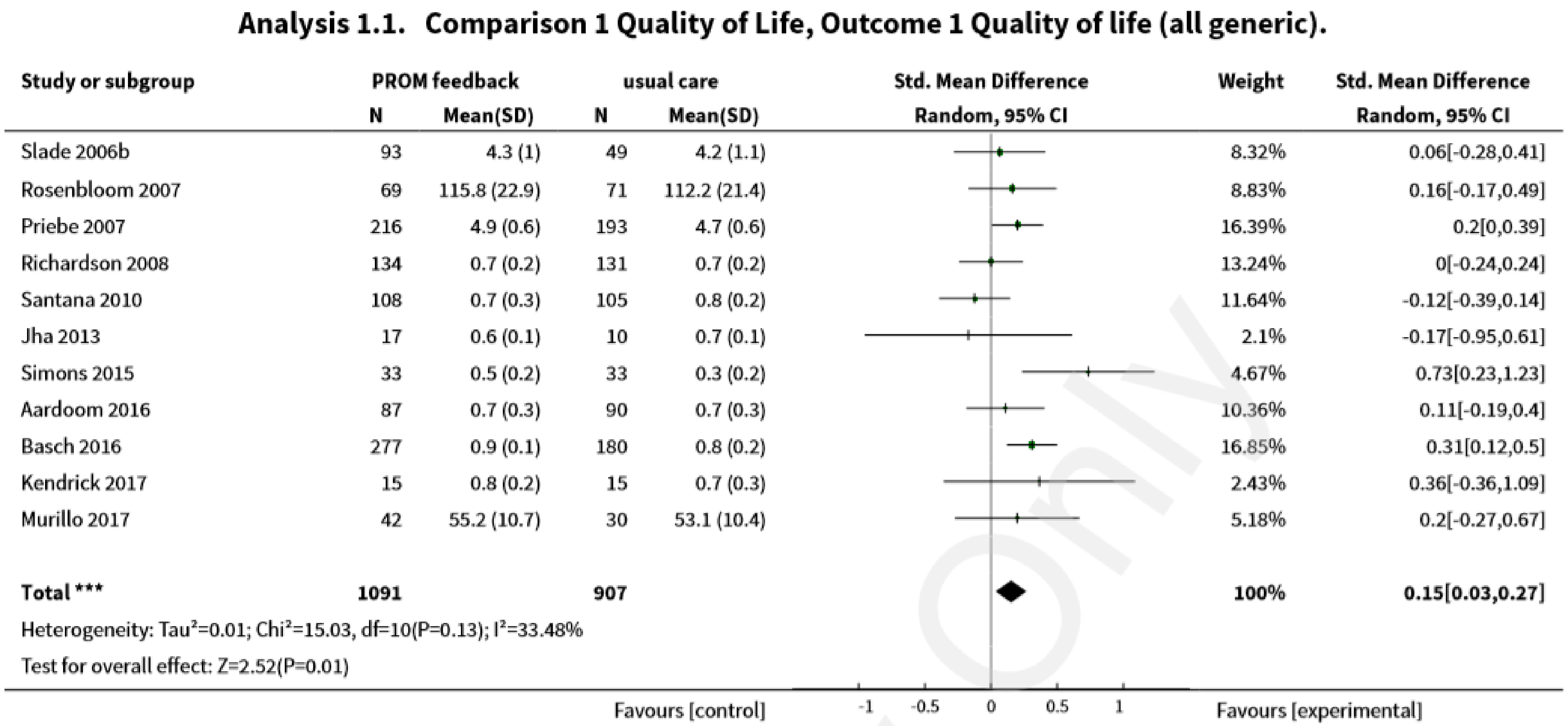
Heterogeneity: Tau²=0; Chi²=0.01, df=2(P=1); I²=0%

Test for overall effect: Z=4.32(P<0.0001)

Patients	Studies	Effect	Effect size	GRADE evidence
571	3	0.37 smd.	Medium	Moderate

<u>Communication </u>| Diagnosis | Treatment | Control | Functioning | Quality of Life

Quality of life



Analysis 1.1. Comparison 1 Quality of Life, Outcome 1 Quality of life (all generic).

