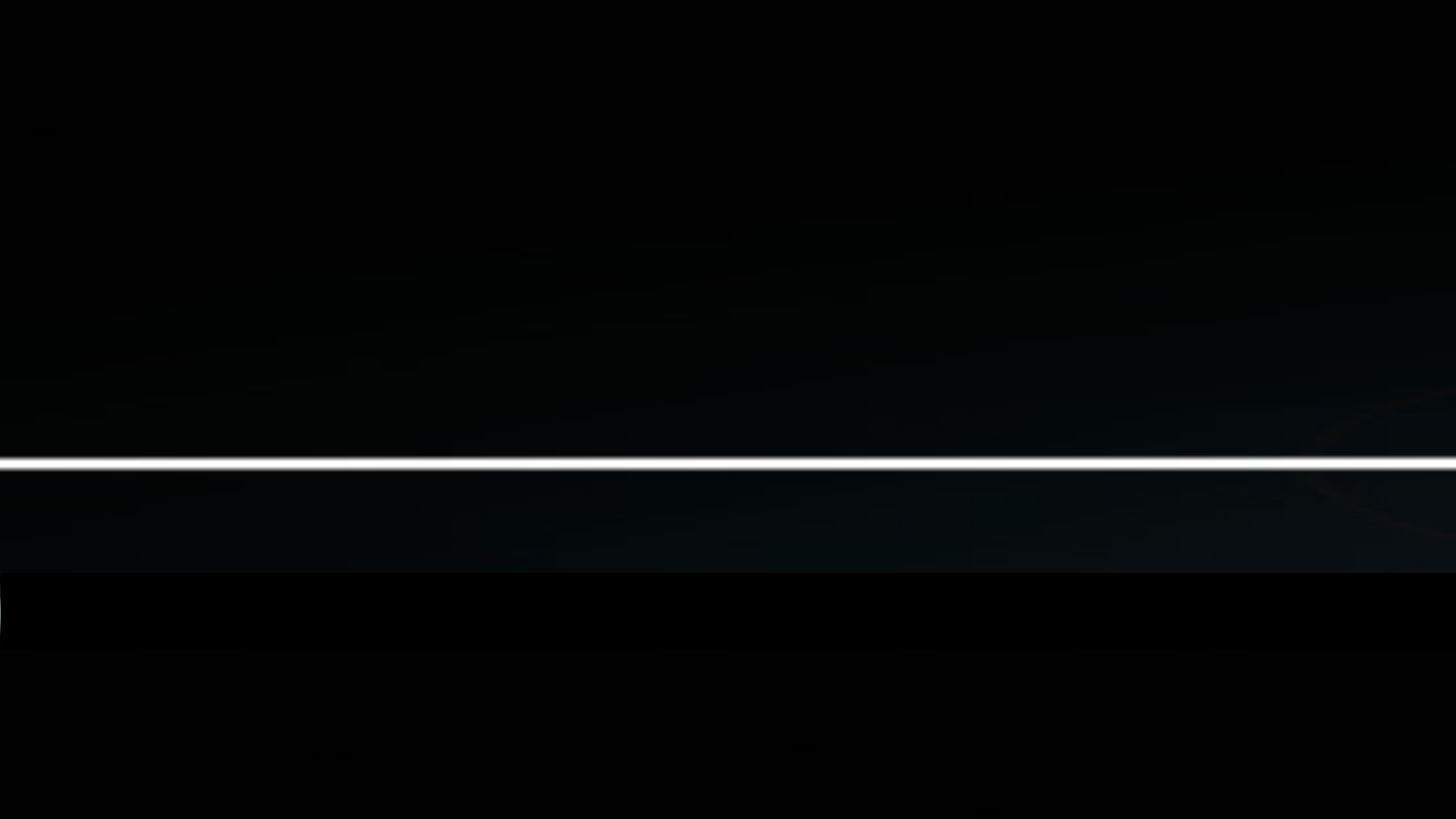
