



Equity Informative
Economic Evaluation



Health economics and equity research in the digital age: What are the implications for achieving Universal Health Coverage?

Thursday, 15 December 2022

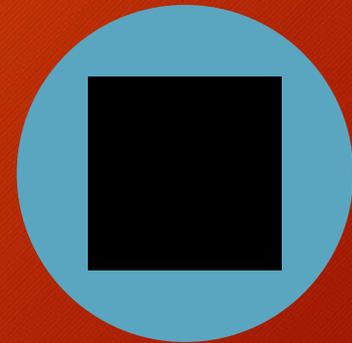
Welcome!



KEEP MICROPHONES ON MUTE
DURING PRESENTATIONS



RAISE HAND ON ZOOM OR SHARE
COMMENTS IN CHAT/MENTI TO
SHARE IDEAS



THIS MEETING WILL BE RECORDED

What does equity in health mean to you?

Go to www.menti.com and use the code 3701 7650



Background

- Equity considerations in accessing health are important in achievement of Universal Health Coverage (UHC).
- Digital health, which covers a wide range of interventions, has impacted the health system over time, and catalysed by the COVID-19 pandemic, presents opportunities to increase access to health services; yet challenges remain.
- There are several frameworks on assessing the potential equity impact of health - including digital health - interventions and there is a growing interest in taking a more systematic approach in assessing it.

Objectives

To understand equity issues from a health systems perspective and in the context of digitalisation of health in Asia



To exchange lessons on the role of health economics and health service research to address these issues



Agenda

Particular	Description	Speakers
Opening remarks: Health equity in the context of digitalisation in Asia: Current path and consequences for achieving Universal Health Coverage (UHC)	<ul style="list-style-type: none">• Importance of health equity and key considerations for achieving UHC	Dr. Piya Hanvoravongchai
Monitoring equity in health systems: What do the numbers tell and what do they hide?	<ul style="list-style-type: none">• Systems and indicators for tracking equity in health• Trends in access to health• Impact of digital health in access to care including access to vaccines during COVID-19	Dr. T Sundaraman
Equity analysis in health economic evaluations in Japan and methodological considerations in assessing digital health	<ul style="list-style-type: none">• Importance and example of health economic research on equity• Example of conducting health economic research• Methodological implications for conducting health economic research on equity in the context of digital health	Dr. Kyoko Shimamoto
Discussion and Summary	<ul style="list-style-type: none">• Q&A	All, moderated

Dr. Piya Hanvoravongchai

Dr. Piya Hanvoravongchai is a lecturer at Chulalongkorn University, where he teaches graduate courses on health economics and health systems. He also serves as the secretary general of the Thai National Health Foundation and a program director of the Equity Initiative at the CMB Foundation, Bangkok. Piya has been active in health policy and system research and health financing development in Thailand and globally. He is a member of the National Health Reform Commission, National Health Workforce Commission, and several others. He was a member of the Scientific Technical Advisory Committee of the Asia-Pacific Observatory on Health Systems and Policy.



Dr. T. Sundararaman

Currently he is the chairperson of the Technical Advisory Committee of the Health Technology Board- India, and adjunct professor of the JIPMER international school of public health, Puducherry. He is also a member of the Global Steering Council of the Peoples Health Movements. Earlier, from 2015 to 2019, he had served as Professor and Dean of the School of Health Systems Studies in Tata Institute of Social Sciences, and still earlier as the Executive Director of the National Health Systems Resource Center, which was the apex technical support institution for the National Rural Health Mission. An MD in internal medicine, he began his professional career in the faculty of medicine, where he was a professor, before moving to working in health policy and health systems strengthening.



Dr. Kyoko Shimamoto

Kyoko is a Project Lecturer at Keio Global Research Institute, Keio University. PhD MPH MSc, Project Lecturer, Keio University, Tokyo, Japan.

She is an international public health specialist and health economist. Her research focuses on health equity, Social Determinants of Health, health economics and health economic evaluations in a multidisciplinary approach, targeting the vulnerable population groups. She currently works in academia and previously worked in the field of policy and program with NGOs, bilateral and multilateral agencies in Africa, Asia and South America since the year 2000.