Study or subgroup	PROM feedback N	PROM feedback Mean(SD)	usual care N	usual care Mean(SD)	Std. Mean Difference Random, 95% CI	Weight	Std. Mean Difference Random, 95% CI
Slade 2006b	93	4.3 (1)	49	4.2 (1.1)		8.32%	0.06[-0.28,0.41]
Rosenbloom 2007	69	115.8 (22.9)	71	112.2 (21.4)		8.83%	0.16[-0.17,0.49]
Priebe 2007	216	4.9 (0.6)	193	4.7 (0.6)		16.39%	0.2[0,0.39]
Richardson 2008	134	0.7 (0.2)	131	0.7 (0.2)		13.24%	0[-0.24,0.24]
Santana 2010	108	0.7 (0.3)	105	0.8 (0.2)		11.64%	-0.12[-0.39,0.14]
Jha 2013	17	0.6 (0.1)	10	0.7 (0.1)		2.1%	-0.17[-0.95,0.61]
Simons 2015	33	0.5 (0.2)	33	0.3 (0.2)		4.67%	0.73[0.23,1.23]
Aardoom 2016	87	0.7 (0.3)	90	0.7 (0.3)		10.36%	0.11[-0.19,0.4]
Basch 2016	277	0.9 (0.1)	180	0.8 (0.2)		16.85%	0.31[0.12,0.5]
Kendrick 2017	15	0.8 (0.2)	15	0.7 (0.3)		2.43%	0.36[-0.36,1.09]
Murillo 2017	42	55.2 (10.7)	30	53.1 (10.4)		5.18%	0.2[-0.27,0.67]
Total ***	**1091**		**907**			**100%**	**0.15[0.03,0.27]**

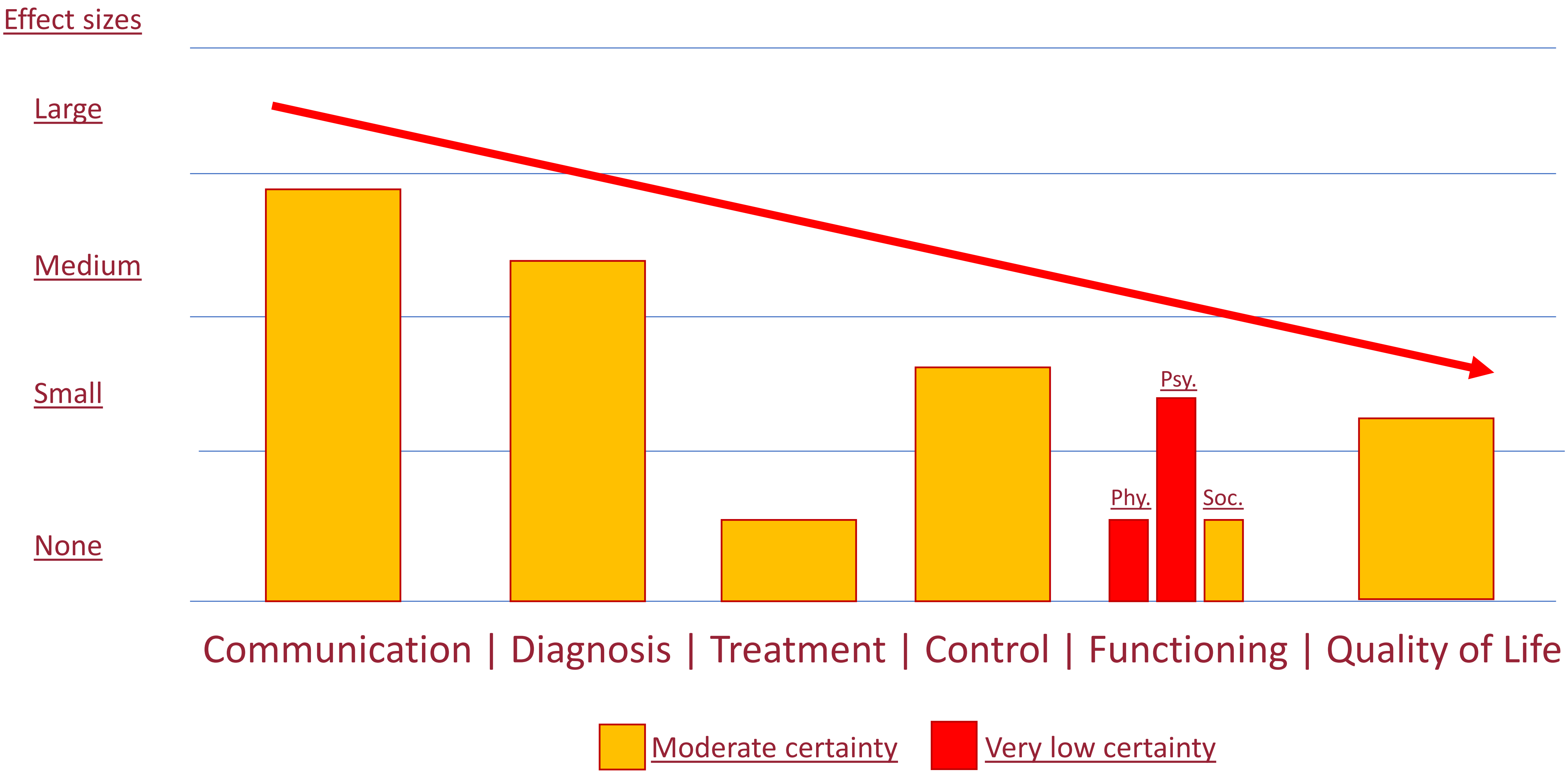
Heterogeneity: Tau^2=0.01; Chi^2=15.03, df=10(P=0.13); I^2=33.48%

