

Health Equity Research in HEOR (Health Economics and Outcomes Research): The State of Play in the Asia-Pacific region

For the ISPOR Asia-Pacific Summit 2022 on 20 September 2022

Concurrent Breakout Session 1 (11:45 - 12:45 KST)

Declaration

The presenters have no conflict of interest.

Why health equity research in HEOR?

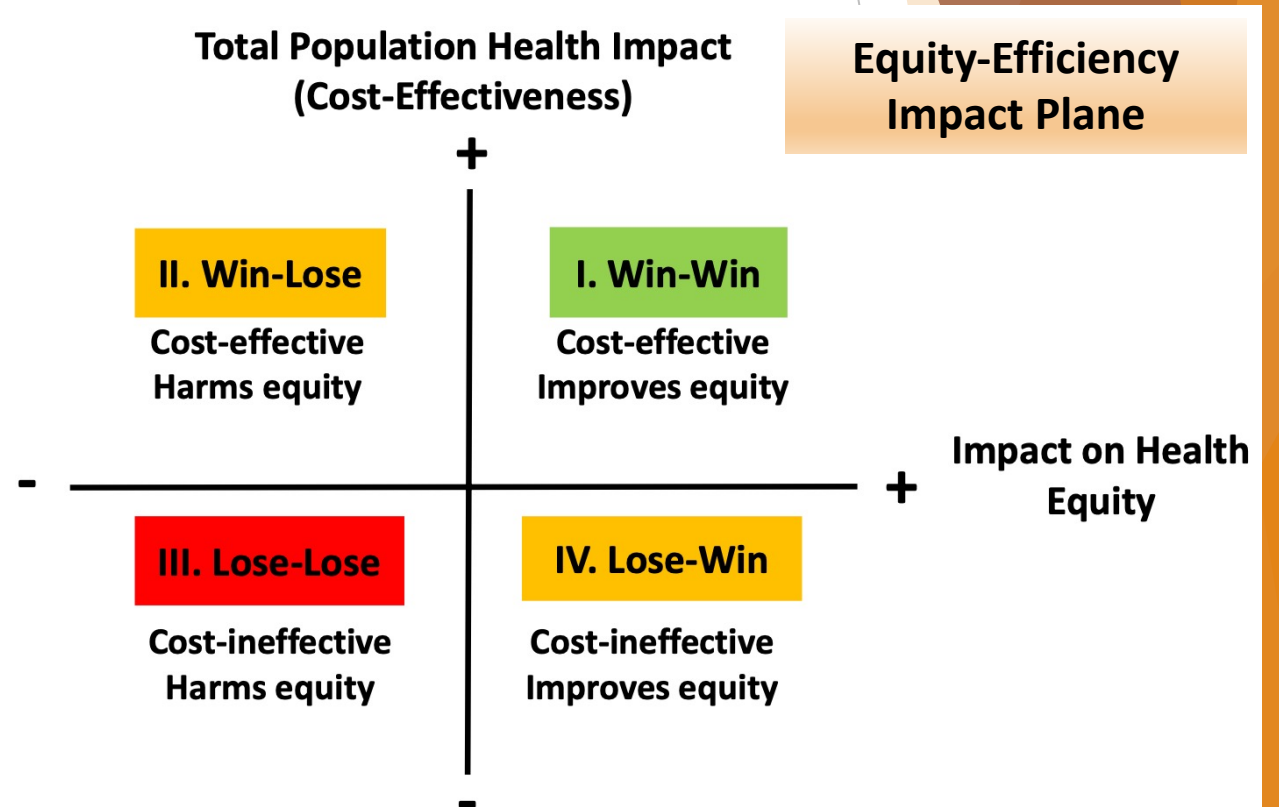
- ▶ **Equity concerns** have been recognized globally in the area of health, welfare, income and other socioeconomic aspects.
- ▶ **Social Determinants of Health (SDH)** have been analyzed in the public health literature in terms of various health conditions and services.
- ▶ **“Equity”, “Equality” and “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”.
- ▶ Equity considerations are advancing in Asia-Pacific in the following approach: “Equity in process” and “Equity in research”



Session outlines

▶ **Aim:**

The goal of this session is to share the state of play of health equity research in Asia-Pacific, and discuss the opportunities, challenges and a way forward for advancing equity-informative HEOR.

▶ **Presenters:**

Sitanshu Kar, India JIPMER

Sarin KC, Thailand HITAP

Diana Beatriz Bayani, The National University of Singapore

Riku Ota, Novo Nordisk Pharm Ltd. Japan

Kyoko Shimamoto, Keio University, Japan

▶ **Flows:** Presentations and Q&A at the end of the session.



Equity considerations in Health Technology Assessment: Experience from India.

Dr. Sitanshu Sekhar Kar

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Principal Investigator of HTAI Resource Centre,
JIPMER, Puducherry – 605006, India

Declaration

I have no conflict of interest to declare.

The views expressed in this presentation are solely the presenter's responsibility, and they do not necessarily reflect the views, decisions or policies of the institutions with which the presenter is affiliated.

Plan of the session

1. Introduction
2. HTA framework in India
3. Equity in HTAIn studies
4. Wayforward

1. Introduction: Equity in HTA

HTA is a multidisciplinary process that systematically evaluates the effects of technology on the **availability and distribution of resources** and on other aspects of health system performance such as **equity and responsiveness**.

Two dimensions

1. Decision criteria (e.g., efficiency) for ranking healthcare interventions
2. Fairness of the procedures used in the conduct of HTAs

Source: (Culyer and Bombard: 2012)

2. HTA in India

- Institutional structure for HTA in India - HTAIn
- Established in 2017 under the Department of Health Research, Ministry of Health