Discussion

Thank you for your time!



International Health Economics Association (IHEA) webinar:
**Health Economics And Equity Research In The Digital Age: What Are The Implications
For Achieving Universal Health Coverage?**

Presentation title:

**Equity analysis in health economic evaluations in Japan and
methodological and equity considerations in digital health**

December 15, 2022

**Kyoko Shimamoto, PhD
Keio University, Tokyo Japan**



Declaration

I have no conflict of interest.

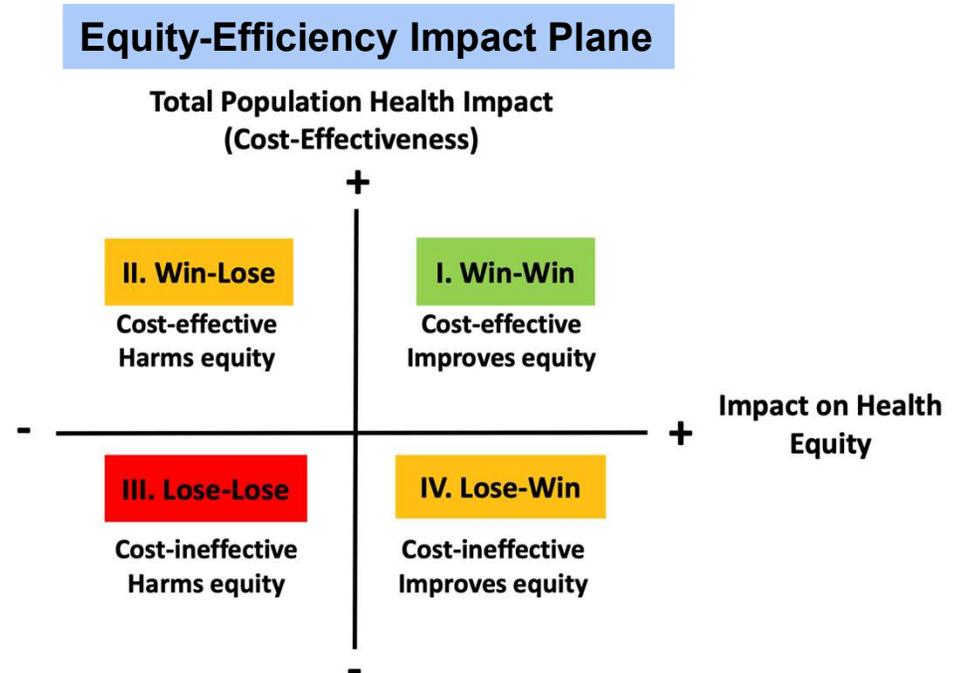
Why health equity research in Health Economics and Outcomes Research?

- **Equity concerns** have been recognized globally in the area of health, welfare, income and other socioeconomic aspects.
- **Social Determinants of Health (SDH)** have been analyzed in the public health literature in terms of various health conditions and services.
- “**Equity**”, “**Equality**” and “**Fairness**” are commonly discussed globally, yet its implication, intervention and impact differ greatly across and within the country.
- As a result, health and social gaps persist, and they are even widening following the COVID-19 pandemic.

Health equity research focus in HEOR

➤ “Improving total population health (i.e., efficiency)” and “Reducing health inequality (i.e., equity)”:
Two important policy objectives, yet these may conflict.

➤ Standard CEAs focus on cost-effectiveness in terms of “**efficiency**”, but not “**equity**”.



Cookson et al. (2021). Distributional Cost-Effectiveness Analysis Comes of Age. *Value Health*, 24(1), 118-120.
doi:10.1016/j.jval.2020.10.001

Health equity considerations in the HTA process

- In the Asia-Pacific, health equity considerations are evolving in the HTA process in the following approach:
 - “Equity in process” and “equity in research”
- Globally, health equity considerations in the HTA process are advancing:
 - For example, Distributional Cost Effectiveness Analysis (DCEA) & Extended Cost Effectiveness Analysis (ECEA)
- Capacity building processes are in progress:
 - Online DCEA training by Prof Richard Cookson, University of York
 - Recording available on ISPOR website (June 2022):