Test for overall effect: Z=2.52(P=0.01)

Patients	Studies	Effect	Effect size	GRADE evidence
1998	11	0.15 smd	Small	Moderate

Communication | Diagnosis | Treatment | Control | Functioning | Quality of Life

Summary


Effect sizes
Large
Medium
Small
None
Psy.
Phy.
Soc.
Communication | Diagnosis | Treatment | Control | Functioning | Quality of Life
🟨 Moderate certainty
🟥 Very low certainty

ICHOM is gaining the support of the health care community

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People caring for people

Canisius Wilhelmina Ziekenhuis
Catharina Ziekenhuis
Martini Ziekenhuis
Medisch Spectrum Twente
OLVG
St. Antonius Ziekenhuis

PLATINUM

Alliance of Dedicated Cancer Centers

NHS England

Movember Foundation

DICA Dutch Institute for Clinical Auditing

IUGA International Urogynecological Association

Oxford Academic Health Science Network

American Heart Association | American Stroke Association
life is why

NOVARTIS FOUNDATION

royal free charity

The Scottish Government
Riaghaltas na h-Alba

GOLD

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Générale de santé

dental health services victoria
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SILVER

Bowel Cancer Australia

NHS Camden Clinical Commissioning Group

Boston Children's Hospital
Until every child is well

Harvard Pilgrim HealthCare

SickKids

University Cancer Center

Great Ormond Street Hospital for Children NHS Trust

The Children's Hospital of Philadelphia

British Heart Foundation

Hoag Orthopedic Institute

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TEXAS SCOTTISH RITE HOSPITAL FOR CHILDREN

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UPPSALA UNIVERSITY HOSPITAL

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associação nacional de hospitais privados