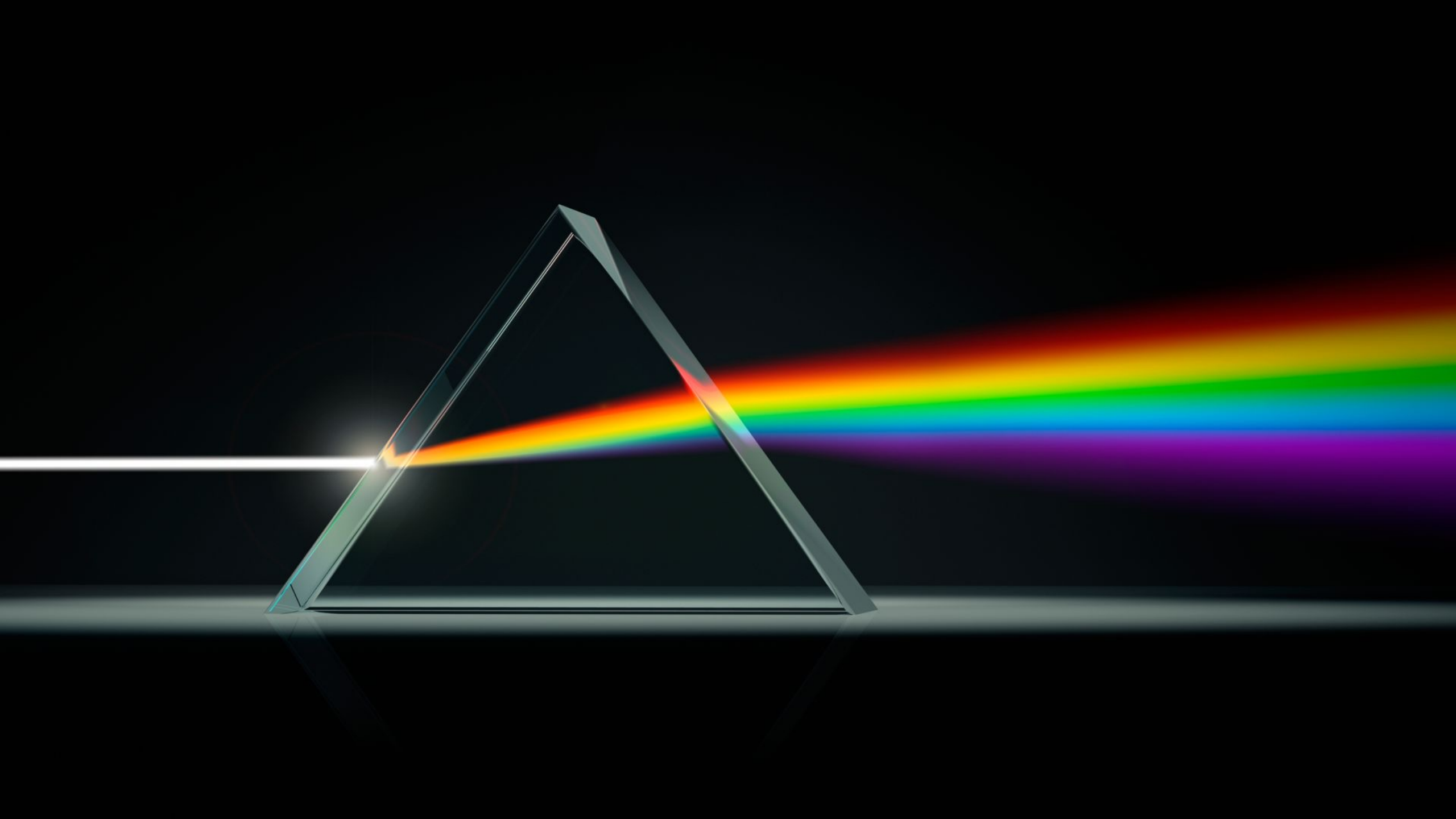