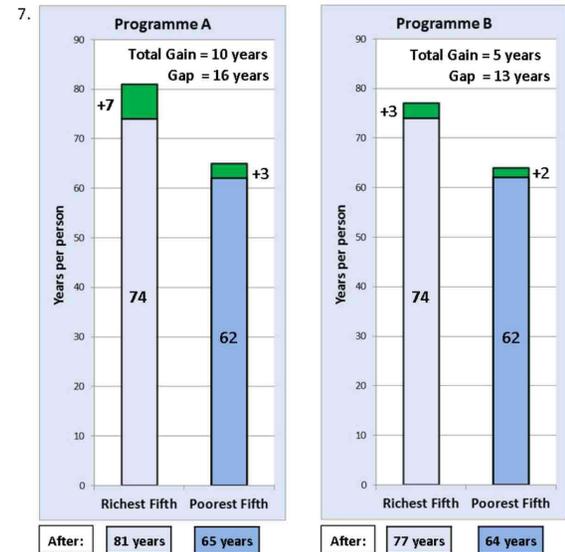
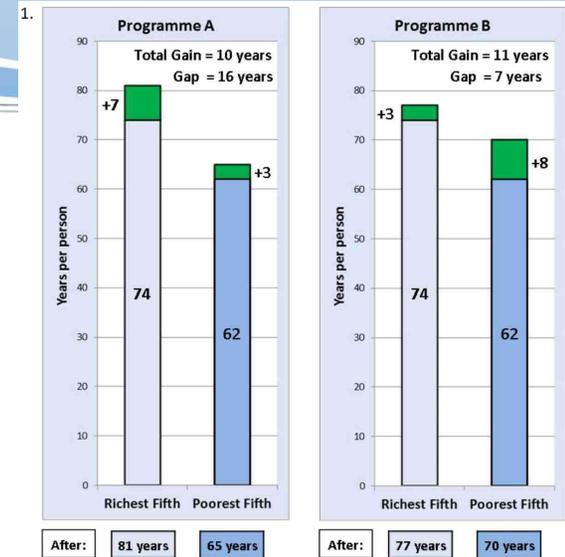
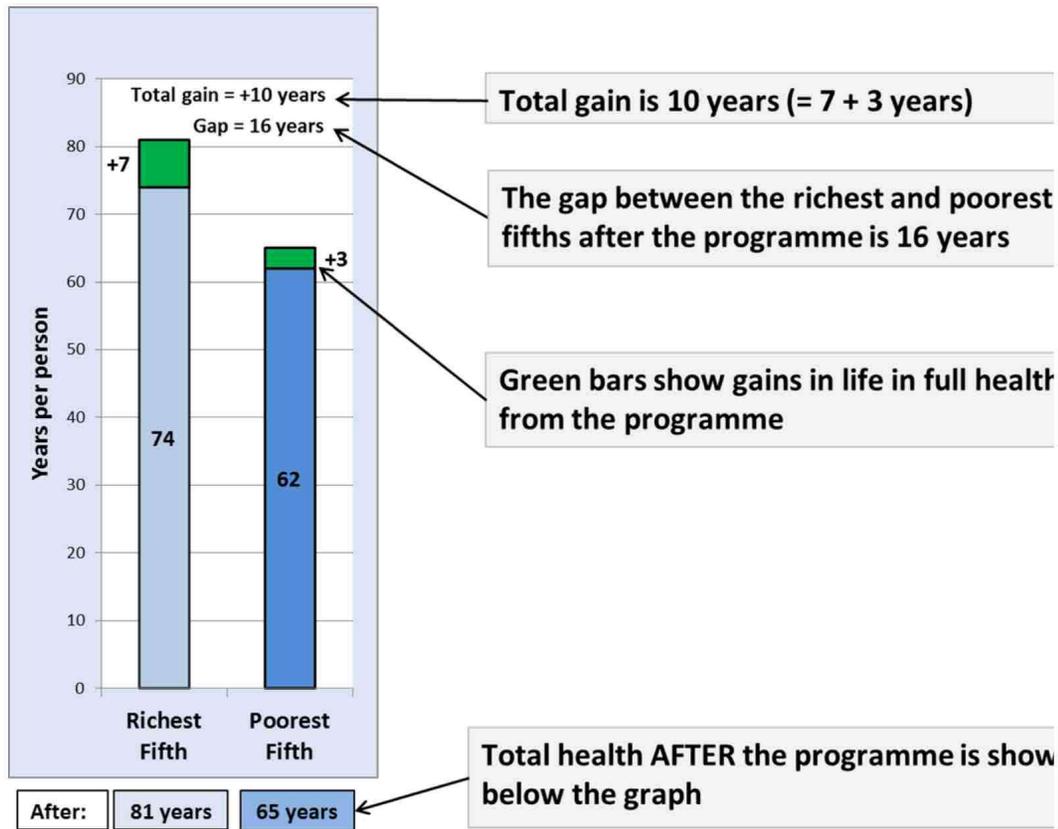
<https://www.ispor.org/conferences-education/education-training/webinars/webinar/distributional-cost-effectiveness-analysis-to-inform-healthcare-decisions>

