

Nudging people and organizations toward healthy societies: How can technology help in behavior change?



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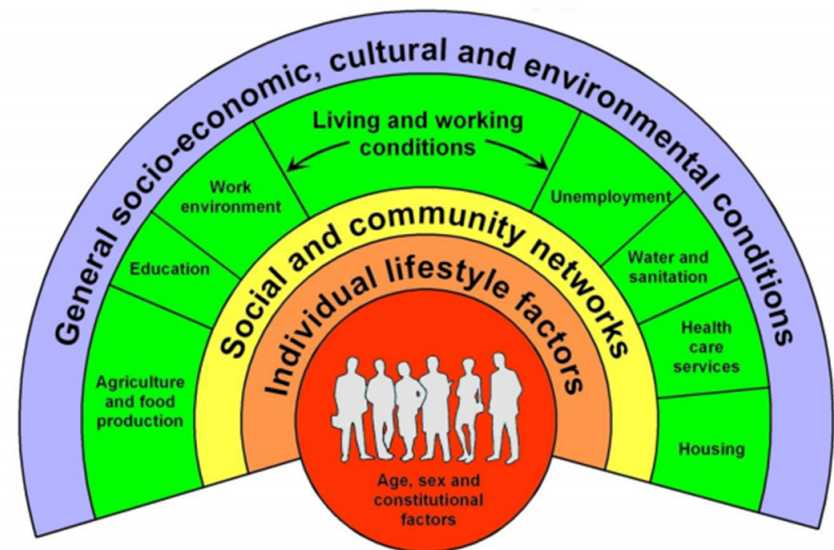
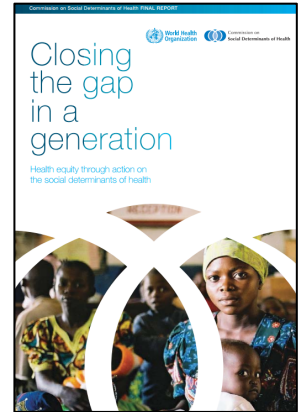
Three recommendations by the WHO Commission on Social Determinants of Health (2008)

1. Improve daily living conditions
2. Strengthen governance

To tackle the inequitable distribution of power, money, and resources

3. Health equity assessment

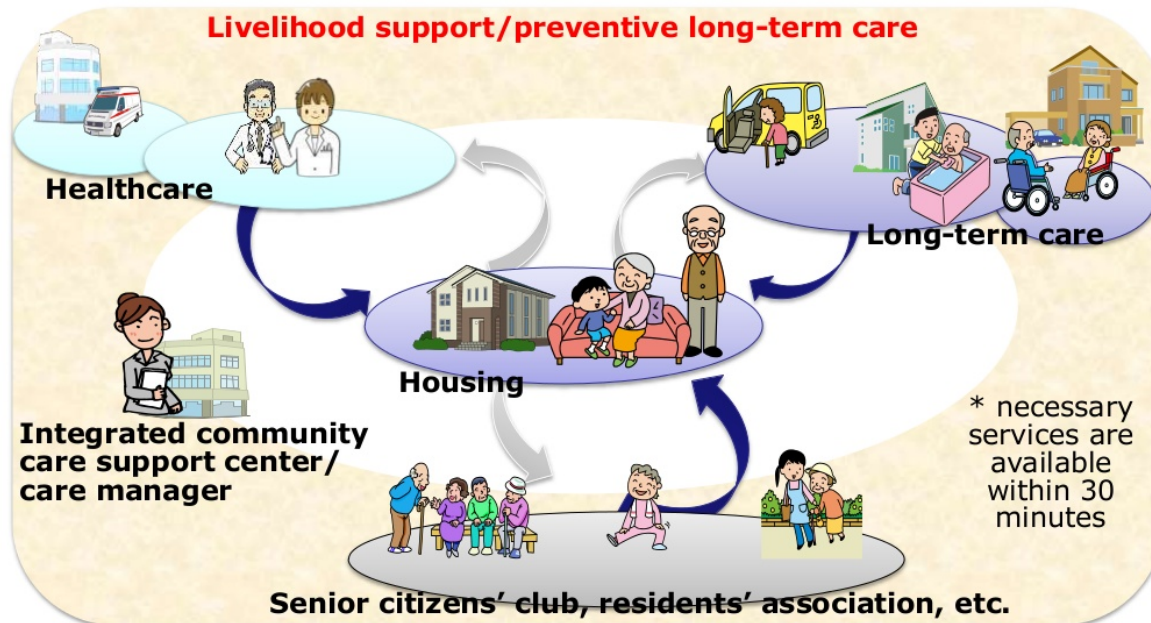
Measure and understand the problem and assess the impact of action



