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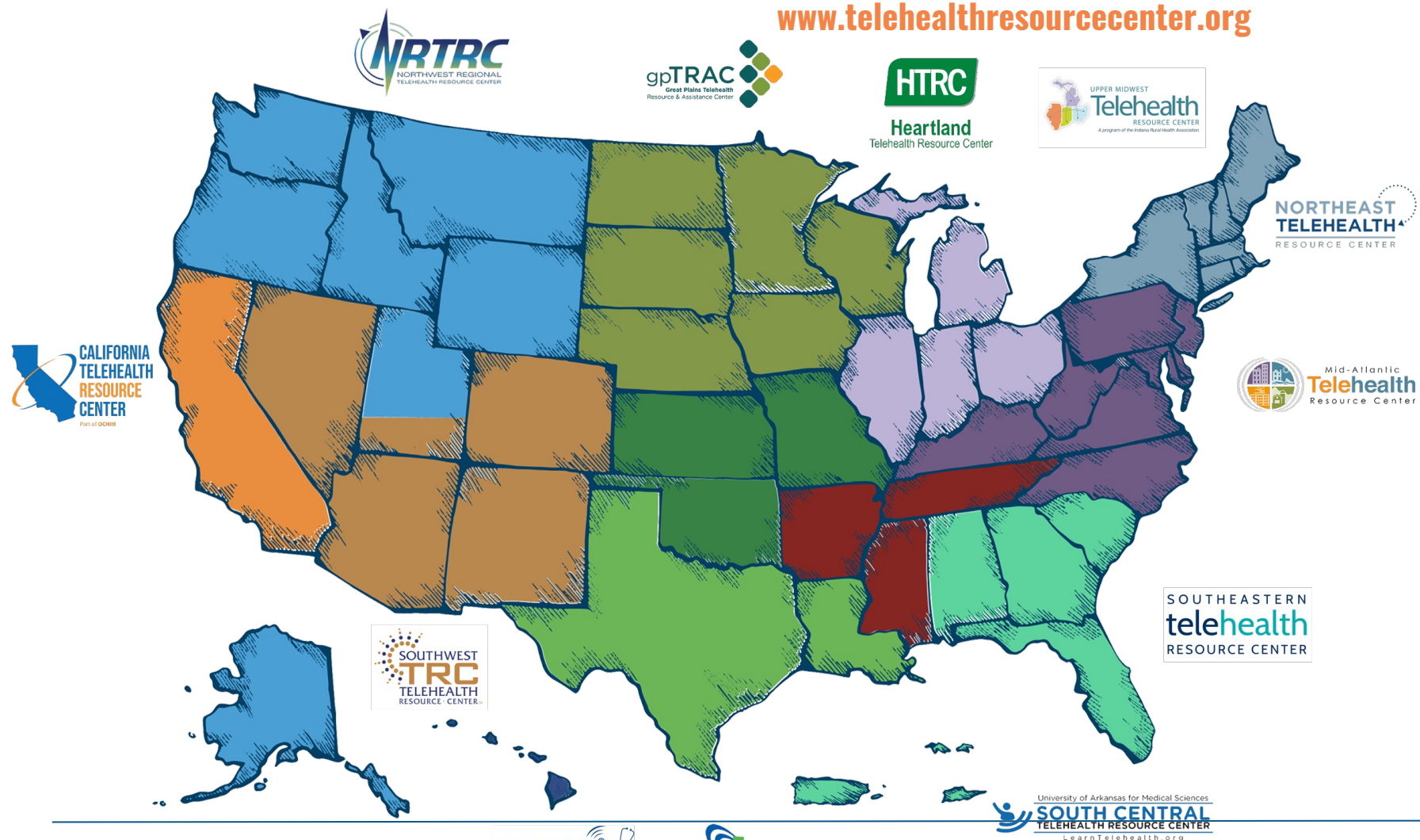
Priority Setting in Digital Health

July 18, 2024



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Priority Setting in Digital Health

National Consortium of Telehealth Resource Centers
July 18, 2024

Conflicts of interest: None

By Victoria Fan, Alex Fischer, and Marelize Gorgens

The Problem of Priority Setting in Health

A Country's Challenge

- Countries are confronted with prioritizing many approaches, interventions, and tools
- Decision Space—They need to know what choices they have
- Cost-Benefit—They can weigh different options and make the best decision

Identification, Classification, and Economic Analysis

- Identification of interventions: What are the choices?
- Classification of interventions: How do we categorize these interventions?
- Prioritization: What economic analysis such as return on investment can inform the optimal interventions?

