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Challenges in Translating Results of Economic Evaluations

David Dowdy, MD PhD

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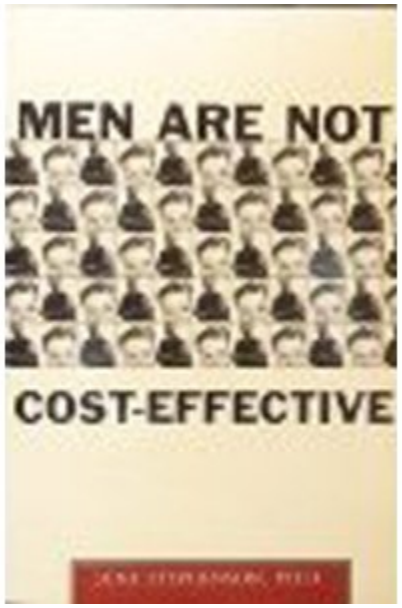
PDP Access Meeting

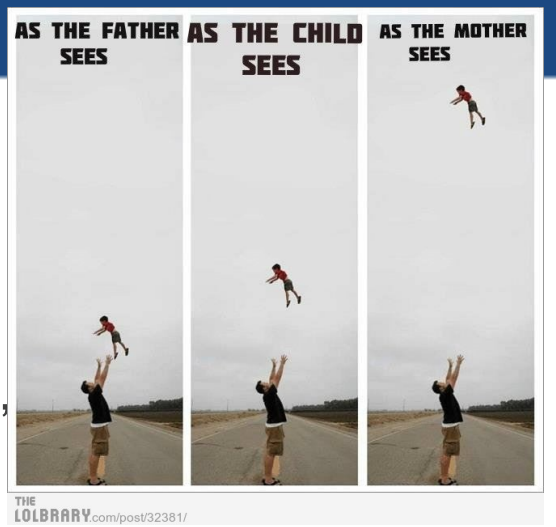
Protecting Health, Saving Lives—*Millions at a Time*

Introduction: A Classic Scenario

- In 2014, PDPX anticipates the launch of a new diagnostic/ drug/vaccine.
- Your goal is to maximize access to this new life-saving tool.
- Concern is raised over its “cost-effectiveness.”



Different Perspectives



- **Product Developer**
  - "What is the price point that maximizes profit?"
  - "What is the potential market size at each price?"
- **Donor**
  - "Is this a good use of my resources, relative to my other options?"
- **Minister of Health**
  - "Will implementation make my population healthier?"
    - Because I won't be able to use the money on other things
  - "Will this help me politically?" "Can I afford this?"
- **Multilateral**
  - "Should we recommend this?" "Is this good for global health?"
- **Economist/Academic**
  - "How does this intervention compare with other health interventions, in a broader sense?"

An Economic Evaluation is Commissioned

- The economist has a reputation and a structured method.
  - But will the results be useful for anyone else?
- **Three challenges in translating results of economic evaluations:**

1. *Making the outcome meaningful*
2. *Generalizing the outcome to other settings*
3. *Planning for the future*

- **With one solution:**

  Involve economists as partners throughout the process

Take a Real-World Example

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PLOS | MEDICINE

Population Health Impact and Cost-Effectiveness of Tuberculosis Diagnosis with Xpert MTB/RIF: A Dynamic Simulation and Economic Evaluation

Nicolas A. Menzies[1,2]*, Ted Cohen[3,4], Hsien-Ho Lin[5], Megan Murray[3], Joshua A. Salomon[1,6]

1 Center for Health Decision Sciences, Harvard School of Public Health, Boston, Massachusetts, United States of America, 2 Institute for Technology Assessment, Massachusetts General Hospital, Boston, Massachusetts, United States of America, 3 Department of Epidemiology, Harvard School of Public Health, Boston, Massachusetts, United States of America, 4 Division of Global Health Equity, Brigham and Women's Hospital, Boston, Massachusetts, United States of America, 5 Graduate Institute of Epidemiology and Preventive Medicine, National Taiwan University, Taipei, Taiwan, 6 Department of Global Health and Population, Harvard School of Public Health, Boston, Massachusetts, United States of America