Source: Dahlgren and Whitehead, 1991

Community-based integrated care system: Japan's current community organizing strategy for healthy aging

To live in community in a pleasant and familiar environment



Promoting partnerships among care providers, citizens, and community resources

Lessons from the field

Community-based care for healthy ageing: lessons from Japan

Juniko Saito,* Maho Haseda,* Aki Amemiya,* Daisuke Takagi,* Katsunori Kondo* & Naoki Kondo*

Problem The measures for long-term care prevention that the Japanese government had introduced in 2006 were unsuccessful because of the failure to identify high-risk individuals and to enroll enough participants in the community prevention programme.

Approach The Japanese government shifted its primary strategy from a high-risk strategy to a community-based population strategy in 2010, by reforming the Long-term Care Insurance Act. This act is focusing on community-based care and social determinants of health. The Act and the government's plans for long-term care prevention are inspired by a social participation intervention called *akoto salon*, that is gathering salons for people older than 65 years. These salons, managed by local volunteers, are held once or twice a month in communal spaces within walking distance of community members' homes and have a low participation fee. At the gatherings, older people can meet and interact with others through enjoyable, relaxing and sometimes educational programmes.

Local setting Japan has the world's largest ageing population, with 27.8% (52.2 million)/26.7 million of people older than 65 years.

Relevant changes Studies have shown that participation in the salons was associated with a halved incidence in long-term care needs and about one-third reduction in the risk of dementia onset. Evidence also suggests that financially vulnerable older adults were more likely to participate in such interventions. In 2017, 86.5% (1066/1241) of the Japanese municipalities had implemented the salons.

Lessons learnt Integrated care for long-term care prevention should consider interventions targeting the whole community in addition to high-risk individuals.

Abstracts in 中文, 法文, 西班牙文 and 俄文 at the end of each article.

Introduction

Japan has the world's largest ageing population. In 2017, 27.7% (52.2 million/126.7 million) of people living in Japan were older than 65 years. Over the years, the Japanese government has reformed its policies to respond to the need of the ageing population and to prevent long-term care. In 2006, the government implemented measures aimed to identify frail or semi-frail older adults (that is, 65 years or older) and provide early preventive care programmes for functional decline, to delay dependence on long-term care. The measures consisted of identifying older people with disability risks, by screening them, mainly at regular health check-ups, using a validated one-page questionnaire (Kihon checklist). Identified high-risk individuals were subsequently referred to free community prevention programmes.

However, the measures failed to identify high-risk individuals and participation in community programmes was low. Based on available evidence, the government estimated that approximately 5% of the total older population was at risk, and therefore should be the target of preventive care. However, in 2014, by the fourth year of strategy implementation, only 0.8% (267/654/32/824/841) of older adults had joined the community prevention programme.¹ This result was due to the low participation in the screening process for functional difficulties only 34.8% (11 408/62/22/824/841) of older people participated, a lower percentage than that for regular health check-ups (41.5% for 65–74-year-old people).² Although supportive evidence is not available, we speculate that physical and environmental barriers and the lack of support to overcome those barriers, such as incentives and transportation, may explain the low participation. The low screening participation could also increase inequities in preventive service provision.

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Here we describe the country's current strategy and we focus on a social participation intervention called *akoto salon*, that is, salons where older people can gather.

Current strategy

In response to the increasing awareness on health inequality, the second term of the National Health Promotion Movement.

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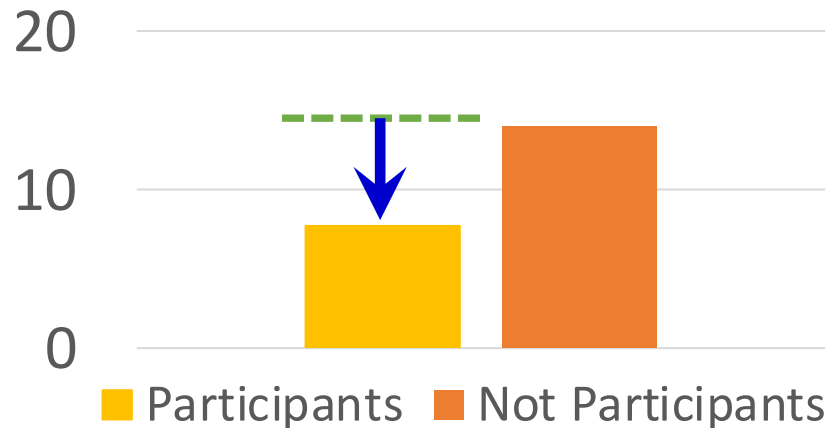
Bull World Health Organ 2019;97:570–4. | <https://doi.org/10.2471/BLT.18.22057>