Why invest now in the digital?

- Public importance: More than ever before, the public saw the value of public health data during the pandemic and the deficiencies in digital systems in health
- Lack of advances in infrastructure: Despite a shift towards results and massive investments in global health, data systems for health have not advanced significantly
- Fragmentation and eChaos: Rampant anecdotes of duplicative “pilotitis” e.g. more than 70 fragmented digital health systems in one African country, not surprising given the fragmented foreign aid channels

Lessons from Past Experiences

- **Prioritization:**

The Disease Control Priorities Project made a case for a package of highly cost-effective interventions

- **Resource Tracking and Coordination:**

Resource tracking and coordination platforms are only as good as they are used and the incentives to use them.

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What are the best buys for surveillance?



Case management and surveillance		
Active case surveillance and contact tracing	Multisector coordination teams	Positive (3+ studies) (2 SRs and 1 CS)
Adapting palliative and hospice care	Health structure	Positive (3+ studies) (3 SRs)
Digital or automated contact tracing	Multisector coordination teams	Inconsistent (2 SR)
Rapid diagnosis and case management	Health structure	Positive (<3 studies) (1 CS)
Universal screening	Multisector coordination teams	Inconsistent (1 SR)
Facility-based active case finding	Health structure	Inconsistent (1 CS)
Quarantine measures (facility)	Health structure	Positive (3+ studies) (3 SRs and 1 CS)
Household quarantine	Community (citizens)	Inconsistent (1 SR)
Health information system	Health structure	Positive (3+ studies) (1 SR)
Artificial intelligence	Health structure	No evidence (1 LR)

Source: World Bank IEG Report 2022. URL: <https://ieg.worldbankgroup.org/evaluations/world-banks-early-support-addressing-covid-19>



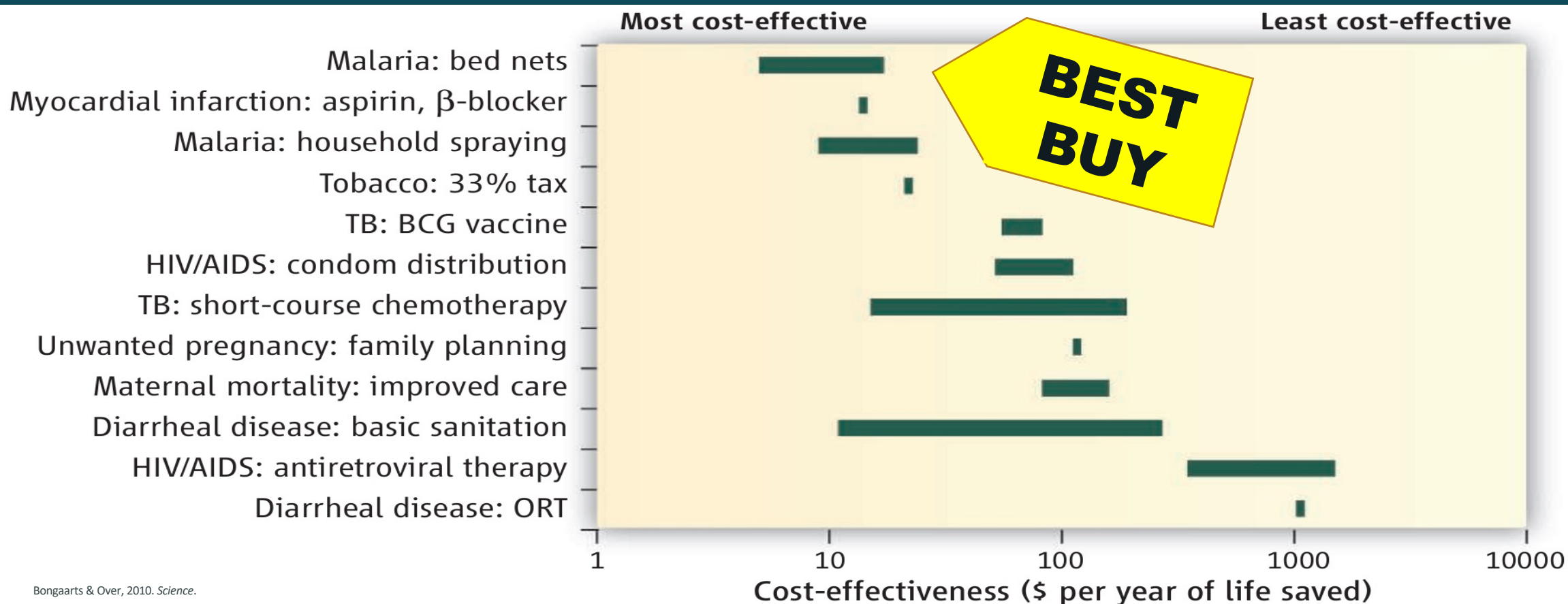
Strategic Investment in Surveillance for Pandemic Preparedness: Rapid Review and Roundtable Discussion