Use of Health Equity Research in Decision Making: The State of Play

**Professor Richard Cookson
Centre for Health Economics
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Describing Problems

vs.

Evaluating Solutions

Cost of Illness

Intervention IMPACT on Cost of Illness

Burden of Illness

Intervention IMPACT on Burden of Illness

Health Inequality

Intervention IMPACT on Health Inequality

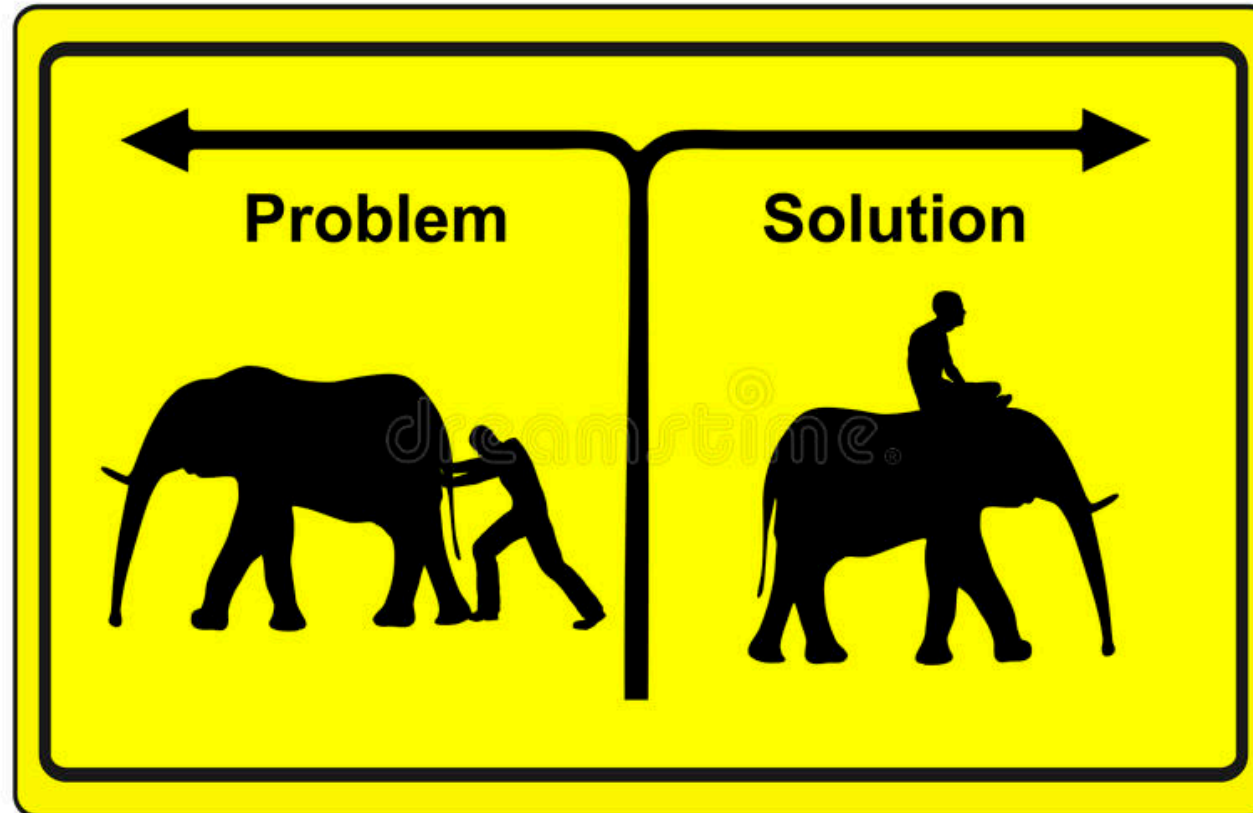




Illustration by Marcia Staimer

When and by
whom could
equity
information be
used?

- R&D decision making by industry
- Payer decision making about reimbursement and clinical guidance
 - Topic selection
 - Scoping
 - Guidance development
 - Implementation



What Could Be Done...