Government of South Australia
SA Health

hoag

CJRI Connecticut Joint Replacement Institute

S:T ERIKS ÖGONSJUKHUS
ST. ERIK EYE HOSPITAL

THE UNIVERSITY OF TEXAS MD Anderson ~~Cancer~~ Center

Texas Children's Hospital

Macular Society


ICHOM Standard Set for
STROKE


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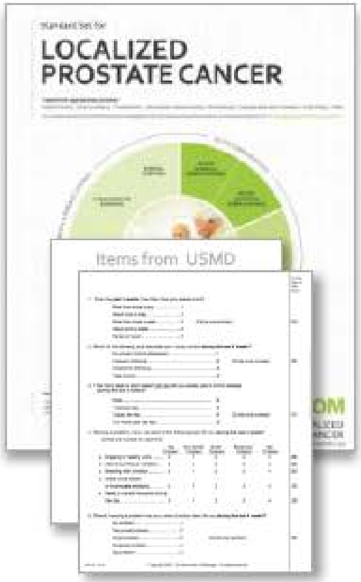
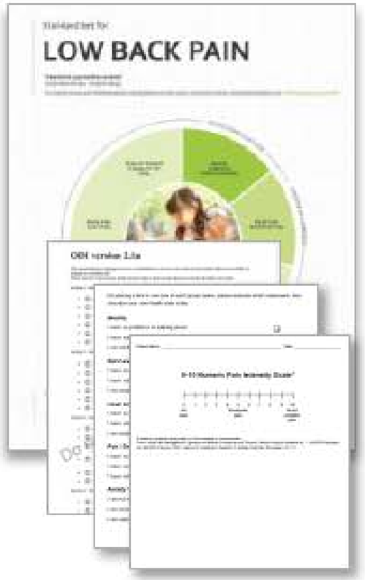
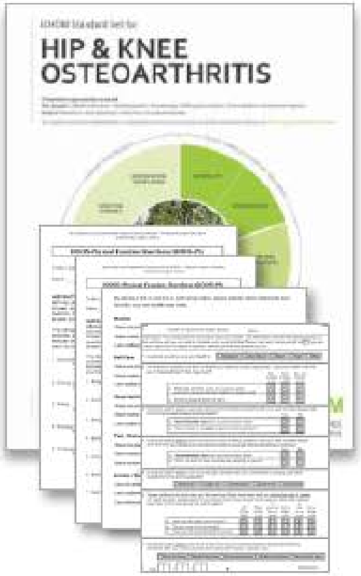
ICHOM Standard Set for
LUNG CANCER