VICTORIA Y. FAN, ELENI SMITHAM, LYDIA REGAN, PRATIBHA GAUTAM, OLE NORHEIM, JAVIER GUZMAN, AND AMANDA GLASSMAN

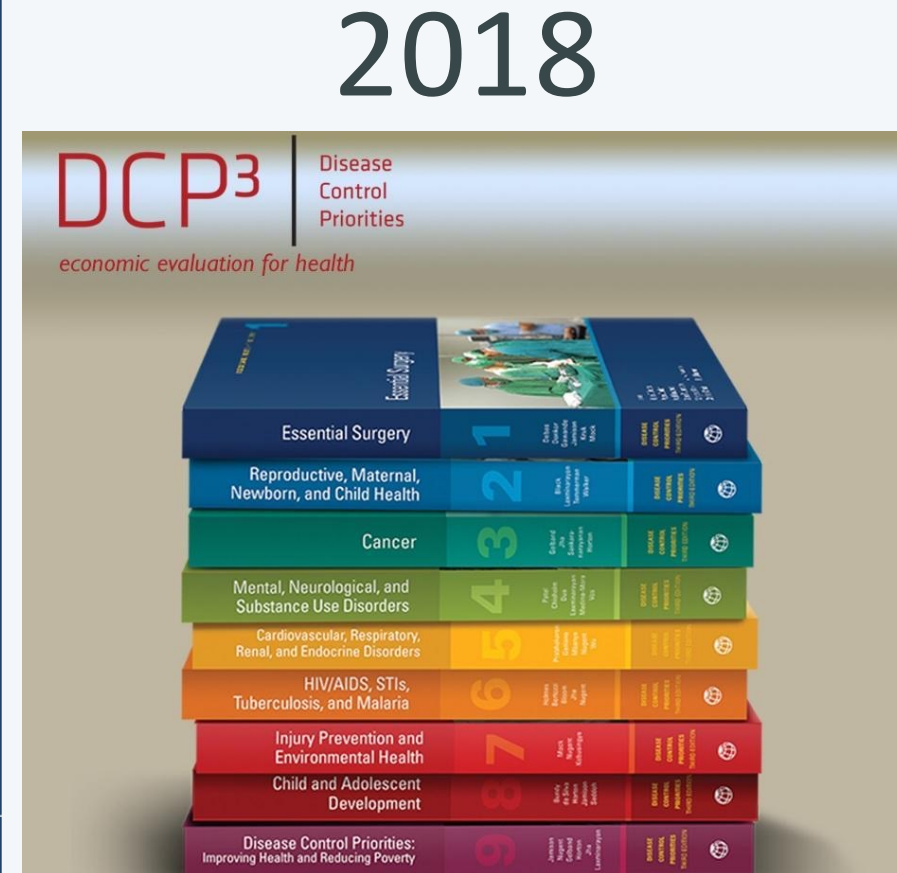
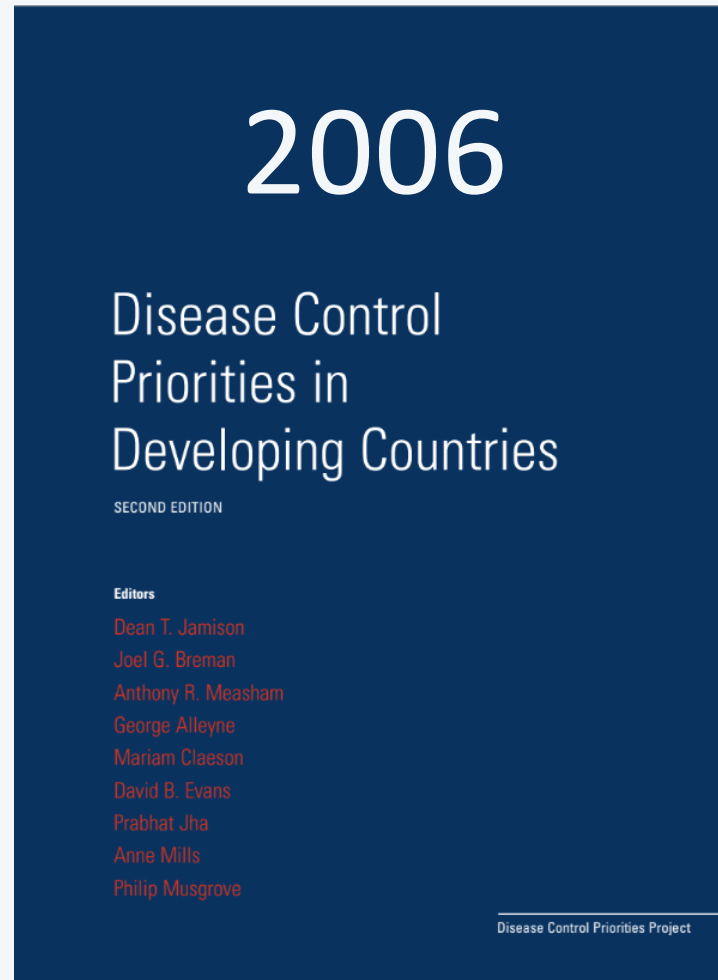