Mandate

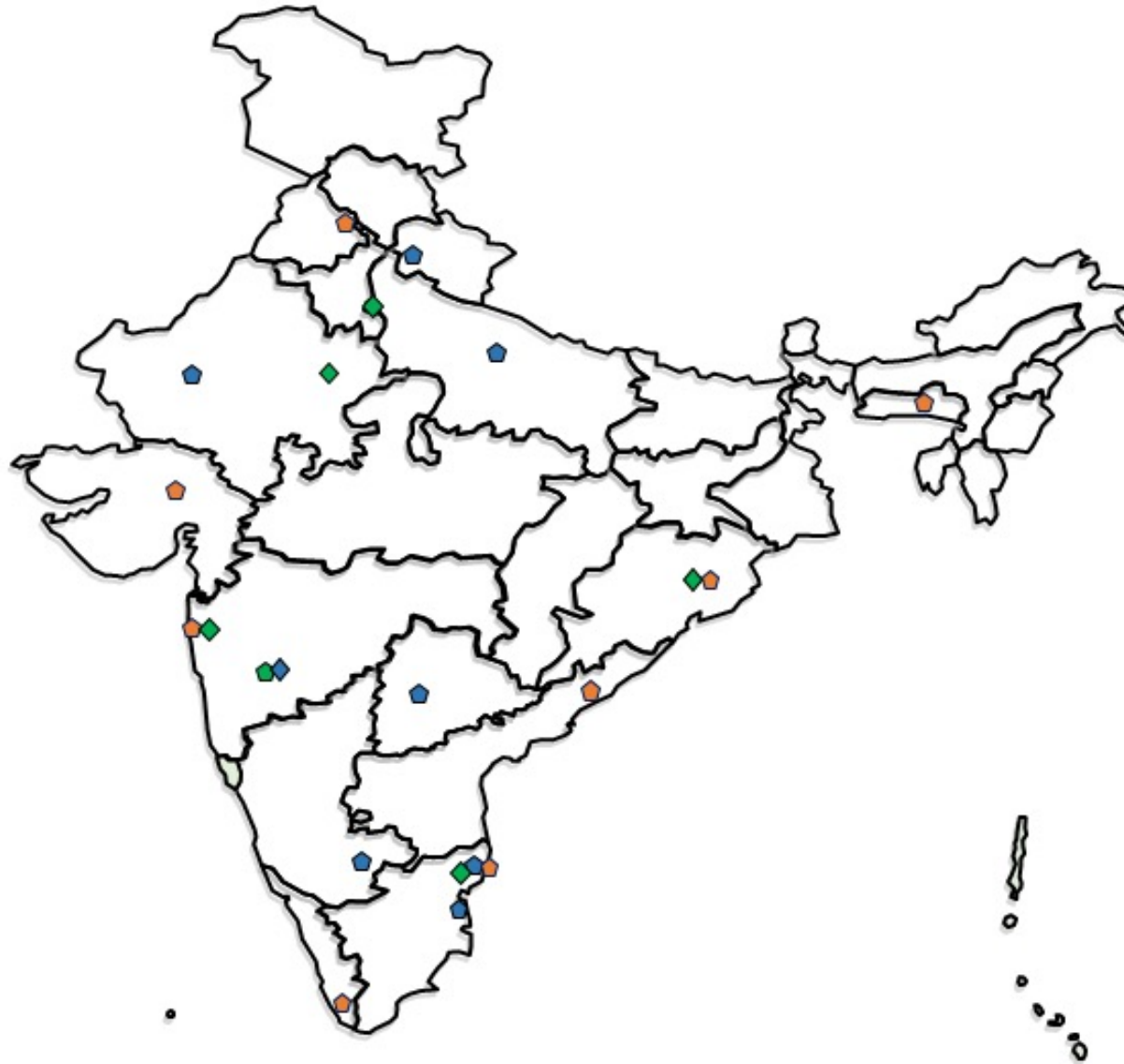
- Maximizing health
- Reducing out-of-pocket expenditure (OOPE) &
- Minimizing inequality in healthcare services

HTAIn Framework

- **DHR Secretariat** Coordination
- **User Dept** Health Ministries
- **Resource Hubs (RC)** Conducts HTA
- **Technical Appraisal Committee** Evaluate HTA studies



Resource Centres and Technical Partners



- Resource Hub
- New Resource Hub
- Technical Partner

1. PGIMER, Chandigarh
2. IIPH, Shillong
3. RMRC, Bhubaneswar
4. KIHT, Vizag
5. NIRT, Chennai
6. SCIMST, Trivandrum
7. NIRRH, Mumbai
8. IIPH, Gandhinagar
9. NIE, Chennai
10. JIPMER Puducherry
11. AIIMS, Rishikesh
12. State Cancer Institute and KGMU Lucknow
13. NCDIR, Bangalore
14. IIPH, Hyderabad
15. NIV, Pune
16. AIIMS, Jodhpur
17. AIIMS, New Delhi
18. NIMS, New Delhi
19. NHSRC, Delhi
20. PHFI, Delhi
21. IEG, New Delhi
22. IIT, Mumbai
23. NARI, Pune
24. IIHMR, Jaipur
25. IIPH, Bubaneswar
26. IIT, Chennai

Two new Centres added

Progress of HTAIn from 2017 to 2022

❖ Resource centres and technical partners established	28
❖ Studies Completed and approved by the Board	30
❖ Studies are completed to be placed for TAC approval	14
❖ Ongoing Studies/ Multicentric studies	18
❖ Publications	92
❖ Technical Appraisal Committee meeting	27
❖ Board Meetings	05
❖ Stakeholders Meeting	18
❖ State/UT Nodal Officers appointed	26
❖ Capacity Building Workshops	14
❖ International Symposia 2021	01
➤ MSc HETA, Course	
➤ Health Technology Assessment Board Bill 2022	

3. Equity in HTAIn studies

- Reviewed HTA reports in HTAIn repository (accessed: 1-20 Aug 2022)
- Year, title, PICO, time horizon & perspective
- Efficiency considerations
 - ICER, Cost per QALY gained/life years gained/ DALY averted
- Equity considerations
 - Literature review/sub-group analysis, DCEA

Findings of the review

- Total reports published: 19
- All studies included results on efficiency considerations

Table 1: HTA studies included for the review (N=19)

SN	Study type	Total n (%)
1	Medical devices / diagnostics	15 (78.9)
2	Population based programs/interventions	3 (15.8)
3	Drug intervention	1 (05.3)
	Total	19 (100)

Findings of the review

- 31.6% studies included results on equity considerations

Table 1: Type of equity consideration in HTA studies (n=6)

SN	Study type	Total n (%)
1	Literature review (equity issues)	4 (66.7)
2	Sub-group analysis after CEA	1 (16.7)
3	Equity implications based only on CEA findings (without equity related analysis)	1 (16.7)
	Total	6 (100)

Conclusion & Way forward

1. About one-third of the reports have addressed equity issues
2. Equity considerations were limited to literature review
3. No study attempted DCEA in the result section
4. Awareness among researchers in the HTA agencies to be raised through collaboration
5. Initial discussion within the HTA resource hubs in India is very encouraging

Audience Poll

Is your country/jurisdiction working on generating the evidence and methods to measure and report on health inequality impacts routinely?

1. Yes
2. Partly yes
3. No
4. Not aware

Thank You

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Equity and HTA: perspective from Thailand

ISPOR Asia-Pacific Summit 2022

20th September 2022

Sarin KC

**Health Intervention and Technology Assessment Program (HITAP),
Ministry of Public Health, Thailand**



Declaration

The presenter has no interests to declare that conflict with improving public health outcomes.



Outline

Overview of UHC, HTA, and Equity in Thailand

Case Study: Renal Replacement Therapy

What's Next for Equity & HTA in Thailand?