Health inequality aversion studies

- **Background:** “The Health-related Social Welfare Function (HRSWF)” has been studied to articulate the trade-offs between efficiency and equity. Evidence exists from the European studies (e.g., UK), yet not in Asia-Pacific.
- **Aim:** To advance health equity research in HEOR, particularly to understand the public views on health inequality aversion.
- **Setting:** Japan, the USA and possibly other countries.
- **Data collection:** Online self-reporting questionnaires (analytic n=473 in Japan); a mixed method study is completing in Japan (incl. qualitative data).
- **Measures:** Health-related Social Welfare Functions (HRSWFs) – one of the required parameters for DCEA (i.e., Atkinson and Kolm indices).

Examples of the policy choice question:

Seven pairwise choices between two programmes, in which Programme A favours the rich, and Programme B favours the poor. In each successive choice, the years (in full health) gained by the poor in the Programme B are gradually reduced.



Preliminary Key Results

Table 1: Categorisation of "logical" response for the Japanese study
(Analytic n=473)

Rank Category	Response
1 Pro-Rich1	AAAAAAA
2 Pro-Rich2	=AAAAAA
3 Pro-Rich3	BAAAAAA
4 Health Maximiser	B=AAAAA
5 Weighted Prioritarian 1	BBAAAAA
6 Weighted Prioritarian 2	BB=AAAA
7 Weighted Prioritarian 3	BBBAAAA
8 Weighted Prioritarian 4	BBB=AAA
9 Weighted Prioritarian 5	BBBBAAA
10 Weighted Prioritarian 6	BBBB=AA
11 Weighted Prioritarian 7	BBBBBAA
12 Maximin	BBBBB=A
13 Egalitarian 1	BBBBBBA
14 Egalitarian 2	BBBBBB=
15 Egalitarian 3	BBBBBBB

Distributions per five key categories:

“**Pro-rich**” respondents prefer health gains to the better-off. **21%**

“**Health Maximisers**” are concerned only with increasing total health. **2%**

“**Weighted prioritarians**” give greater weight to the health of the worse-off. **36%**

“**Maximin**” respondents are concerned only with improving the health of the worst-off. **2%**

“**Egalitarians**” value reducing health inequality so much that they are willing to sacrifice potential health benefits to the worst-off. **39%**

The point at which the respondent ‘switches’ or become indifferent between the programmes was used to categorize respondents and derive the level of health inequality aversion.

Preliminary Key Results (con't)

- The majority of respondents (77%) were willing to trade-off some total health in order to reduce health inequality in Japan.
[vs 82% in the UK]
- Health gains to the poorest fifth should be weighted approx. 6 times as highly as health gains to the richest fifth in Japan.
[vs “between 6 and 7 times” in the UK].
- Yet substantial heterogeneities observed by demographics in Japan (e.g., income quintiles, geographic regions).
- Conceptual and cultural differences are observed and under investigation.
- Further comparative evidence is expected in Asia-Pacific and beyond.