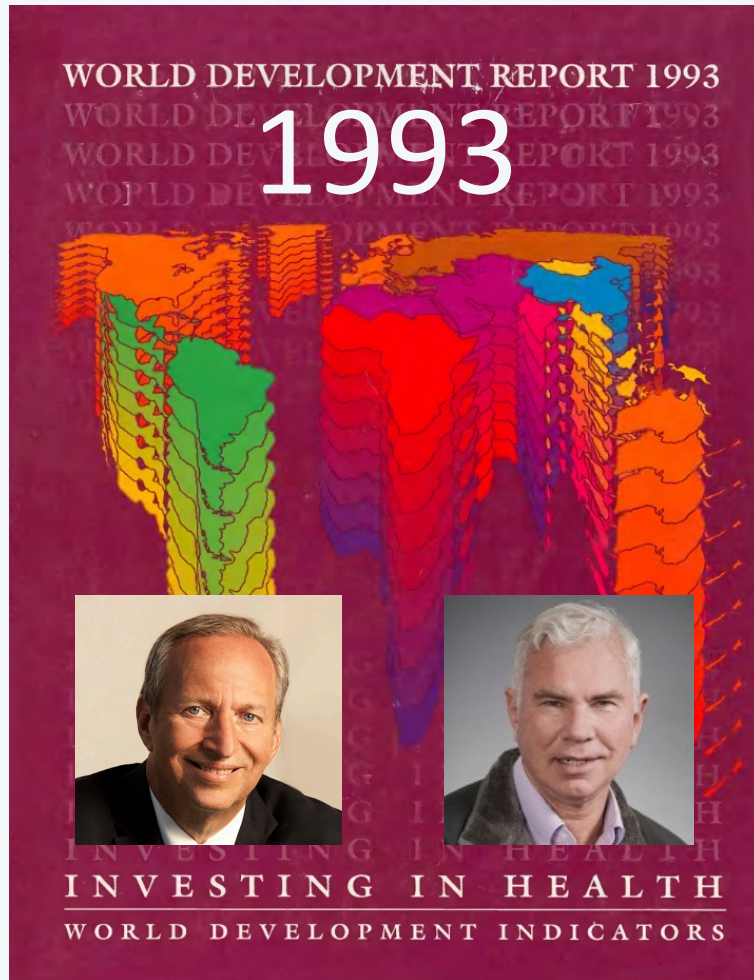
Source: <https://www.cgdev.org/sites/default/files/Strategic-Investment-in-Surveillance-for-Pandemic-Preparedness-Policy-Paper.pdf>