A. Sometimes vs. Routinely

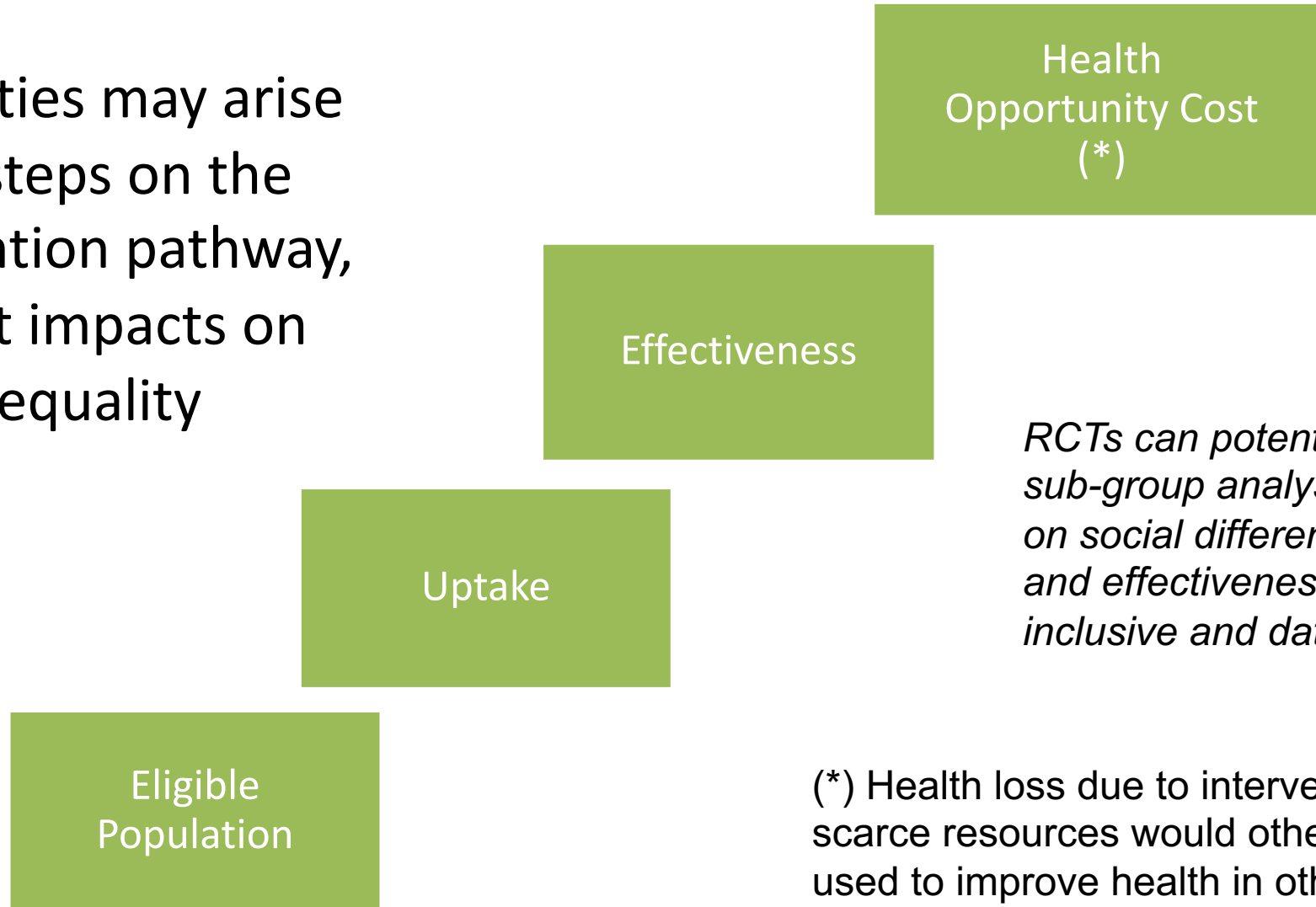
B. Based on Evidence and Analysis vs. Expert Opinion

C. Using Disease-Specific vs. Generic Equity Outcomes

1. Describe Pre-Decision Health Inequalities
 - Unfair differences in health by socioeconomic status, ethnicity, location and other aspects of social disadvantage
2. Evaluate Intervention Impacts on Inequality in Health Benefits
 - Distribution of health benefits, which depends on differences in (1) eligible population, (2) uptake, (3) health effects
3. Evaluate Overall Intervention Impacts on Health Inequalities
 - Direction and magnitude of impact on health inequalities, allowing for the distribution of health opportunity costs as well as health benefits
4. Evaluate Equity-Efficiency Trade-Offs Between Reducing Health Inequalities and Improving Health
 - Is it worth funding an intervention that is not cost-effective but reduces health inequality? Is it worth funding an intervention that is cost-effective but increases health inequality? How far should the standard cost-effectiveness test be modified for interventions which increase or reduce health inequality?
5. Evaluate Equity-Equity Conflicts Between Prioritising the Severely Ill and Reducing Health Inequalities
 - Is it worth funding a treatment for patients who are currently severely ill even if it increases health inequalities? Is it worth funding a preventive intervention that reduces health inequalities even if it benefits people who are not currently severely ill?