Overview of UHC, HTA and Equity in Thailand



Three public health insurance schemes cover the entire population

	Civil Servants Medical Benefit Scheme (CSMBS)	Social Security Scheme (SSS)	Universal Coverage Scheme (UCS)
Start	1963	1990	2002
Eligibility	Government employees, pensioners and their dependants	Formal-sector, private employees	The rest of population who are not covered by SSS and CSMBS
Coverage	9%	15%	75%
Source of finance	General tax	Tripartite from employer, employee, government	- General tax - Managed by National Health Security Office (NHSO)

Short History of HTA in Thailand

Semi-autonomous, non-profit
institute under the MoPH,
Thailand (HITAP)



Universal Coverage Scheme (UCS)
Establishment

2002



2004

HTA on RRT
for ESRD



2005

PD-first policy
for UC



2007



Thai HTA guideline
and standard cost list
database issued

2009



2008/2009

HTA-informed benefit package
development for UCS and National List of
Essential Medicines (NLEM)



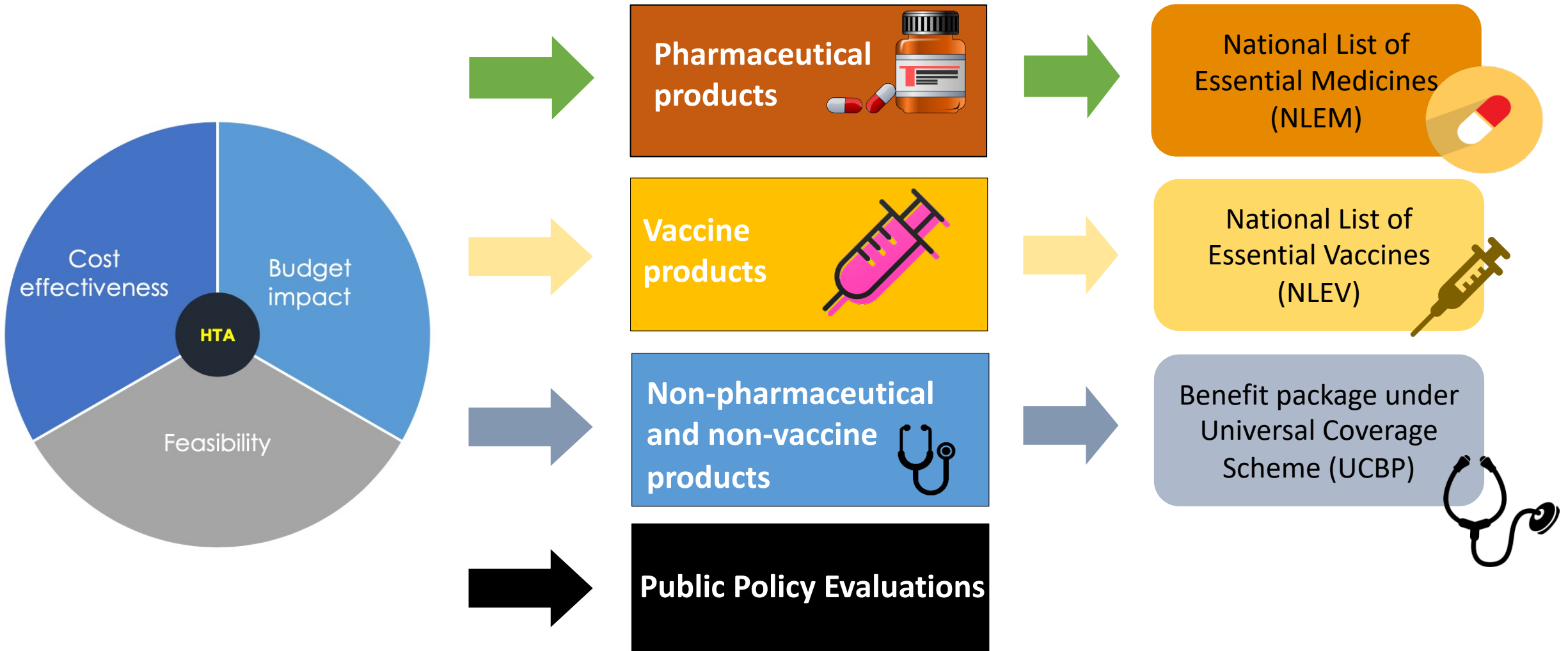
2nd Thai HTA
process guideline
issue

2011



Equity driven study and decision

HTA Application in Thailand



The technical and the procedural elements of HTA

<https://ucbp.nhso.go.th/propose.html>

Equal opportunity
to nominate topics

Stakeholder
consultation

<https://hearing.nhso.go.th>

Feedback
from public



Equity a key
consideration when
selecting topics

not explicitly
included in
analysis

Stakeholder
consultation

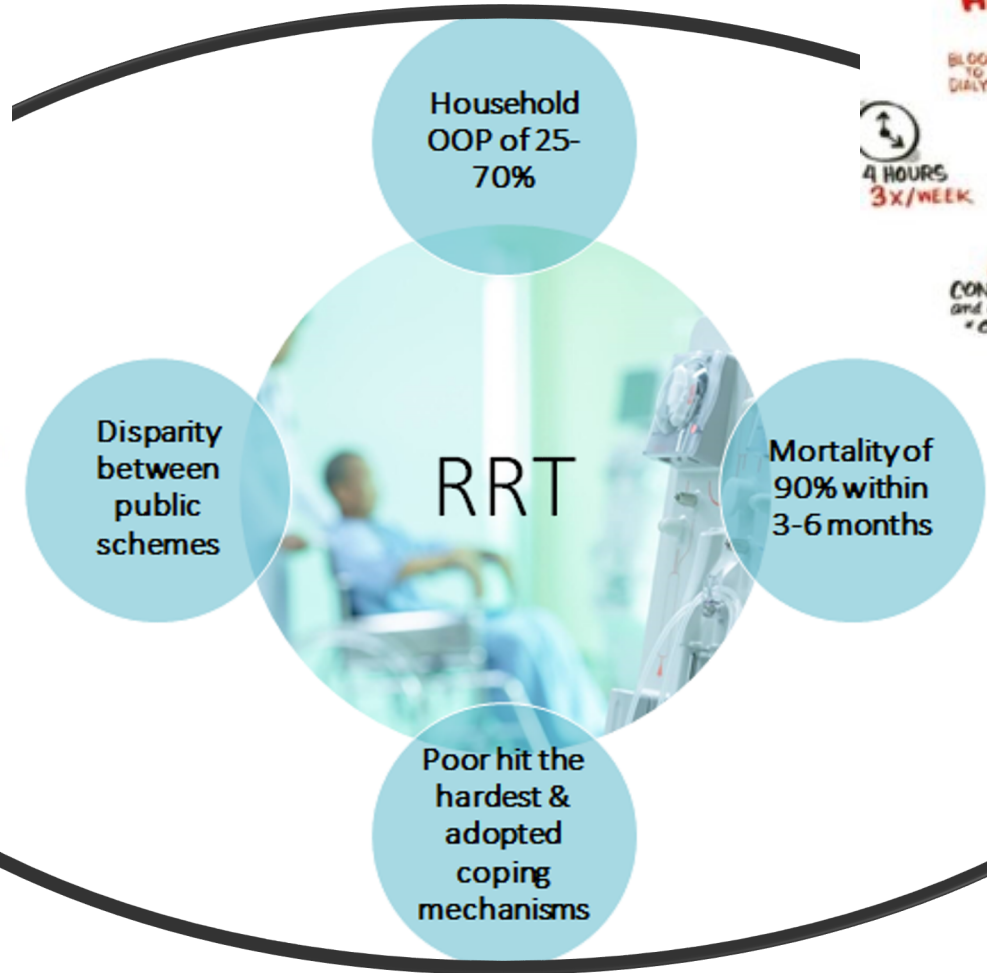
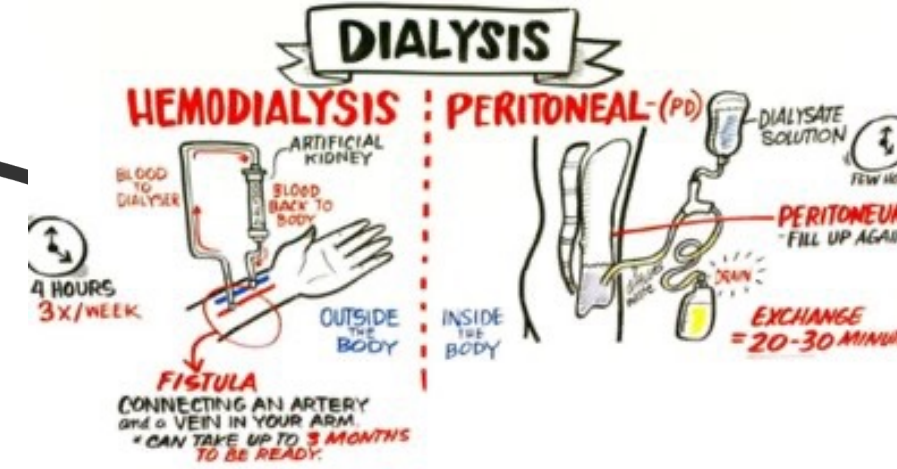
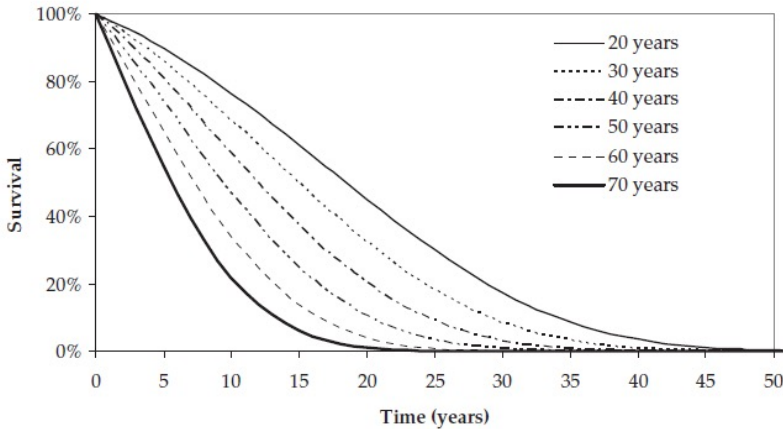