ICHOM Standard Set for
MACULAR DEGENERATION

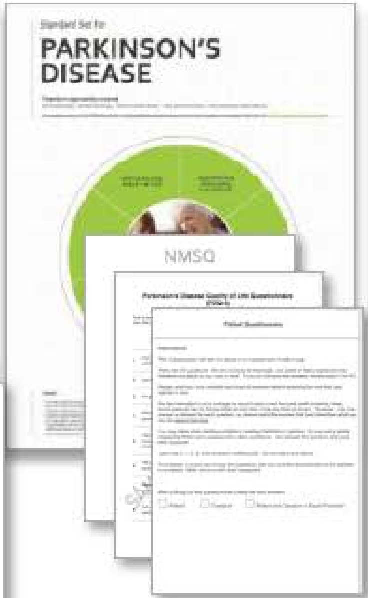

Standard Set for
LOCALIZED PROSTATE CANCER

Items from USMD

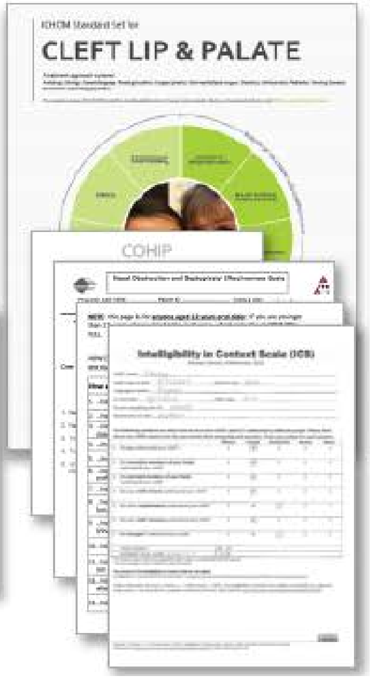

Standard Set for
LOW BACK PAIN


ICHOM Standard Set for
HIP & KNEE OSTEOARTHRITIS


ICHOM Standard Set for
DEPRESSION & ANXIETY


Standard Set for
PARKINSON'S DISEASE

NMSQ


ICHOM Standard Set for
CLEFT LIP & PALATE

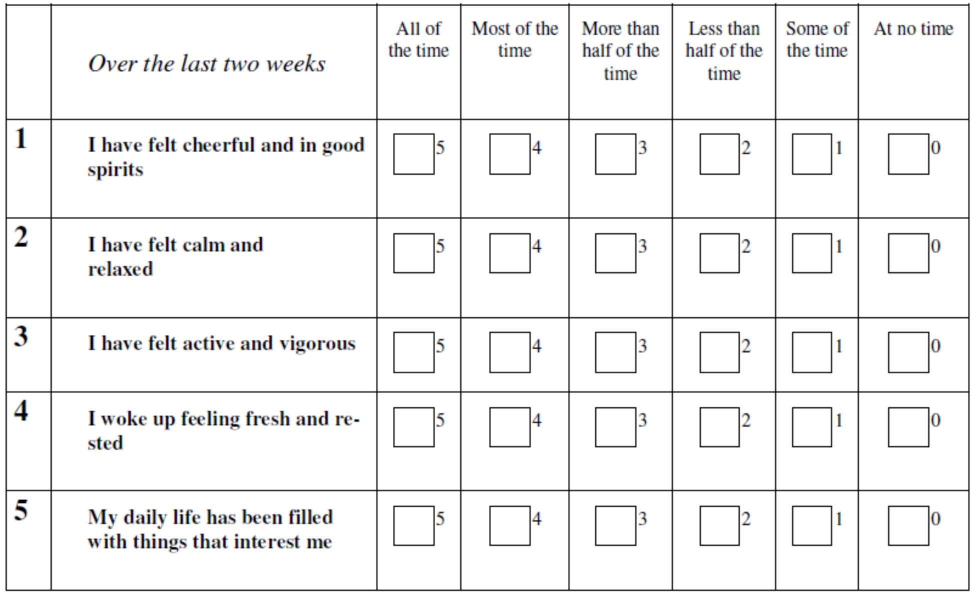
COHIP

Intelligibility in Context Scale (ICS)