The Staircase of Inequality

Social inequalities may arise at different steps on the health intervention pathway, with different impacts on health inequality



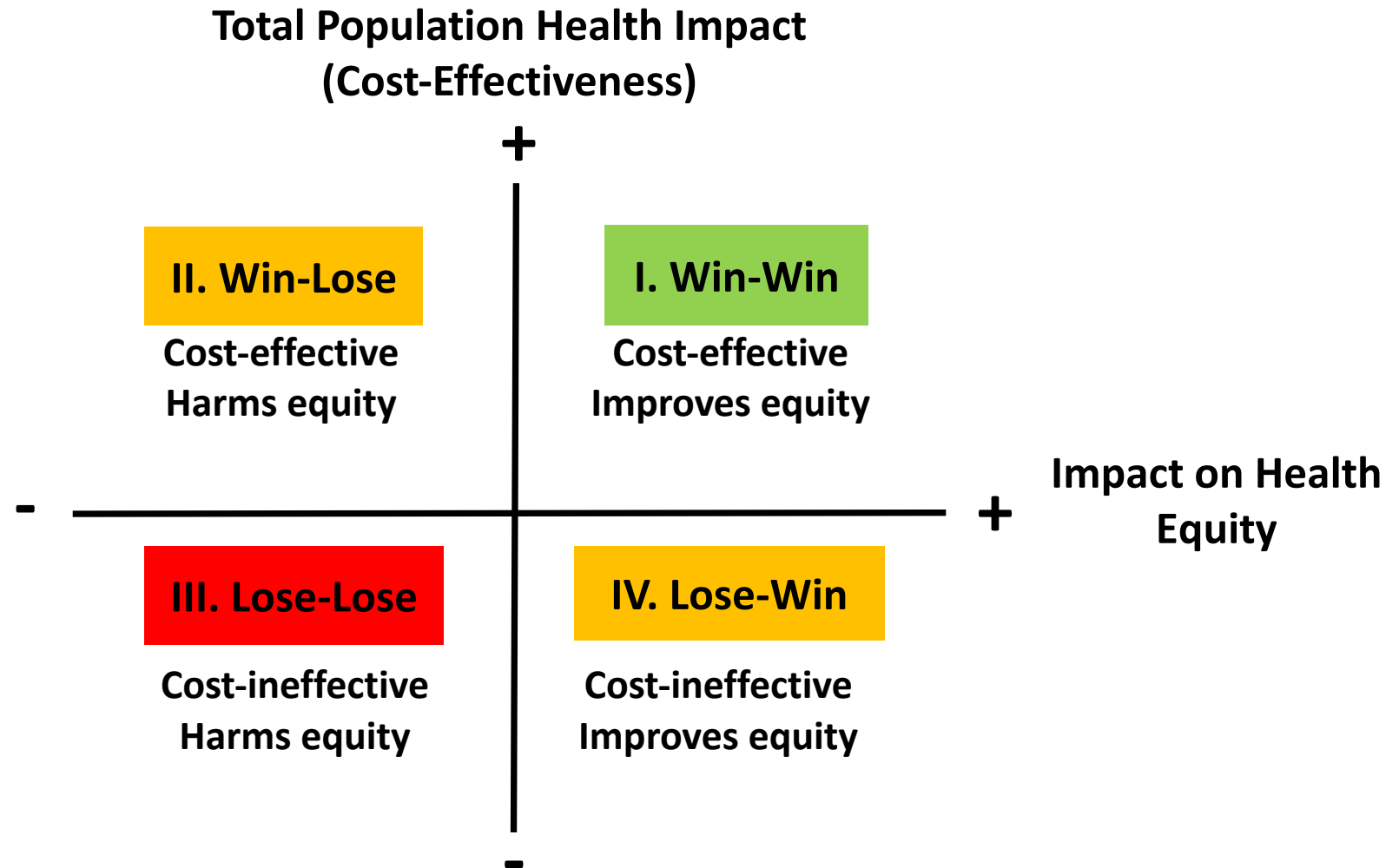
RCTs can potentially provide sub-group analysis information on social differences in uptake and effectiveness, if samples are inclusive and data are collected

(*) Health loss due to intervention costs: scarce resources would otherwise be used to improve health in other ways.