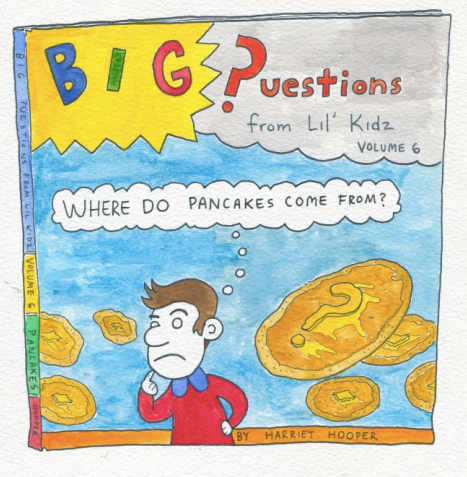
with Xpert scale-up. Relative to status quo, Xpert has an estimated cost-effectiveness of US$959 (633–1,485) per disability-adjusted life-year averted over 10 y. Across countries, cost-effectiveness ratios ranged from US$792 (482–1,785) in Swaziland

Conclusions: Introduction of Xpert could substantially change TB morbidity and mortality through improved case-finding and treatment, with more limited impact on long-term transmission dynamics. Despite extant uncertainty about TB natural history and intervention impact in southern Africa, adoption of Xpert evidently offers reasonable value for its cost, based on conventional benchmarks for cost-effectiveness. However, the additional financial burden would be substantial, including

- How to translate this into appropriate decision-making?

Big Questions

- Is the cost per DALY averted the outcome I want? If so, what benchmark am I comparing it to?
  - Do I just want to say that Xpert is more cost-effective than most generic health interventions?
- How does $959 per DALY translate into other settings?
  - Lower HIV, Higher MDR-TB, smaller TB burden, etc.
- How will $959 per DALY look in 10 years, when the burden and cost of treating HIV and MDR-TB has changed?



Making the Outcome Meaningful

- "I'll take that test at $959 per DALY but not $960 per DALY"?
  - Consider population impact, cost-effectiveness and affordability
  - Relative to other available options
- Cost of illness, cost-effectiveness/cost-utility, affordability, and impact studies will matter to different decision-makers.
  - Must clarify priorities from decision-makers
  - Economists can lay out potential options for model structure
- Ideally, economists and decision-makers would discuss model structure and outcomes *before* and *after* the analysis is done.
  - Models can include many different outcomes.
  - Ensures that the analysis will be relevant

Generalizing to Other Settings

- "I'll take that test in Indonesia because it's cost-effective in South Africa"?
  - Locally relevant results matter, but so does generalizability.
- Different input parameters will matter to different people.
  - Example of tuberculosis: HIV is important in Africa, MDR-TB in India & China, prison populations in former USSR, etc.
  - Economists can lay out potential options for model input
- Ideally, economists and decision-makers would discuss model inputs before and after the analysis is done.
  - Models can incorporate "user-friendly" elements that decision-makers can use directly.
  - Ensures that the analysis will be generalizable

Planning for the Future

- "I'll take that test in 2015 because it was cost-effective in 2010"?
  - Analyses that don't account for the future quickly become dated.
- Nobody can predict the future, but decision-makers can tell you how they're preparing for it.
  - Example of MDR-TB: How much will treatment will cost in 10 years?
  - Economists can help to refine these expectations
- Ideally, economists and decision-makers would discuss future considerations before and after the analysis is done.
  - Models can account for different future scenarios.
  - Ensures that the analysis can be "sold" to decision-makers who are planning for the future.

Summary

- In economic evaluations, “one size does not fit all.”
- To be useful, economic evaluations must:
  - Have outcomes that are meaningful to decision-makers
  - Generalize to local settings
  - Plan for the future, not just the present
- Meeting these goals is often a process that evolves over time.
- Involve independent economists as long-term partners.
  - Keep economists and decision-makers in frequent communication.
  - Understand the pressures that all parties (including economists) face.
  - When ongoing partnership is not possible, it can serve as a model to define the parameters of single commissioned analyses.

Thanks for Your Attention!

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Contact me:
ddowdy@jhsph.edu