Saito J, Haseda M, Amemiya A, Takagi D, Kondo K, Kondo N. Community-based care for healthy ageing: lessons from Japan. *Bull World Health Organ* 2019;97:570–4.



Partnered actions to nudge people **toward** long-term care **and** prevention (via social incentives):
Making community “salons” (social gathering places) to prevent functional disability

% functional decline



More participation among **low income individuals**

Hikichi, H., Kondo, N., Kondo, K., et al. Effect of community intervention program promoting social interactions on functional disability prevention for older adults: propensity score matching and instrumental variable analyses, JAGES Taketoyo study.

Journal of Epidemiology and Community Health

doi: 10.1136/jech-2014-205345

Important perspective in community interventions:
Creating an environment such that many people easily/non-consciously make better choices

For example, Nudge and Choice Architecture

NUDGES

iNcentives

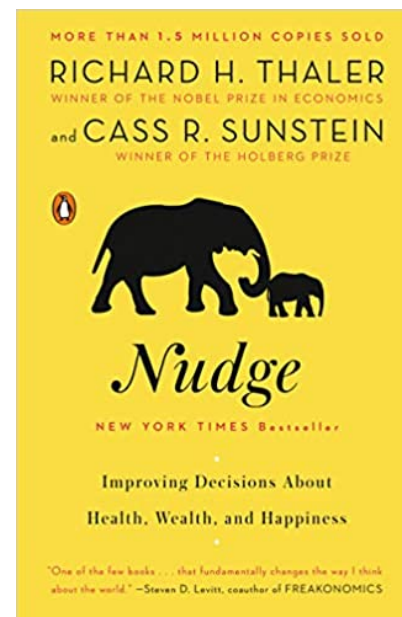
Understand mappings

Defaults

Give feedback

Expect errors

Structure complex choices



Study: Effects of 50 yen cashback campaign for vegetable-rich meal ordering in local restaurants



Eat out often? Eat veg-rich meals at partner restaurants and get 50 yen back! Limited time offer!

RESULTS: During the campaign, low income and unemployed **individuals** increased the ordering of vegetable-rich meals more than others

Prev. ratio (95%CI) of ordering veg-rich meals	1.50 (1.29, 1.75)
Daily sales ratio	1.77 (1.11-2.83)
Average daily sales gain	¥14,423

Adjusted for weekday/weekend, temperature, humidity, weather, restaurant fixed effects

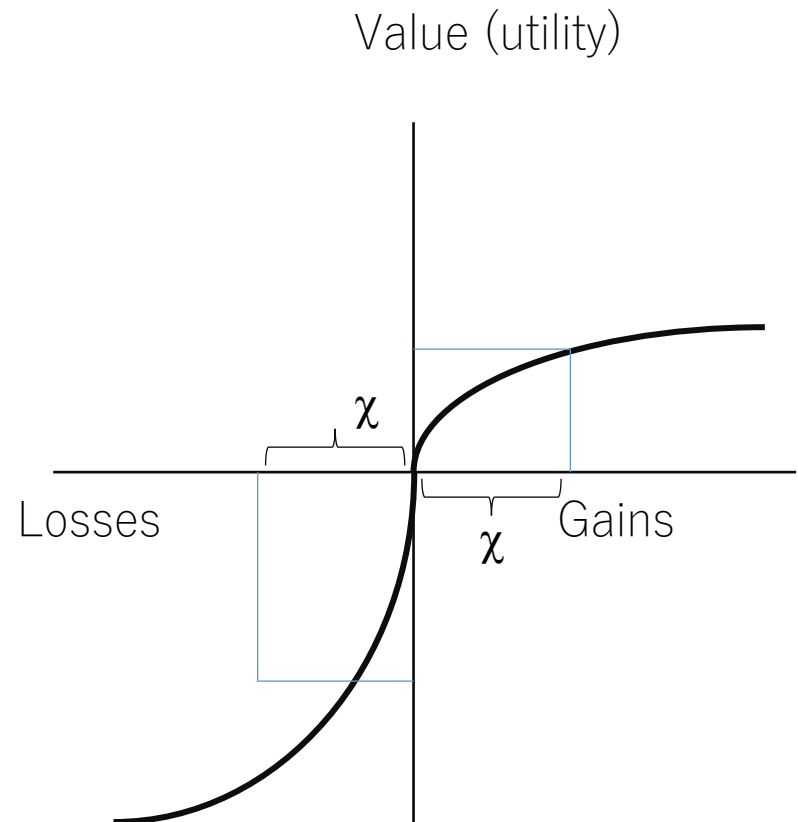
Nagatomo W, Saito J, Kondo N. Effectiveness of a low-value financial-incentive program for increasing vegetable-rich restaurant meal selection and reducing socioeconomic inequality: a cluster crossover trial. *Int J Behav Nutr Phys Act* 2019;16:81.