Robson, M., Asaria, M., Cookson, R., Tsuchiya, A., & Ali, S. (2017). Eliciting the level of health inequality aversion in England. *Health economics*, 26(10), 1328-1334.

Digital health equity and COVID-19 (Crawford & Serhal 2020)

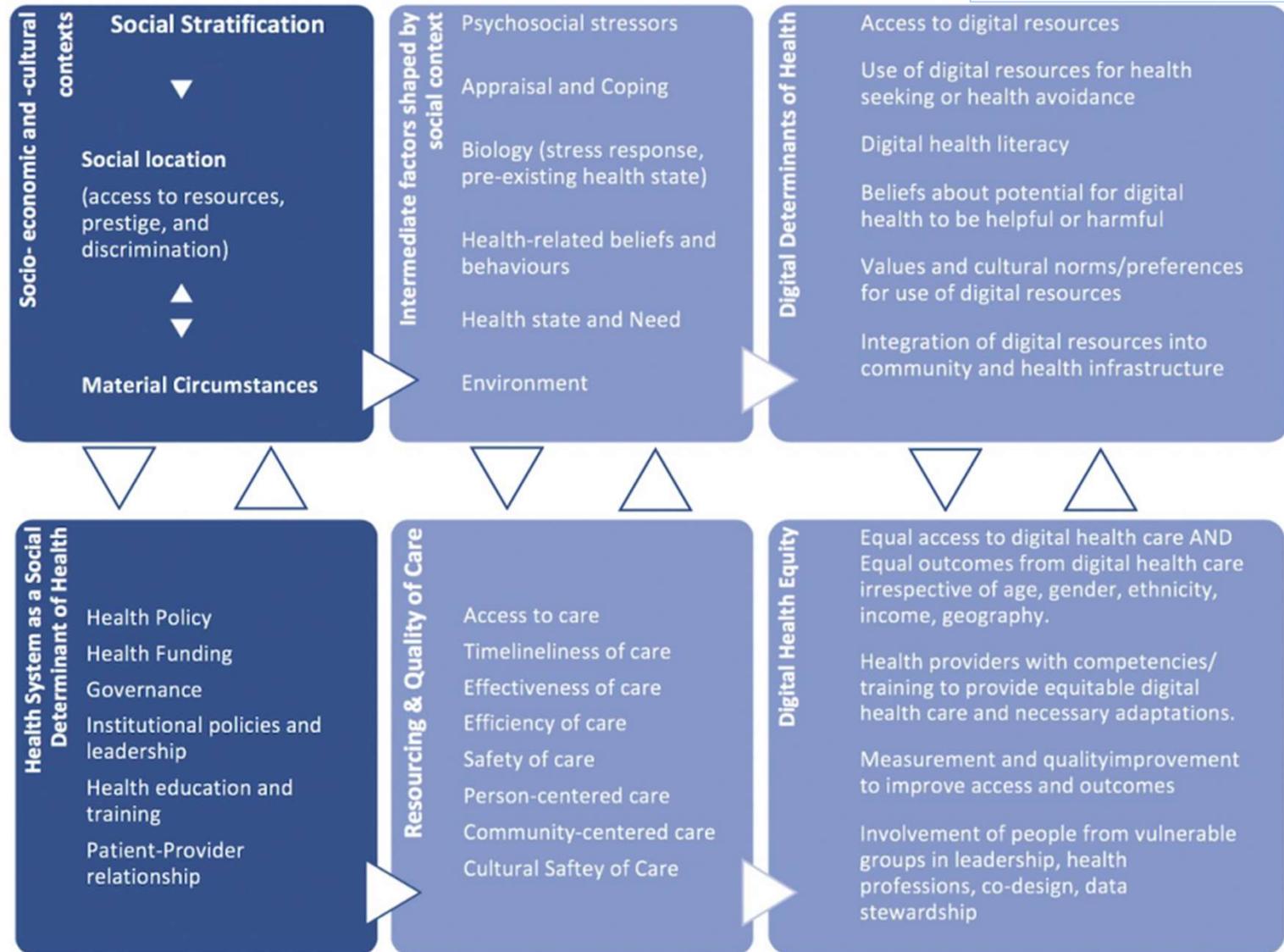
- The COVID-19 pandemic has ignited rapid implementation of digital health care, which has provided people with ongoing access to vital health services while minimizing the risk of infection.
- However, these solutions may have unintended consequences:
 - Poverty, lack of access to digital health, poor engagement with digital health for some communities, and barriers to digital health literacy.
- Digital Health Equity Framework (DHEF) is proposed, after the Health Equity Measurement Framework (HEMF) (Dover&Belon 2019).