Case Study: Renal Replacement Therapy

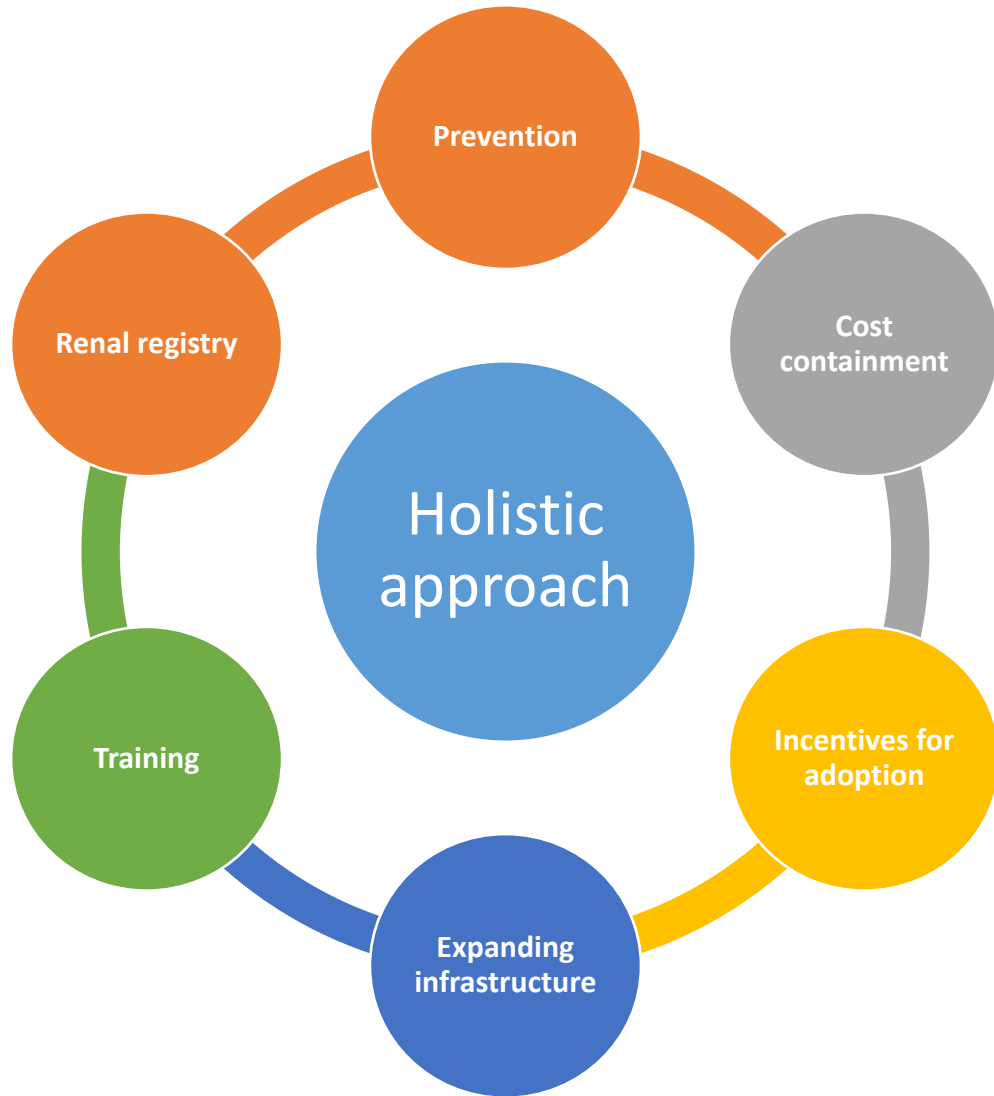


Providing equitable healthcare

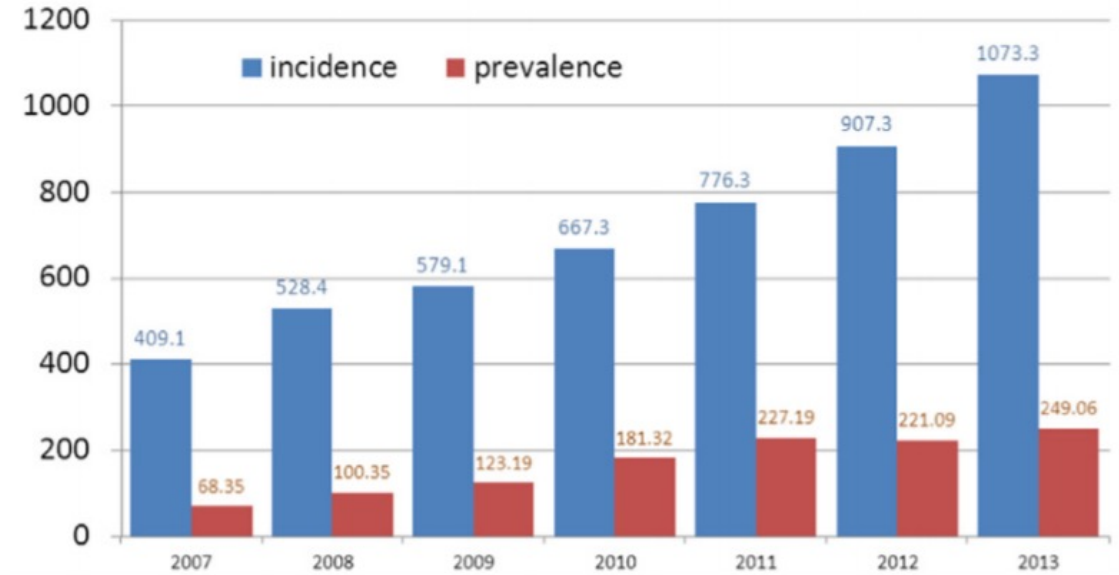
Example: Treatment options for End Stage Renal Disease (ESRD) patients