Why can only 50 yen work?

Bounded rationality

A person may purchase a vegetable-rich meal even though the person values the extra vegetables with the meal less than 50 **yen**

Due to people's tendency to prefer avoiding losses to acquiring equivalent gains: loss aversion bias



Kahneman & Tversky, 1979

Current challenges & opportunities

- Challenge: Physical distancing
 - For people: difficult to **have** social gatherings
 - For organizations: difficult to **form** partnerships
- Opportunity: Technologies & accumulated personal data
 - Information and communication technologies
 - Artificial intelligence
 - Spread of personal digital devices

Opportunities: Apps for mobile devices

Can nudge users to

- **Change behavior,**
- input data,
- and socialize easily, without direct personal contacts



Did you eat breakfast?

Natto, tomato salad, miso soup, rice

Wow! Very well-balanced meal!! It's a great start to the day!

How's your physical condition today?

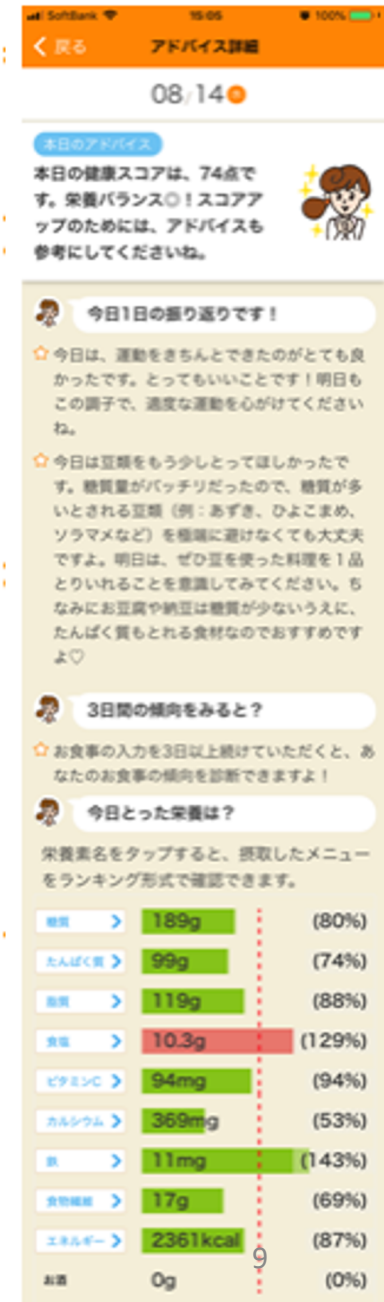
71.5kg

Thank you for recording it!!

Here are the mileage points for you



今日のまとめ



Who says digital tools are not good for older people?

New **a**pp for older people

- Developed and released by National Center for Geriatrics and Gerontology
- Online “*kayoino-ba*” (salon)