Crawford, A., & Serhal, E. (2020). Digital health equity and COVID-19: the innovation curve cannot reinforce the social gradient of health. *Journal of medical Internet research*, 22(6), e19361.

Dover, D. C., & Belon, A. P. (2019). The health equity measurement framework: a comprehensive model to measure social inequities in health. *International journal for equity in health*, 18(1), 1-12.

Figure 1. Digital Health Equity Framework.

Crawford&Serhal (2020)



OECD Telecommunications and Internet Statistics: https://doi.org/10.1787/tel_int-data-en

Internet access Total, % of all households, 2005 - 2021

Source: ICT Access and Usage by Households and Individuals

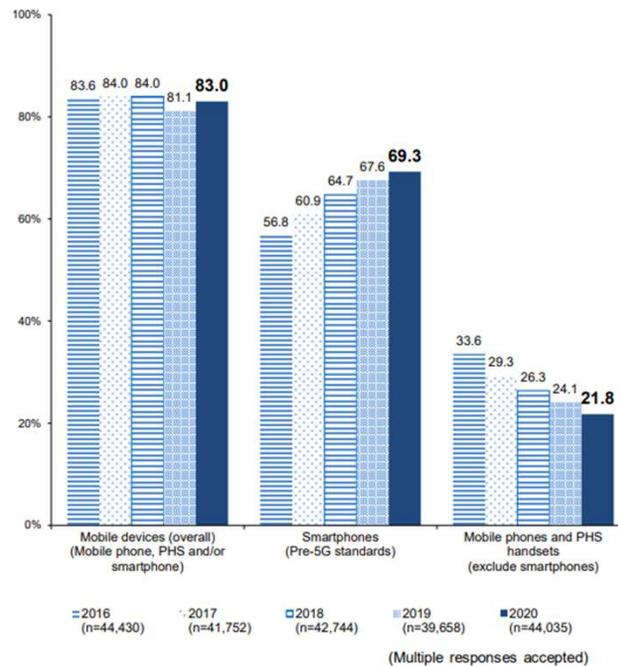


Japanese government statistics by the Ministry of Internal Affairs and Communications.

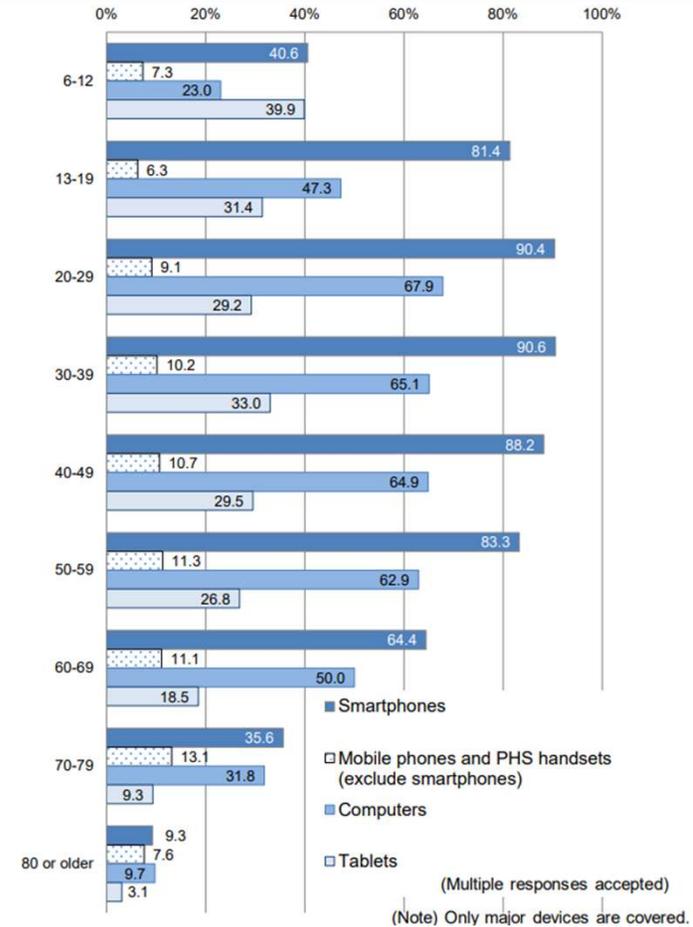
Retrieved from: [eng_tsusin_riyou02_2020.pdf](https://eng.tsusin-riyou02_2020.pdf) (soumu.go.jp)