Providing equitable healthcare



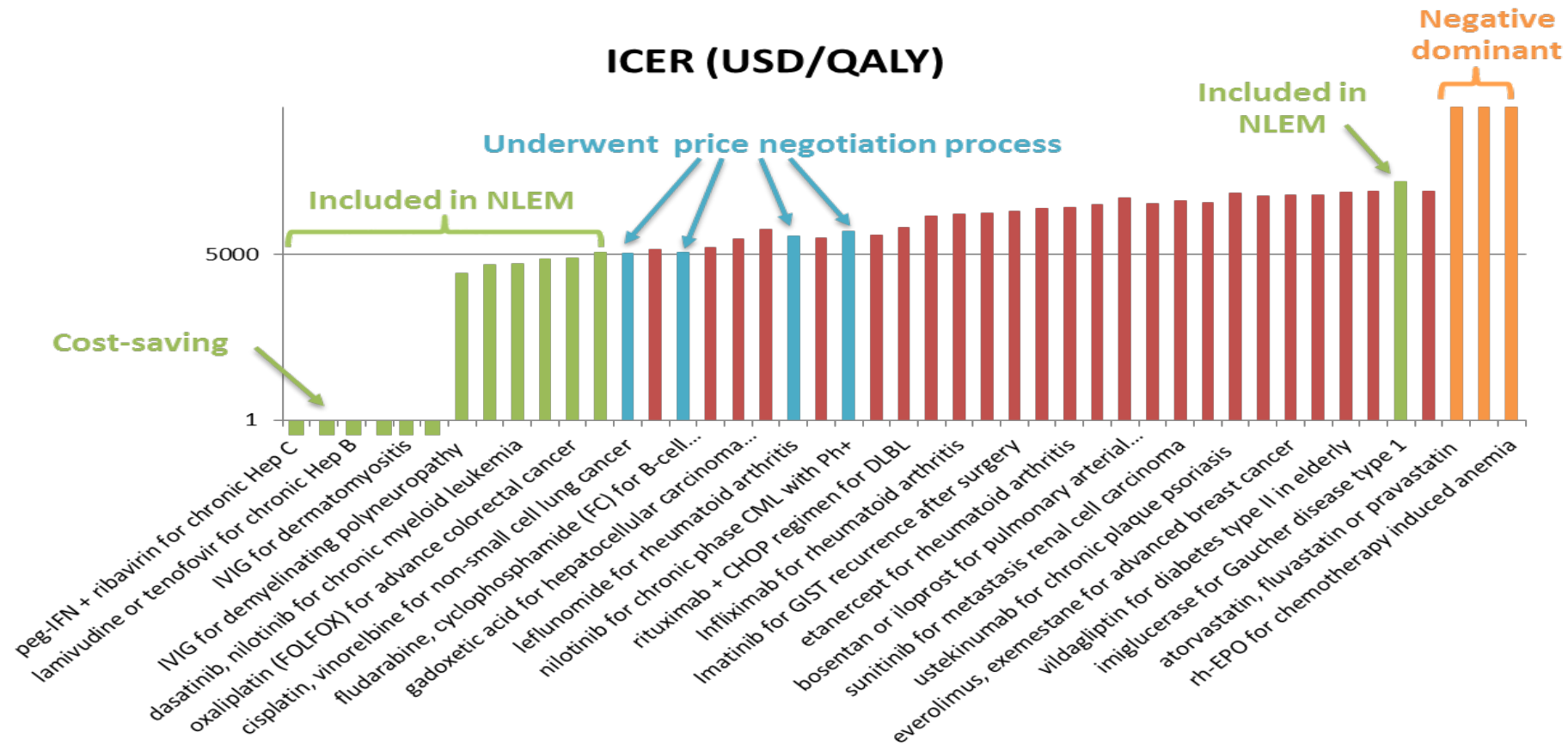
Patients per millions population (pmp)



of the PD First policy has saved more than 50,000 baht per patient per year as a result of the lower cost of total hospital visits as compared with HD, and has helped to



ICER ALONE DOES NOT INFORM DECISIONS



What's Next for Equity & HTA in Thailand?



Closing the Gap on What is Covered Across the Three Schemes

	Civil Servants Medical Benefit Scheme (CSMBS)	Social Security Scheme (SSS)	Universal Coverage Scheme (UCS)
Start	1963	1990	2002
Eligibility	Government employees, pensioners and their dependants	Formal-sector, private employees	The rest of population who are not covered by SSS and CSMBS
Coverage	9%	15%	75%
Source of finance	General tax	Tripartite from employer, employee, government	- General tax - Managed by National Health Security Office (NHSO)

Including High-Cost Drugs in Thailand

Objective:

- Understand current landscape
- To create a reimbursement process for high-cost drugs
- Define “high-cost” and upper limit of the CET



How are we getting there?

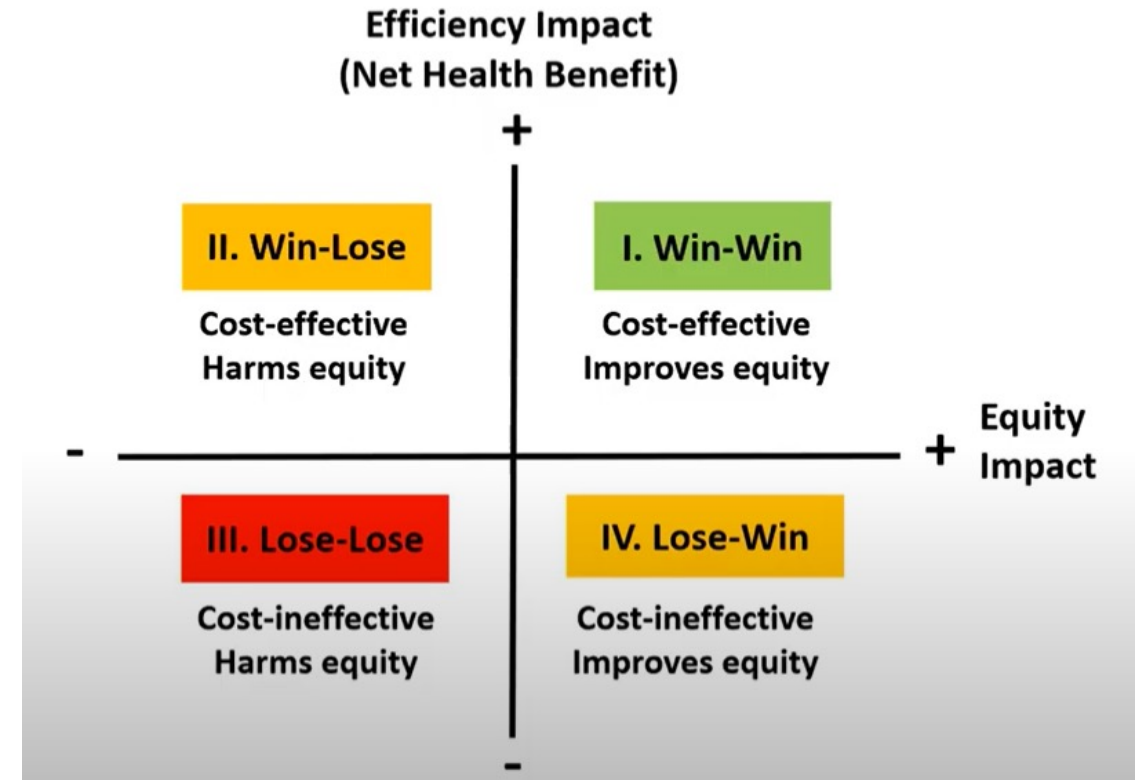
- Working group with NHSO and NLEM
- Advisory group comprising experts from Australia, UK, South Korea, Canada, Malaysia
- Review of policies in other settings