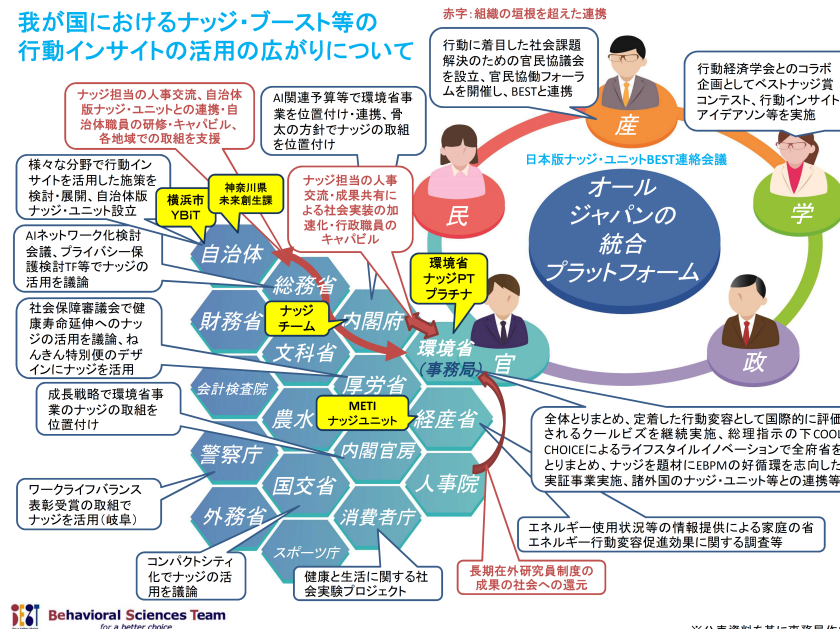
Governmental initiatives in Japan



Behavioral Sciences Team
for a better choice

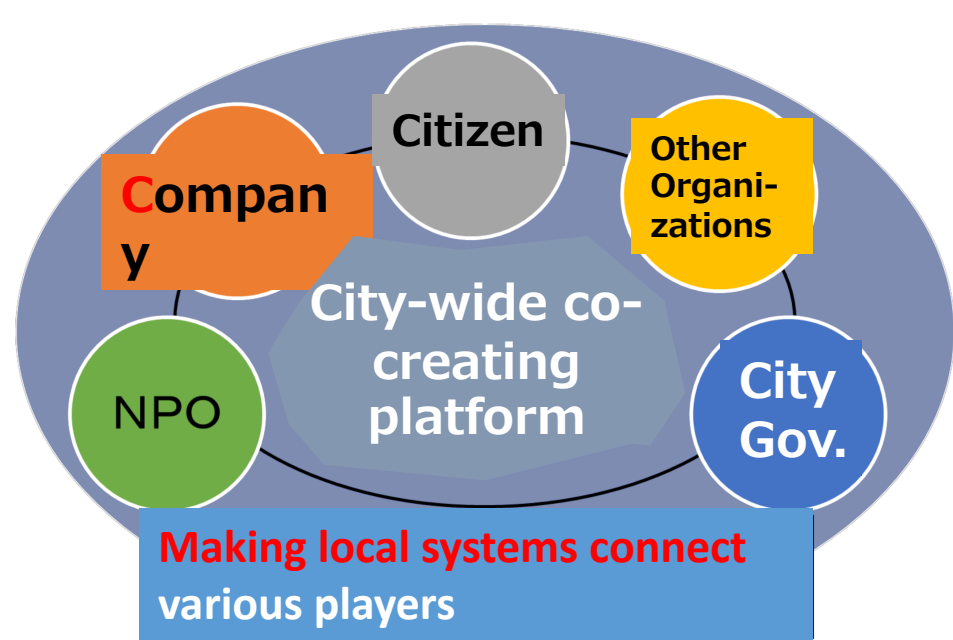
BEST : Behavioral Sciences Team

Wide range of partnerships to learn about and implement behavioral sciences in policies



Co-creation: “協創”(kyouso) From government to governance

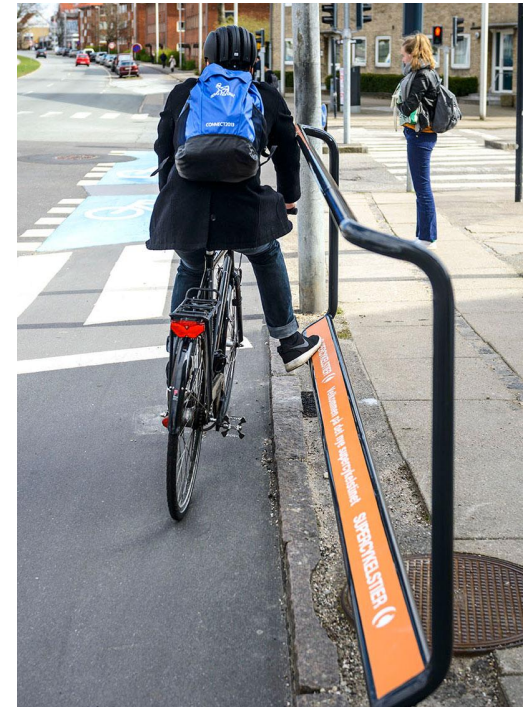
“Adachi City has introduced a Health Japan 21 strategy which can be considered close to international best practice” (OECD Reviews of Public Health: Japan; 2019)