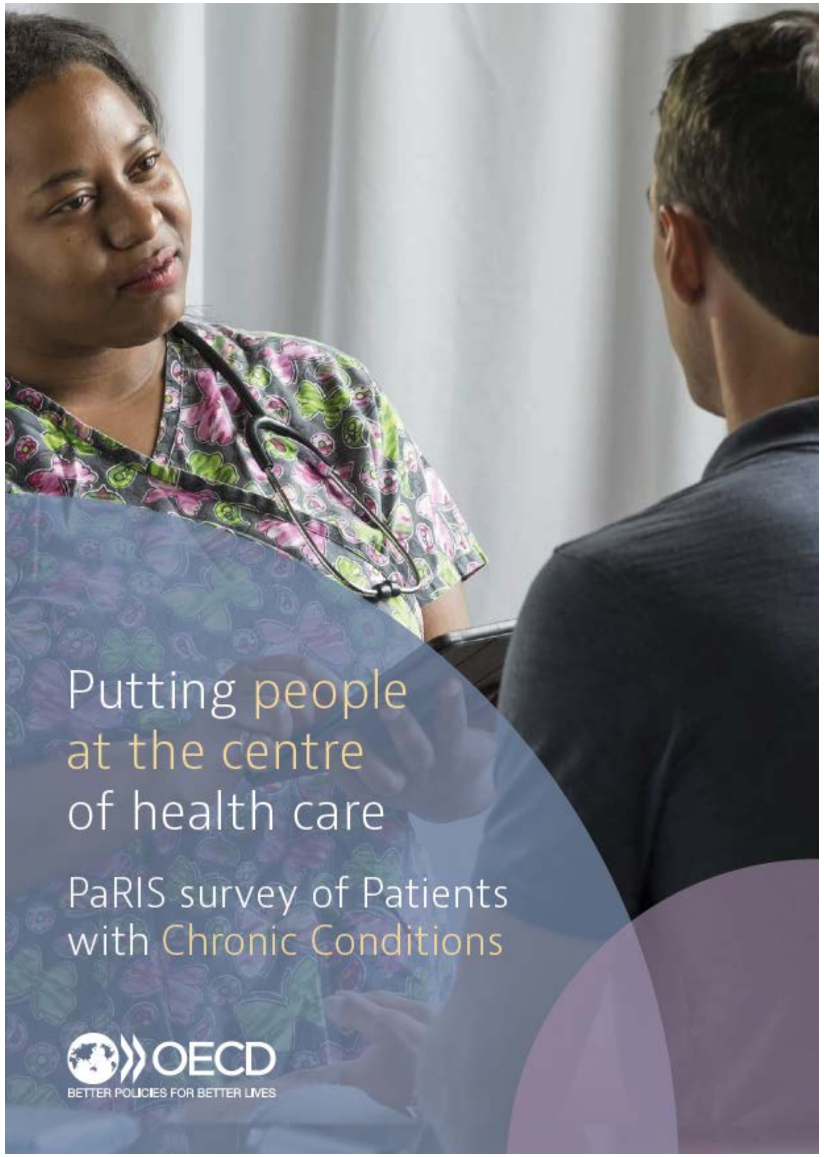

Standard Set for
CATARACTS


Standard Set for
CORONARY ARTERY DISEASE

- PROMIS-Global 10
- WHO Wellbeing Index-5
- WHO Disability Assessment Schedule-12
- Additional items



	Over the last two weeks	All of the time	Most of the time	More than half of the time	Less than half of the time	Some of the time	At no time
1	**I have felt cheerful and in good spirits**	☐ 5	☐ 4	☐ 3	☐ 2	☐ 1	☐ 0
2	**I have felt calm and relaxed**	☐ 5	☐ 4	☐ 3	☐ 2	☐ 1	☐ 0
3	**I have felt active and vigorous**	☐ 5	☐ 4	☐ 3	☐ 2	☐ 1	☐ 0
4	**I woke up feeling fresh and rested**	☐ 5	☐ 4	☐ 3	☐ 2	☐ 1	☐ 0
5	**My daily life has been filled with things that interest me**	☐ 5	☐ 4	☐ 3	☐ 2	☐ 1	☐ 0


Putting people at the centre of health care

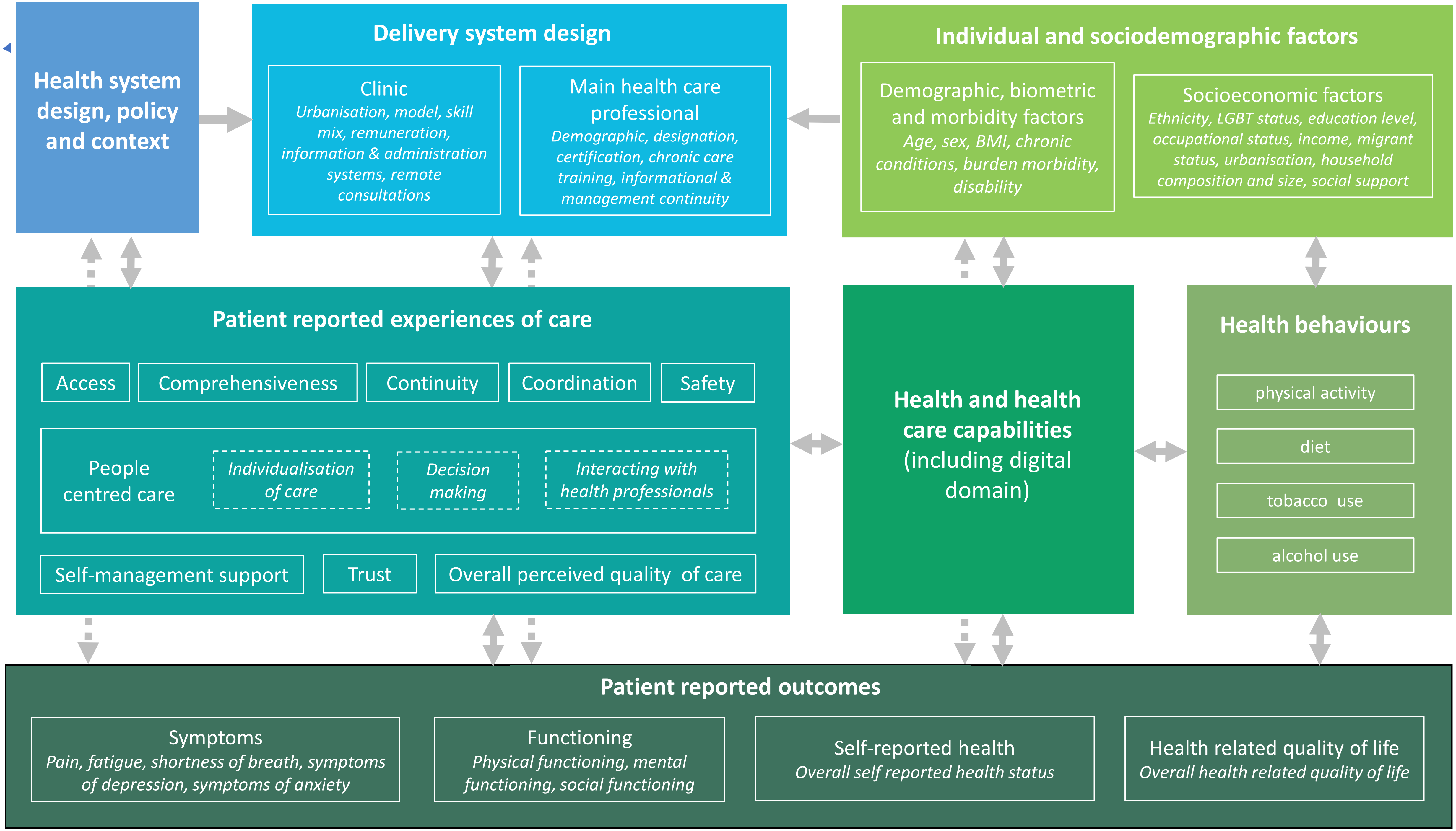
PaRIS survey of Patients with Chronic Conditions