Thus far, we have consensus on:

- Need for special category for reimbursing high-cost drugs
- Developed a framework for access pathway
- Process for defining high-cost interventions



Explicit Account of Equity in Economic Evaluation



Verguet, Stéphane et al. "Extended Cost-Effectiveness Analysis for Health Policy Assessment: A Tutorial." *Pharmacoeconomics* vol. 34,9 (2016): 913-23. doi:10.1007/s40273-016-0414-z



The First DCEA Study In Pipeline: HCV Treatment Options

PLOS ONE

 OPEN ACCESS  PEER-REVIEWED

RESEARCH ARTICLE

Revisiting policy on chronic HCV treatment under the Thai Universal Health Coverage: An economic evaluation and budget impact analysis

Waranya Rattanavipapong , Thunyarat Anothaisintawee , Yot Teerawattananon 

Published: February 21, 2018 • <https://doi.org/10.1371/journal.pone.0193112>



Building Capacity in DCEA

HITAP WEBINAR: EQUITY & DISTRIBUTIONAL COST-EFFECTIVENESS ANALYSIS

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<https://www.hitap.net/en/179650>

SHORT COURSE: DISTRIBUTIONAL COST-EFFECTIVENESS ANALYSIS

Date: Monday, 19 April – Friday, 23 April 2021

Written by Richard Tan

Summary

In a standard health economic evaluation, the goal is to identify cost-effective interventions that maximises total health. However, a distributional cost-effectiveness analysis (DCEA) model builds upon the standard cost-effectiveness model by incorporating the distributional impacts of health. This allows us to incorporate equity considerations into our analysis. By modelling the changes to the baseline health distribution of a general population that arise due to the health interventions in consideration, and incorporating various sources of inequality, the DCEA framework not only allows us to estimate the change in health outcome, such as the Health-Adjusted Life Years (HALYs), of each intervention, but also how each decision will change the level of unfair inequality that affects the population in question. The DCEA framework then combines these with the relevant social welfare function and leverages on the equity impact plane to help decision makers determine which intervention is most relevant in maximising health and minimising unfair health inequality.



<https://hiper.nus.edu.sg/course-dcea/>



Audience Poll

Q1. Does the HTA process in your country include equity as one of the criteria for decision-making?

1. Yes, it is clearly stated
2. No, it is not included
3. Unclear if it is a consideration
4. Not sure



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Saw Swee Hock
School of Public Health

Health Equity Research in HEOR: Perspectives from the Philippines and Academia

Diana Beatriz Bayani

20 September 2022

dbayani@u.nus.edu

State of HTA in the Philippines

Slow but steady progress towards HTA institutionalization

- Legal mandate for HTA through the Universal Healthcare Law (2019) to inform funding allocation and coverage decisions
 - HTA committees and focal HTA body were established (26 full-time staff in the HTA Division)
 - Methods and Process Guidelines were published
- Delays in planned workstreams due to the pandemic → evaluation teams largely focused on the assessment of Covid-19 related technologies
- Institutional and operational challenges (e.g., clarity of role/mandate vis-à-vis other expert committees, rapid turnover of technical staff, transition to the Department of Science and Technology)

State of health equity research in HTA

What could be done?	Has it been done?	Examples
Describe pre-decision health inequalities	Yes, but	<ul style="list-style-type: none"> • Annual poverty and health surveys • Potential work to map health inequalities using national data based on income, location, healthcare access, etc.
Evaluate intervention impacts on inequality in health benefits	Yes, but..	<ul style="list-style-type: none"> • Required as part of a full HTA • Qualitative methods suggested • Minimally, a description of groups who may be disproportionately affected must be reported
Evaluate equity-efficiency trade-offs between reducing health inequalities and improving health	Yes, but..	<ul style="list-style-type: none"> • Informally through a discussion by HTA Committee members/expert opinion
Evaluate equity-equity conflicts between prioritizing the severely ill and reducing health inequalities	Yes, but..	<ul style="list-style-type: none"> • Informally through a discussion by HTA Committee members/expert opinion

The case of the PCV re-assessment

An example of equity-informed HTA using qualitative methods

Context

- New clinical evidence and price proposals prompted a re-evaluation of the vaccines (full HTA)
- Equity impact of the vaccine needs to be characterized

Methods

- Focus group discussions with patient groups, civil societies, and leaders of marginalized communities
- Respondents were asked about their preference between a less cost-effective vaccine that reduces inequity in coverage more (vaccine A) versus a more cost-effective vaccine that reduces inequity less (vaccine B)

Conclusions

- Preferences varied between the stakeholder groups: civil society preferred vaccine B (more weight on efficiency) while patient groups and community leaders preferred vaccine A (more weight on equity)

Key Insights

Valuable lessons learnt in the recent years & challenges yet to be overcome

- HTA processes can formally and consistently consider equity impacts through other methods, even among those in the early stages of HTA development (e.g., LMICs)
- Nonetheless, empirical evidence may be useful in guiding committee deliberations on health technologies
- Remaining challenges
 - Lack of robust data (e.g., baseline health distributions, disaggregated health outcomes data)
 - Lack of technical and institutional capacity

Building capacity for equity-informative HEOR

How can we make health equity research less of a black box?

- Trainings/short courses
- Advocacy and networking
- Research projects and case studies

DCEA short course

A short-course on distributional CEA as a starting point

About the course

- First run last 19-23 April 2021 as an online training
- Attended by 37 participants from 10 countries, mostly Asia and Africa
- Participants were mainly from government HTA agencies or universities
- Mix of lectures and practical hands-on sessions (all in Excel!)