Government

Governance

Copenhagen—The most bike-friendly city

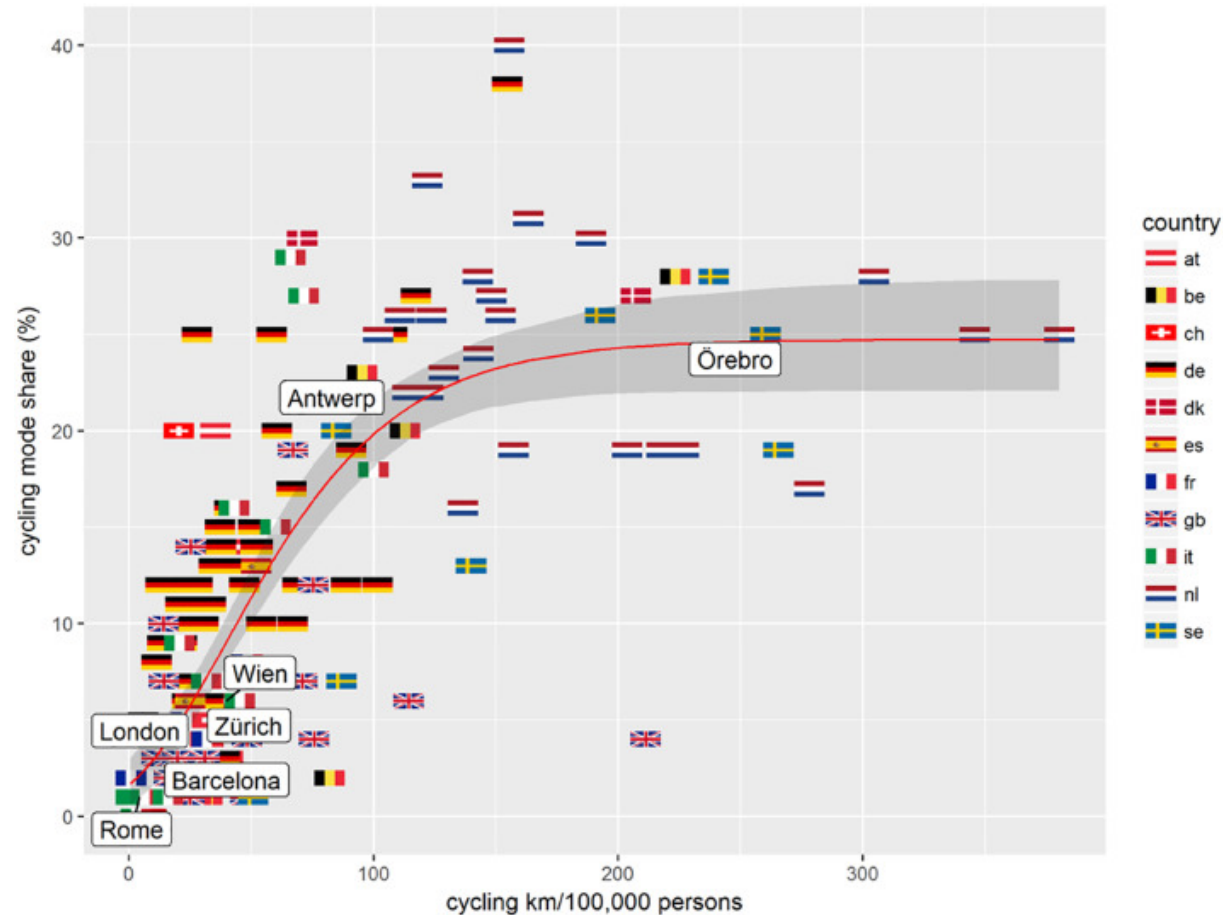


<https://amp.review/2019/02/21/copenhagen-cycle/>

PASTA project health impact assessment

167 EU cities (Antwerp, Barcelona, London, Rome, Örebro, Vienna, Zurich)

If 167 cities achieved bike friendliness like Copenhagen, 10,091 lives could be saved



Bottom line

To create **an** equitable society:

- From government to governance: **form** partnerships beyond health sectors
- Use up-to-date behavior sciences knowledge base
- Use technologies and data to connect people and organizations without direct **contacts in** more efficient ways than before
- Incentivize individuals toward healthy choices, and organizations for creating effective services