Cost-Effectiveness Ratios (CER) of Interventions

The smaller the CER, the more cost-effective



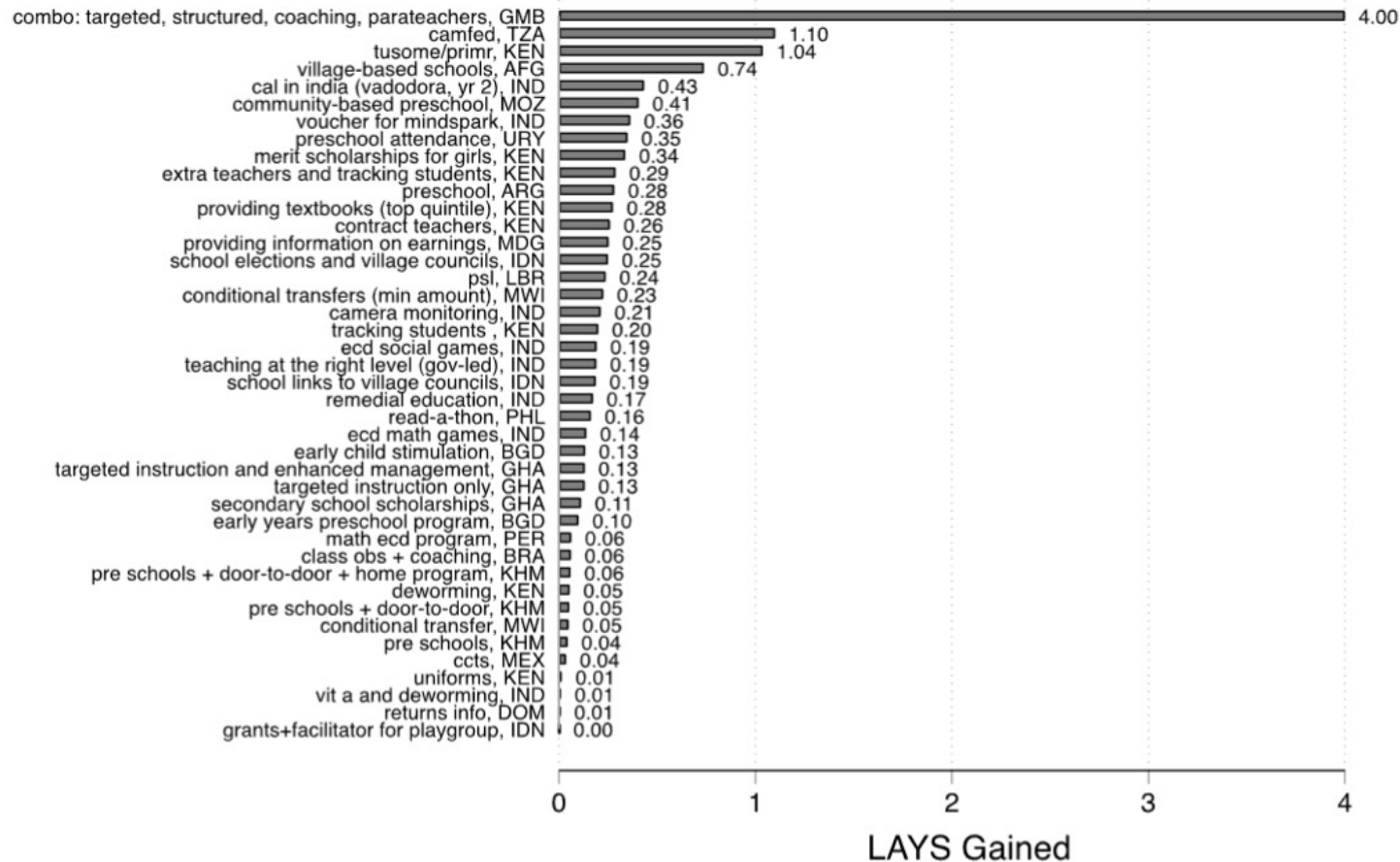
The Disease Control Priorities: Using Cost-Effectiveness to Guide Investments in Health Interventions



Interventions – platforms – systems

How to Improve Education Outcomes Most Efficiently?

