Climate change and healthcare systems: A reciprocal relationship with risks and opportunities

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Climate Change (CC) and health care systems



"The effects of climate change are **being felt today**, and future projections represent an unacceptably high and **potentially catastrophic risk** to human health"

Watts et al. 2015, The Lancet Commission

Example heat

Increase in heat events



Quelle: Smith, KR, A Woodward, D Campell-Lendrum, and others. 2014. Human Health—impacts Adaptation and Co-Benefits. Climate Change 2014: Impacts, Adaptation, and Vulnerability Working Group II Contribution to the IPCC 5th Assessment Report. Cambridge, UK and New York, NY. USA: Cambridge University Press.

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Quelle: Smith, KR, A Woodward, D Campell-Lendrum, and others. 2014. Human Health—impacts Adaptation and Co-Benefits. Climate Change 2014: Impacts, Adaptation, and Vulnerability Working Group II Contribution to the IPCC 5th Assessment Report. Cambridge, UK and New York, NY. USA: Cambridge University Press.

Increase in heat events and population aged 65 and above



Quelle: Smith, KR, A Woodward, D Campell-Lendrum, and others. 2014. Human Health—impacts Adaptation and Co-Benefits. Climate Change 2014: Impacts, Adaptation, and Vulnerability Working Group II Contribution to the IPCC 5th Assessment Report. Cambridge, UK and New York, NY. USA: Cambridge University Press.

Excess mortality in Austria



Quelle: Haas, W., Weisz, U., Maier, P., Scholz, F. 2015. Human Health. In: Economic Evaluation of Climate Change Impacts: Development of a Cross-Sectoral Framework and Results for Austria (Eds.) Steininger, K.W., König, M., Bednar-Friedl, B., Kranzl, L., Loibl, W. and Prettenthaler, F., Springer Climate, Cham Heidelberg New York Dordrecht London, pp. 189-212



Two useful differences re notions

Static output concept focus on treating deficits

Instead of implicitly using the

Pathogenetic paradigm Emergence, nature, course and therapy of disease



Climate Change

Health

Two useful differences re notions







Health

Prevention of harm from **Climate Change** impacts

Adap-Mititation gation

Reduction of greenhouse gas-emissions (GHG)



Active mobility in urban areas: Example Austria

Reduced mortality

per 100,000 inhabitants



Zero emissions

Carbon target mid century **Remaining motorized** traffic with e-motion

Green exercise

Active mobility focus Intensified

Green mobility

Politically agreed Reduced access & strolling zones **Bike lanes** Parking management

Source: Haas et al. (in progress) - ClimBHealth

All-cause mortality is 1,409 per 100,000 in 2010









GHG emissions for 22 food types



Percentage reductions in relative risk when

comparing alternative diets to omnivorous diet

Risk: only replacement of beef to reduce carbon footprint; superfoods to become carbon intensive fake health food

Opportunity: healthy food has low carbon footprint – requires interdisciplinary collaboration

Source: Tilman and Clark 2014







Dominating interventions and their carbon intensity

Not based on evidence but on expert guess



Dominating interventions and their carbon intensity

Not based on evidence but on expert guess



Dominating interventions and their carbon intensity

Not based on evidence but on expert guess



Health climate co-benefits are a grand opportunity

<u>Meassures</u>

<u>Benefits</u>



References

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International Classification of Health Interventions (ICHI) – 2015 draft. <u>http://www.who.int/classifications/ichi/en/</u>

Ottawa Charter for Health Promotion, 1986.

http://www.euro.who.int/__data/assets/pdf_file/0004/129532/Ottawa_Charter.pdf?ua=1



Figure 1 | Lifecycle GHG emissions (CO2-Ceq) for 22 different food types. The data are based on an analysis of 555 food production systems: a, per kilocalorie. The mean and s.e.m. are shown for each case. Extended Data Tables 1–3 list data sources, items included in each of the 22 food types and show the mean, s.e.m. and number of data points for each bar, respectively. NA, not applicable.

Source: Tilman and Clark 2014