Topics covered

- Overview of DCEA and principles of equity
- Distribution of effects and costs
- Equity-efficiency trade-offs and inequality aversion*
- Distributions of net health benefit
- Direct equity weights

DCEA short course

Feedback from participants



*“In a world where **everything needs to be quantified**, the DCEA equips both researchers and policymakers with tools that can pinpoint equity efficiency tradeoffs in various health and non-health areas such that a truly well informed decision can be made..”*

*“The workshop helped me understand distributional CEA **not only in theory but also on how this may be implemented.**”*

Some of the participants from Laos, Nigeria, Philippines, Rwanda, Singapore, Thailand, United Kingdom and Vietnam

Audience Poll

For future courses on health equity research in HTA, which topics would you be interested in learning more about?

- Describing baseline health inequalities
- Evaluating intervention and overall impacts on health inequalities, including consideration of opportunity costs
- Evaluating equity-efficiency tradeoffs
- Evaluating equity-equity conflicts



Health Equity Research in HEOR: The state of play from Japanese academic perspectives

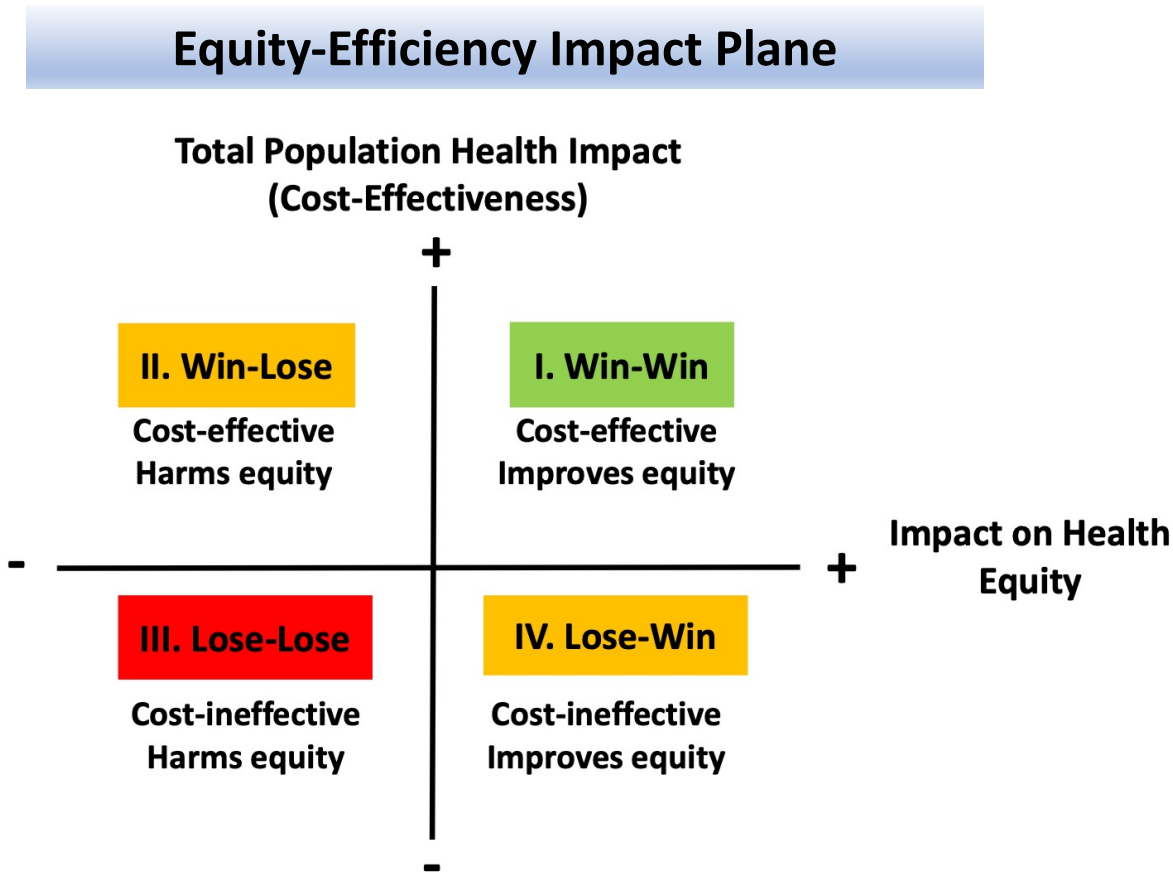
For the ISPOR Asia-Pacific Summit 2022 on 20 September 2022

Kyoko Shimamoto, PhD
Keio University, Tokyo, Japan

Background and general concepts: Equity-informative economic evaluations

- Standard CEAs provide information on cost-effectiveness in terms of “efficiency (i.e., total population health impact)”, but not “equity”.
- Advanced health economic evaluations are conducted, called “Distributional Cost-Effectiveness Analysis-DCEA” that considers both equity and efficiency, in terms of cost and effect.
- DCEA webinar was conducted in June 2022 (available on demand):

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



Cookson, R., Griffin, S., Norheim, O. F., & Culyer, A. J. (2020). *Distributional Cost-Effectiveness Analysis: Quantifying Health Equity Impacts and Trade-Offs*: Oxford University Press.

Cookson, R., Griffin, S., Norheim, O. F., Culyer, A. J., & Chalkidou, K. (2021). Distributional Cost-Effectiveness Analysis Comes of Age. *Value Health*, 24(1), 118-120.

doi:10.1016/j.jval.2020.10.001

Audience Poll

Is it worth funding an intervention that is not cost-effective but reduces health inequality?

- *Yes*
- *No*
- *Only in special circumstances*
- *Don't know*

Why studies on health inequality aversion?

- **“Improving total population health”** and **“reducing health inequality”** are two important policy objectives. Yet these objectives may conflict.
- **“The Health-related Social Welfare Function (HRSWF)”** has been studied to articulate the trade-offs between these two objectives.
- Evidence exists from the study that examines the public views on health inequality aversion in Europe (e.g., UK, Spain), yet not in Asia-Pacific.

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.

Abasolo, I., & Tsuchiya, A. (2004). Exploring social welfare functions and violation of monotonicity: an example from inequalities in health. *Journal of Health Economics*, 23(2), 313-329.

Costa-Font, J., & Cowell, F. (2019). Incorporating inequality aversion in health-care priority setting. *Social Justice Research*, 32(2), 172-185.

McNamara, S., Holmes, J., Stevely, A. K., & Tsuchiya, A. (2020). How averse are the UK general public to inequalities in health between socioeconomic groups? A systematic review. *The European Journal of Health Economics*, 21(2), 275-285.