Ownership of mobile devices (individuals) (2016-2020)

Ownership is increasing for smartphones while decreasing for mobile phones and PHS handsets (excluding smartphones).



Usage of internet access devices by age group (individuals)

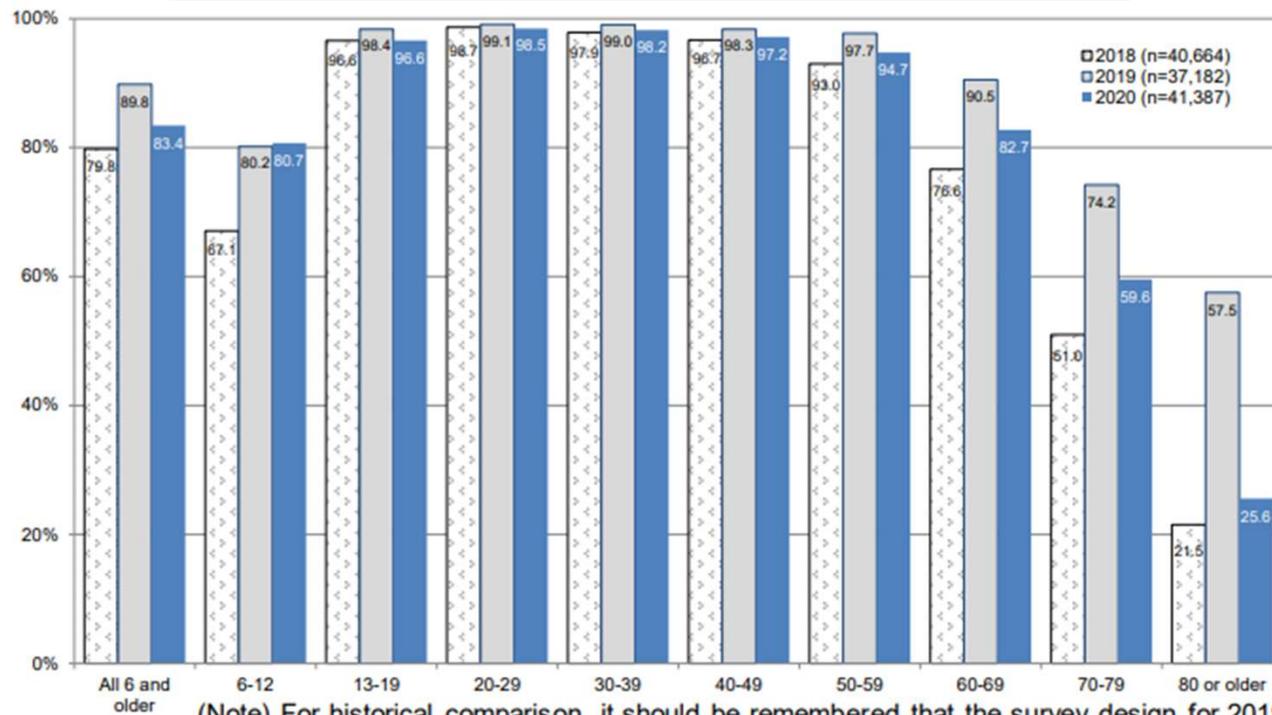


Japanese government statistics (con't)

by the Ministry of Internal Affairs and Communications.