OECD

BETTER POLICIES FOR BETTER LIVES

Key questions that PaRIS will help shed light with include:

- Are diabetes programmes in my country making people actually feel better?
- How do people who were diagnosed with cancer in the past five years fare and does this differ from similar patients in other countries?
- How well is care organised around the needs of patients?
- Are patients with chronic heart conditions better off in some parts of the country than in others?
- How does the effectiveness of pain management vary across patient groups and geographic areas in my country?
- How well can people with multiple chronic conditions perform daily life activities?



Health system design, policy and context

Delivery system design

Clinic
Urbanisation, model, skill mix, remuneration, information & administration systems, remote consultations

Main health care professional
Demographic, designation, certification, chronic care training, informational & management continuity

Individual and sociodemographic factors

Demographic, biometric and morbidity factors
Age, sex, BMI, chronic conditions, burden morbidity, disability

Socioeconomic factors
Ethnicity, LGBT status, education level, occupational status, income, migrant status, urbanisation, household composition and size, social support

Patient reported experiences of care

- Access
- Comprehensiveness
- Continuity
- Coordination
- Safety
- People centred care
  - *Individualisation of care*
  - *Decision making*
  - *Interacting with health professionals*
- Self-management support
- Trust
- Overall perceived quality of care

Health and health care capabilities (including digital domain)