Equity-Efficiency Impact Plane

Currently, decision makers focus on the vertical axis: cost-effectiveness and impact on total population health.

The horizontal axis is missing.



Simplified or “aggregate” DCEA

- Simplified DCEA allows health economists to produce a quick and simple “what if” estimate of the overall health inequality impact of a recommendation using their own cost-effectiveness data inputs and assumptions.
- For example, to calculate the overall impact on social inequality in health in England by five socioeconomic groups, based on the neighbourhood-level index of multiple deprivation (IMD).
- It does not conduct detailed modelling and it usually focuses on a small number of groups rather than breaking things down further (e.g. by regional deprivation, ethnicity, gender, disability, rough sleeping, drug use, imprisonment, other vulnerable and excluded populations).

Equity-equity conflicts

Health inequality vs. current severity

Current severity concern typically prioritises acute care for older populations with late stage disease.

Health inequality concern typically priorities primary care for younger populations with early stage disease or risk factors.

e.g. Is it fairer to prioritise (1) a new drug for late stage skin cancer or (2) screening for maternal depression?

- Current severity of illness
 - Priority to late stage skin cancer
 - Very short life expectancy (“end-of-life”)
- Health inequality
 - Priority to maternal screening
 - Babies with depressed mothers can expect below-average lifetime health and social status
 - Most skin cancer deaths occur age 70+ among people with above-average social status

What Is Currently Done

1. Describe Pre-Decision Health Inequalities
 - Sometimes, but not using generic equity metrics (e.g. contribution to overall inequality in expected lifetime health)
2. Evaluate Intervention Impacts on Health Inequalities
 - Never based on evidence and analysis
 - Sometimes using explicit expert opinion (e.g. MCDA)
3. Evaluate Equity-Efficiency Trade-Offs
 - Never based on evidence and analysis
 - Sometimes using explicit expert opinion (e.g. MCDA)
4. Evaluate Equity-Equity Conflicts
 - Never explicitly analysed – only implicit value judgements

DISTRIBUTIONAL COST-EFFECTIVENESS ANALYSIS

Quantifying Health Equity Impacts and Trade-Offs

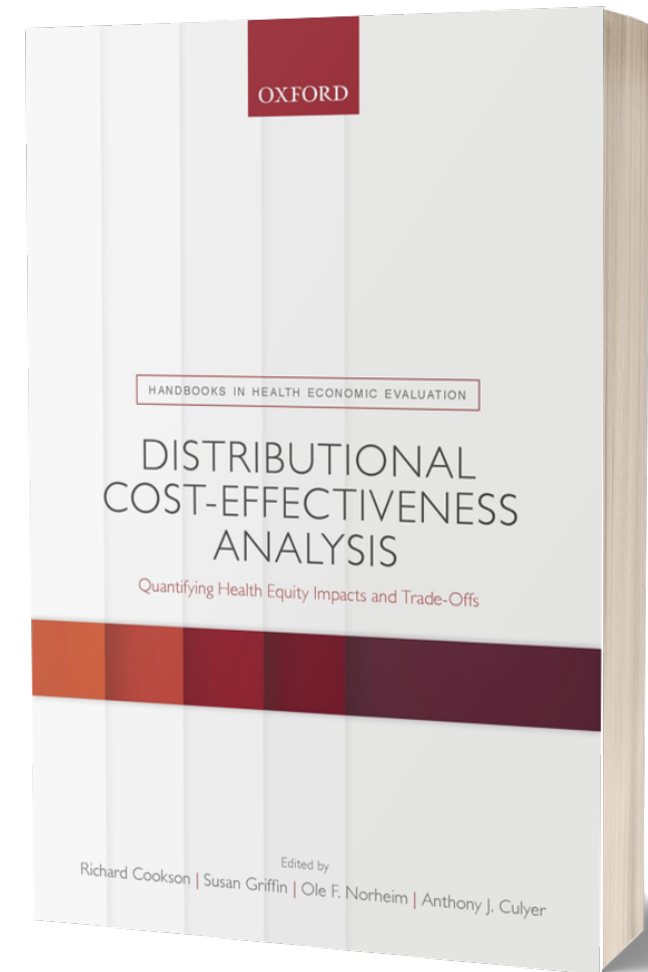
An Oxford University Press
Handbook in Health Economic Evaluation