Retrieved from: [eng_tsusin_riyou02_2020.pdf \(soumu.go.jp\)](https://www.soumu.go.jp/eng_tsusin_riyou02_2020.pdf)

Internet usage (individuals)



(Note) For historical comparison, it should be remembered that the survey design for 2019 was somewhat different from that for other years.

A checklist to guide equity considerations in the HTA - ECHTA (Benkhalti et al. 2021)

- The checklist is framed to be considered at each one of the five HTA phases:
 - (1) Scoping;
 - (2) Evaluation;
 - (3) Recommendations and conclusions;
 - (4) Knowledge translation and implementation; and
 - (5) Reassessment

Benkhalti, M., Espinoza, M., Cookson, R., Welch, V., Tugwell, P., & Dagenais, P. (2021). Development of a checklist to guide equity considerations in health technology assessment. *International journal of technology assessment in health care*, 37(1).

A checklist to guide equity considerations in the HTA – ECHTA (con't): Key categories

Phase	Category
1. Scoping phase	Defining the problem; contextual considerations; stakeholder involvement
2. Evaluation phase	Outcome measures; data collection and analysis; contextual considerations, stakeholder involvement
3. Recommendations and conclusions phase	Scope; contextual considerations; stakeholder involvement
4. Knowledge translation and implementation phase	Methods and stakeholders
5. Reassessment phase	Methods; contextual changes

A checklist to guide equity considerations in the HTA – ECHTA: Evaluation (examples)

Category	Key question	Details (selected examples)
Outcome measures	1. Are the outcome measures chosen relevant to patients' perspectives?	Is there a study referenced demonstrating the importance of these outcomes to patients? Were patients/system users involved in the choice of outcome measures?
	2. Do outcome measures include the different aspects through which inequities can emerge?	Aspects of outcome measures: coverage, prevalence, uptake, access to care, etc. Is it possible to assess baseline inequalities through quantitative and qualitative data?
	3. Is there an economic analysis and does it include an equity analysis?	For example: Distributional cost-effectiveness analysis, extended cost-effectiveness analysis or other forms (subgroup analysis, utility weights, mathematical programming, etc.)

A checklist to guide equity considerations in the HTA – ECHTA: Knowledge translation and implementation (examples)

Category	Key question	Details (selected examples)
Methods and Stakeholders	1. Do the approaches selected to implement recommendations favour certain population groups above others?	Selected implementation methods may not be suitable or optimal for certain disadvantaged groups. E.g., reading material may exclude groups with lower literacy.
	2. Does the prioritization of recommendations to be implemented favour certain population groups?	What values were used to prioritise recommendations? Do these consider disadvantaged groups?
	3. Do certain population groups within each stakeholder category require targeted knowledge translation approaches?	Might separate and specific approaches be beneficial to enhance the reach to certain population groups?

Key Messages

- Advancements of equity-informative economic evaluations are receiving an increasing attention and recognition globally and in the Asia-Pacific.
- Equity considerations in digital health is also receiving a relevant attention not to reinforce the social gradient of health.
- Planning, intervention and evaluation of the digital health product could consider:
 - (1) Digital health technology that is suitable or optimal to the general digital literacy of the target group, to be accompanied by relevant training. (Ref. Guidance on patient-reported outcomes by NICE 2020)
 - (2) Planning & evaluation that ensure the involvement of marginalized groups (e.g., in terms of digital access and literacy, income/wealth).
 - (3) Separate and specific approaches to be considered for sub-groups.

Ref. Guidance: Patient-reported outcomes and experience study by NICE 2020. Retrieved from:
<https://www.gov.uk/guidance/patient-reported-outcomes-and-experiences-study>

Acknowledgement

Prof Richard Cookson (University of York, UK)
Prof Aki Tsuchiya (University of Sheffield, UK)
Ms Stacey Kowal (Genentech, USA)
ISPOR Health Equity Research Special Interest Group

Funding support from:

The National Institute of Public Health of Japan
The Great Britain Sasakawa Foundation
Keio Global Research Institute, Keio University



Thank you so much for listening!

kyoko.shimamoto@keio.jp