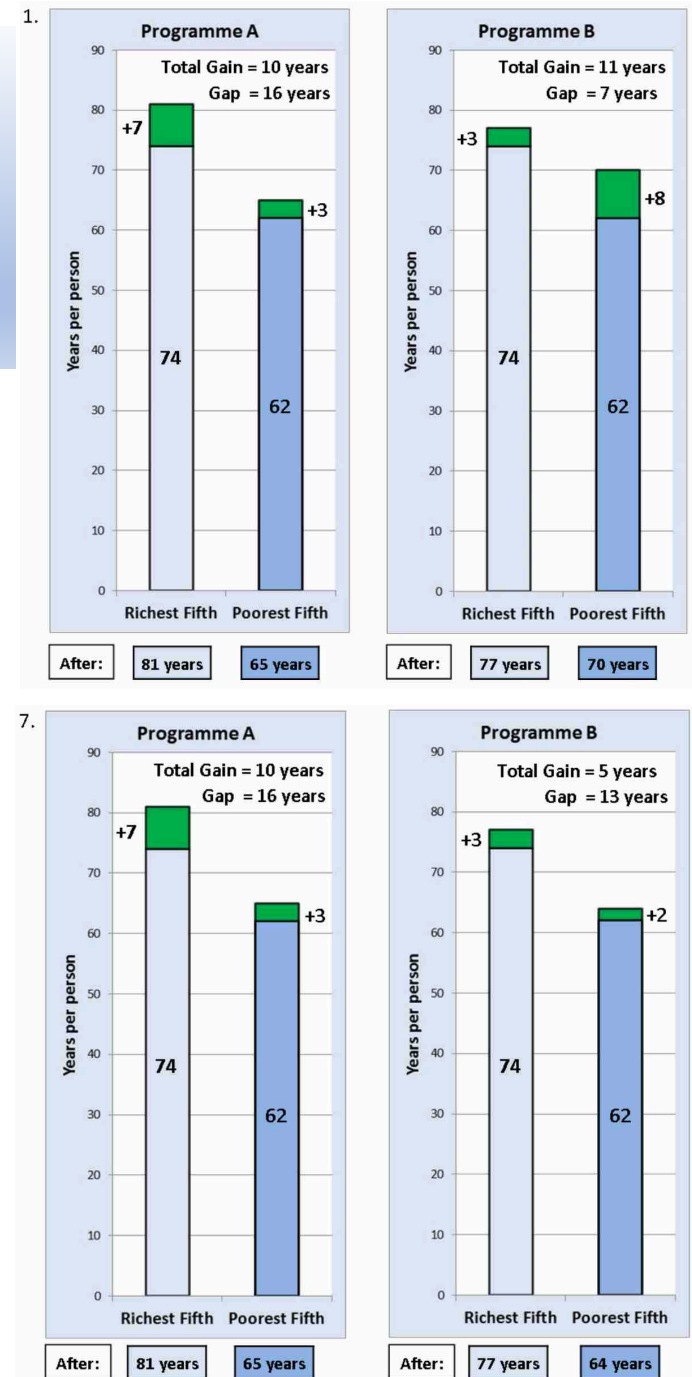
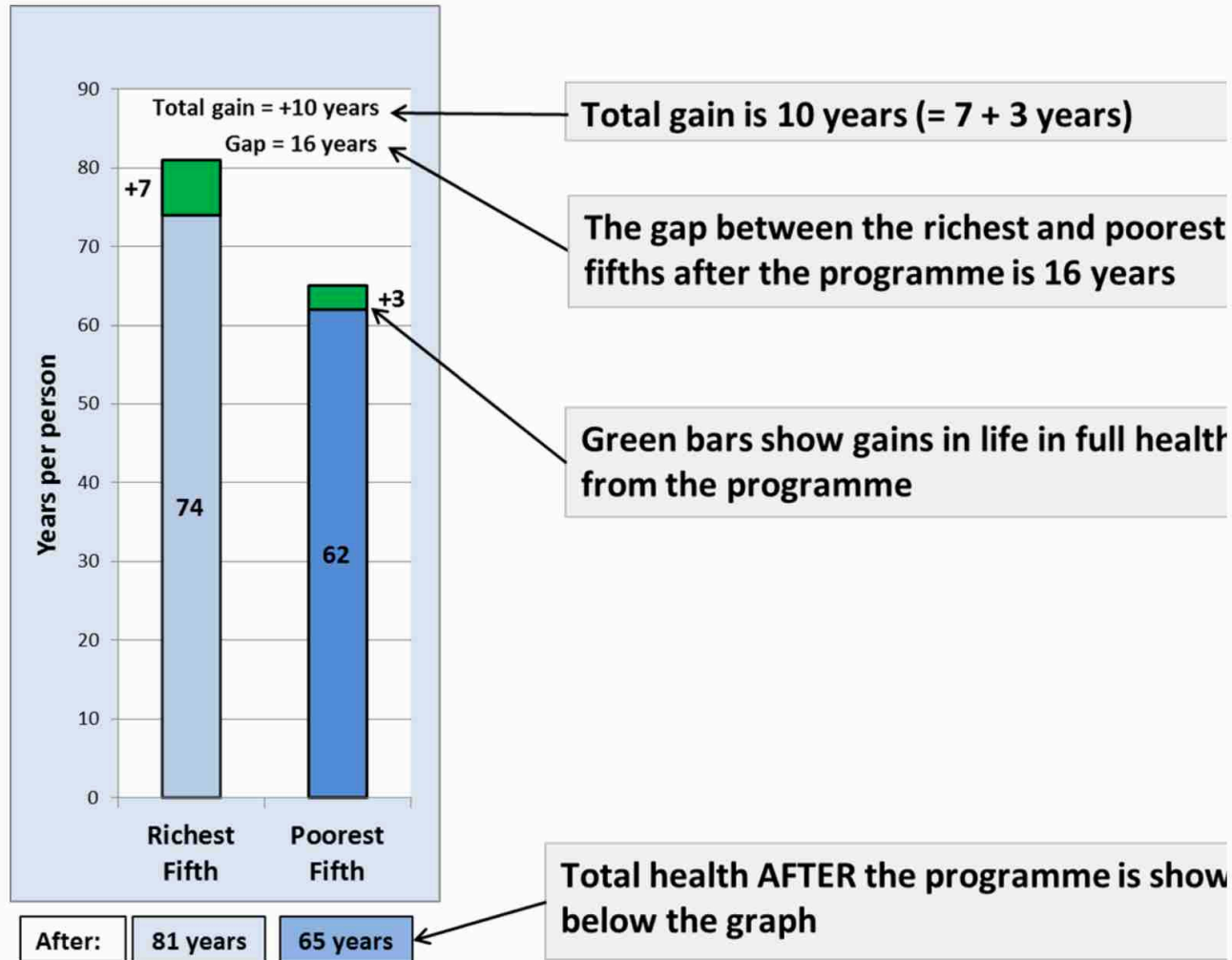
Aim and Methods:

The health inequality aversion study

- **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).
- **Measures:** Health-related Social Welfare Functions (HRSWFs) – one of the required parameters for DCEA (i.e., Atkinson and Kolm indices); and demographic characteristics.

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 prioritarrians” 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).
- Further comparative evidence is expected in Asia-Pacific and beyond.

Regional activity plans on health equity research in Asia-Pacific

- ▶ ISPOR Health Equity Research SIG journal club 2022 in Asia-Pacific:
Friday, December 2nd at 11am KST (Thursday, December 1st at 10pm EST)
Presentation by Prof Nathorn (Nui) Chaiyakunapruk, University of Utah, USA
- ▶ More regional activities under planning among Asia-Pacific researchers:
Please feel free to contact me if interested in the regional activities on health equity research. The SIG member registration is open.

ISPOR Health Equity Research SIG website:

<https://www.ispor.org/member-groups/special-interest-groups/health-equity-research>

Kyoko Shimamoto: kyoko.shimamoto@keio.jp

Thank you so much for joining the session!

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Prof Aki Tsuchiya (University of Sheffield, UK)

Ms Stacey Kowal (Genentech, USA)

ISPOR Health Equity Research Special Interest Group

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