Edited by Richard Cookson, Susan Griffin, Ole F. Norheim,
and Anthony J. Culyer

- Flexible methods for any decision context
- Practical [spreadsheet training exercises](#)
- Clear overview for decision-makers

‘The definitive guide to equity methods in health economic
evaluation - a landmark in the field.’

*Michael Drummond, Professor of Health Economics, University
of York, UK*



Readings

Cookson, Richard Andrew , Griffin, Susan , Norheim, Ole F, Culyer, A J and Chalkidou, K. (2020). Distributional Cost-Effectiveness Analysis Comes of Age. *Value in Health*.

<https://doi.org/10.1016/j.jval.2020.10.001>

Cookson, R., A. J. Mirelman, S. Griffin, M. Asaria, B. Dawkins, O. F. Norheim, S. Verguet and A. J. Culyer (2017). "Using Cost-Effectiveness Analysis to Address Health Equity Concerns." *Value in Health* 20(2): 206-212. DOI: <https://doi.org/10.1016/j.jval.2016.11.027>

Asaria, M, Griffin, S and Cookson, R. (2016). "Distributional Cost-Effectiveness Analysis: A Tutorial." *Medical Decision Making* 36(1): 8-19. <http://mdm.sagepub.com/content/36/1/8.abstract>

Love-Koh, J., Cookson, R., Gutacker, N., Patton, T., Griffin, S., 2019. Aggregate Distributional Cost-Effectiveness Analysis of Health Technologies. *Value in Health*, 22(5), 518–526. [\[Link\]](#)

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 <http://onlinelibrary.wiley.com/doi/10.1002/hec.3430/full>



Thank you



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State of health equity research in HEOR in LATAM

What could be done?	Has it been done? Yes/no	Examples
Describe pre-decision health inequalities	✓	Strong interest in the region for Universal Health coverage, which has led to many researchers to describe the status of the distribution of Access to healthcare as well as health outcomes
Evaluate intervention impacts on inequality in Health Benefits	✓/X	Very few studies exploring intervention's effect in subgroups defined by socioeconomic status or location
Evaluate overall intervention impacts on Health inequalities	X	Ongoing, a DCEA analysis in technologies for diabetes mellitus
Evaluate equity- efficiency trade-offs between reducing health inequalities and improving health	X	
Evaluate equity-equity conflicts between prioritising the severely ill and reducing health inequalities	✓	<p>Dominican Republic (2015): MCDA revealed preferences between severity, equity in access and geographical equity.</p> <p>Argentina (2021): using MCDA to reveal preferences between severity, equity in access and equity in health</p>

Challenges

- ✓ Decision making of healthcare technologies informed by formal health technology assessment processes have been institutionalized in few countries of LATAM.
- ✓ However, in most countries equity is a major attribute, highly valuable, to inform decisions in healthcare
- ✓ Professional technical capacity has grown significantly in the last decade in LATAM, mostly in academia or specialized centres.
- ✓ The main two challenges are: (1) Access to good data (heterogeneous across the region); and (2) lack of institutional capacities in the health system to use the evidence.

Health Equity in HEOR: Perspectives from Southeast Asia

Diana Beatriz Bayani

Saw Swee Hock School of Public Health

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The State of Play

Equity Considerations in HTA: Thailand

- Topic nomination by multiple stakeholders including lay people, civil society, and patient organizations
- Prioritization of proposed interventions through MCDA and deliberation
- Implicit consideration of the distribution of health effects in the evaluation and appraisal