Health behaviours

- physical activity
- diet
- tobacco use
- alcohol use

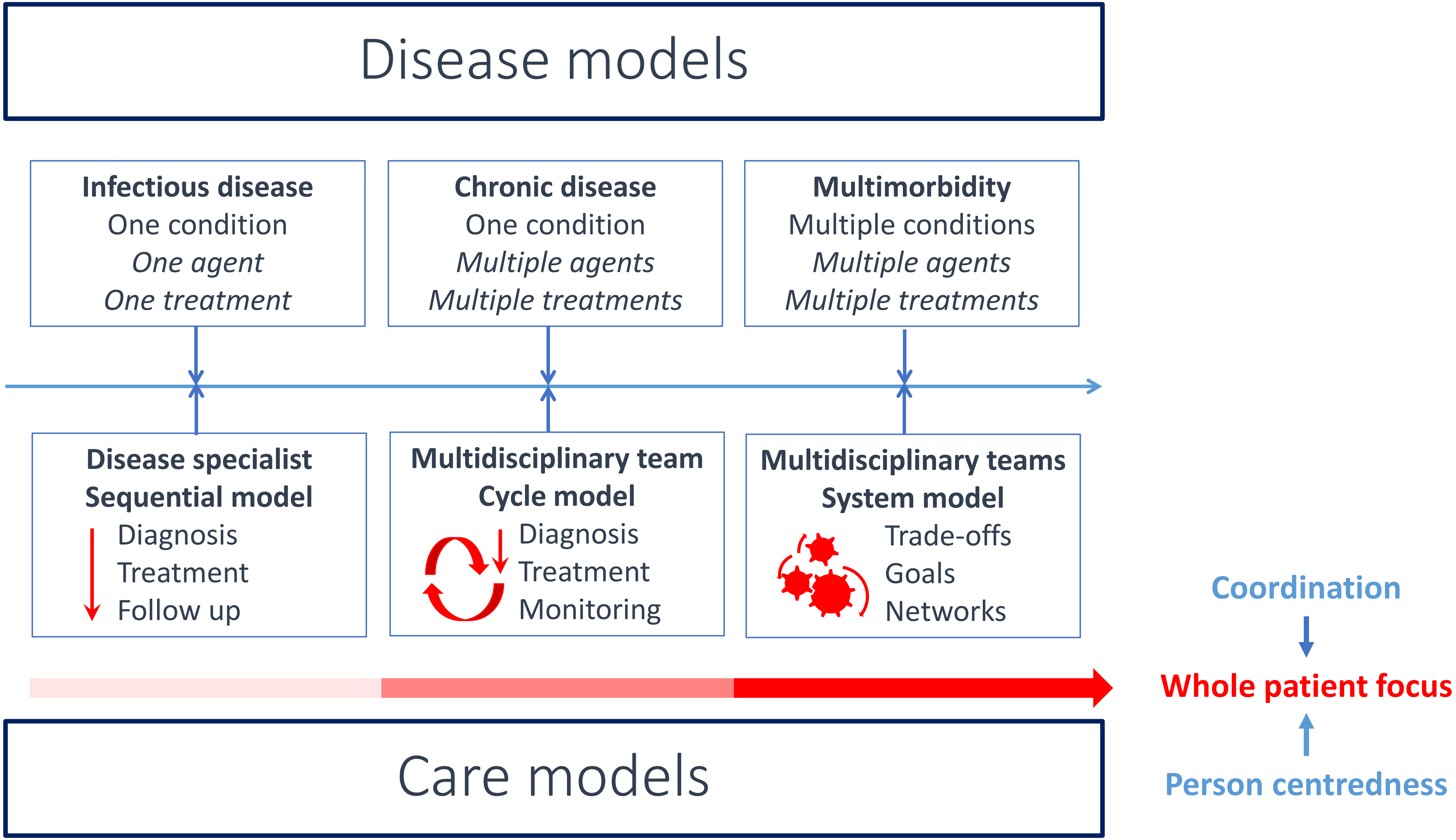
Patient reported outcomes

Symptoms
Pain, fatigue, shortness of breath, symptoms of depression, symptoms of anxiety

Functioning
Physical functioning, mental functioning, social functioning

Self-reported health
Overall self reported health status

Health related quality of life
Overall health related quality of life



Disease models

Infectious disease
One condition
One agent
One treatment

Chronic disease
One condition
Multiple agents
Multiple treatments

Multimorbidity
Multiple conditions
Multiple agents
Multiple treatments

Disease specialist
Sequential model
Diagnosis
Treatment
Follow up

Multidisciplinary team
Cycle model
Diagnosis
Treatment
Monitoring

Multidisciplinary teams
System model
Trade-offs
Goals
Networks

Coordination
Whole patient focus
Person centredness

Care models

Valderas JM et al. J Intern Med 2019

Research needs

- Processes for identifying values and preferences
- Data collection: preference based computerised adaptative testing
- Feed-back to patients, clinicians, managers, policy makers
- Role of outcomes based evaluation in financing of health care
- Implementation
- Evaluation of impact in terms of the triple aim

Summary

- Value based health care is about maximising the ratio of outcomes (and experiences) to resources
- PROMs is a key and powerful metric for the value based care approach
- International initiatives support the value based approach
- Multimorbidity challenge as a catalyser for change
- Rich research agenda centred around implementation and evaluation

Thank you for your attention.

Any questions?

Jose M Valderas

j.m.valderas@exeter.ac.uk