1. Tantivess S, Douthipsirikul S (2019). Leaving No One Behind: Participatory Technology Appraisal as a Platform for Agenda Setting to Address Disparities in Access to Health Services in Thailand. *International Journal of Technology Assessment in Health Care* 1–6.
2. Sripin Tantivess, Román Pérez Velasco, Jomkwan Yothasamut, Adun Mohara, Hatai Limprayoonyong, Yot Teerawattananon, (2012), "Efficiency or equity: value judgments in coverage decisions in Thailand", *Journal of Health Organization and Management*, Vol. 26 Iss: 3 pp. 331 – 342
3. Leelahavarong P, Douthipsirikul S, Kumluang S, Poonchai A, Kittiratchakool N, Chinnacom D, Suchonwanich N, Tantivess S (2019). Health Technology Assessment in Thailand: Institutionalization and Contribution to Healthcare Decision Making: Review of Literature. *International Journal of Technology Assessment in Health Care* 35, 467–473

Thai HTA process guidelines



Step 1

Stakeholder meeting on scope of the study



Step 4

Stakeholder meeting on the preliminary results of the study



Step 2

Researchers present proposal to the Health Economics Working Group



Step 5

Write-up of report on the study and policy recommendations



Step 3

Conduct HTA study according to the Thai HTA methods guidelines



Step 6

Inspect research quality by internal and external reviewers



Step 7

Present to policy decision-makers and disseminate to the public

Stakeholders include topic nominators, policymakers, HTA researchers, clinical and public health experts, patient groups, and industry

Equity Considerations in HTA: Philippines

- Ethical analysis as a required section of an HTA report
 - Use of qualitative methods to assess distribution of outcomes based on socioeconomic status, gender, ethnicity and religion
 - At the most basic level, a description of particular groups which may be disproportionately affected by a decision should be provided
 - Consider use of PROGRESS-Plus to stratify health opportunity costs and outcomes and EUPATI ELSE checklist





Plans for future work

- Conduct of the first full DCEA in the region and related studies for a specific disease-intervention pair
 - Estimating the baseline health distribution in Thailand
 - Modelling distribution of intervention costs and effects
 - Health inequality impact and trade-off analysis
 - Assessment of feasibility of using DCEA to inform decision making in the region

Health Equity Research in HEOR in North America

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Within US HEOR, we are just starting to make progress on how we want to measure, value and communicate equity impacts

Current State of Play – Growing Recognized Importance of Health Equity

- Inclusive clinical trials
- Policy focus on health equity
- D&I efforts within and across companies
- Increased HTA focus on equity issues



- Raising awareness around clinical trial representativeness

- Health Improvement Distribution Index
- Equity-related voting questions



- Webinar series on health equity (policy, methods, action)

At present, the US does not measure and consider equity information consistently and we rely mostly on expert opinion for interpretation

What could be done?	Has it been done?	Examples
Describe pre-decision health inequalities	Yes (But..)	<ul style="list-style-type: none"> Targeted disease-specific or geography-specific studies Ongoing work to map health inequalities with existing data Ongoing work to address key gaps and fully map health inequalities for the US
Evaluate intervention impacts on inequalities in Health Benefits	Yes (But..)	<ul style="list-style-type: none"> Analyses of impact of race and ethnicity and social determinants of health on health outcomes Equity analysis through simple comparisons or changes in disparity indexes, largely applied to public health programs^{1,2} Ongoing work to create DCEA of COVID-19 treatments
Evaluate equity- efficiency trade-offs between reducing health inequalities and improving health	Yes (But...)	<ul style="list-style-type: none"> General discussion based on expert opinion
Evaluate equity-equity conflicts between prioritising the severely ill and reducing health inequalities	No	<ul style="list-style-type: none"> General discussion based on expert opinion

DCEA: Distributional cost-effectiveness analysis

1.) Quan AM, Mah C, Krebs E, Zang X, Chen S, Althoff K, Armstrong W, Behrends CN, Dombrowski JC, Enns E, Feaster DJ. Improving health equity and ending the HIV epidemic in the USA: a distributional cost-effectiveness analysis in six cities. *The Lancet HIV*. 2021 Sep 1;8(9):e581-91;

2. Avanceña AL, Prosser LA. Examining Equity Effects of Health Interventions in Cost-Effectiveness Analysis: A Systematic Review. *Value in Health*. 2020 Dec 3

Existing data and methods can support increased use of equity-informative HEOR, but there is still work to be done