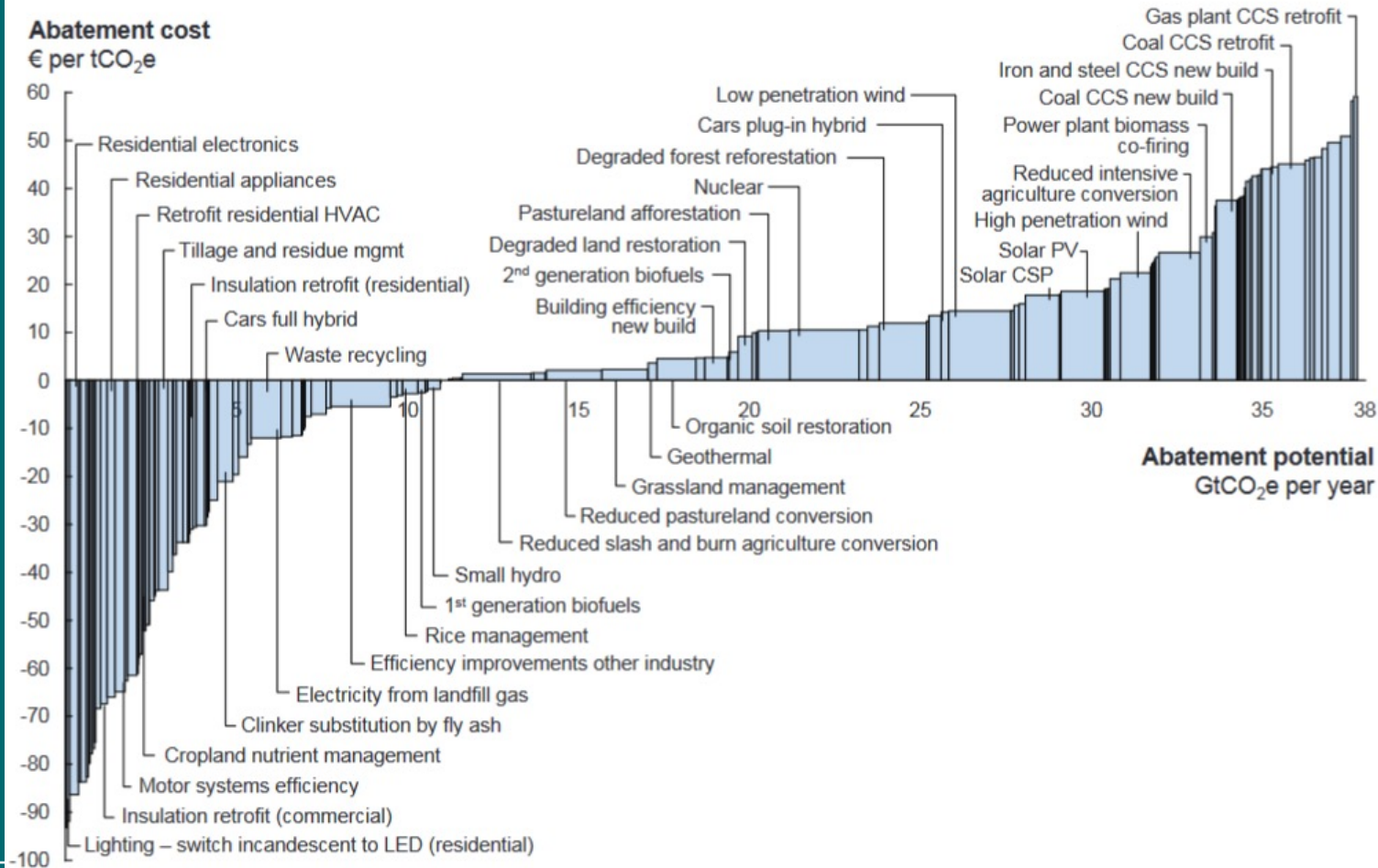
Figure 4: Learning-Adjusted Years of Schooling (LAYS)



- A Comparison of 150 Interventions Using the New Learning-Adjusted Years of Schooling Metric

Climate change: Which intervention is most effective at abatement cost (€ per tCO₂e)

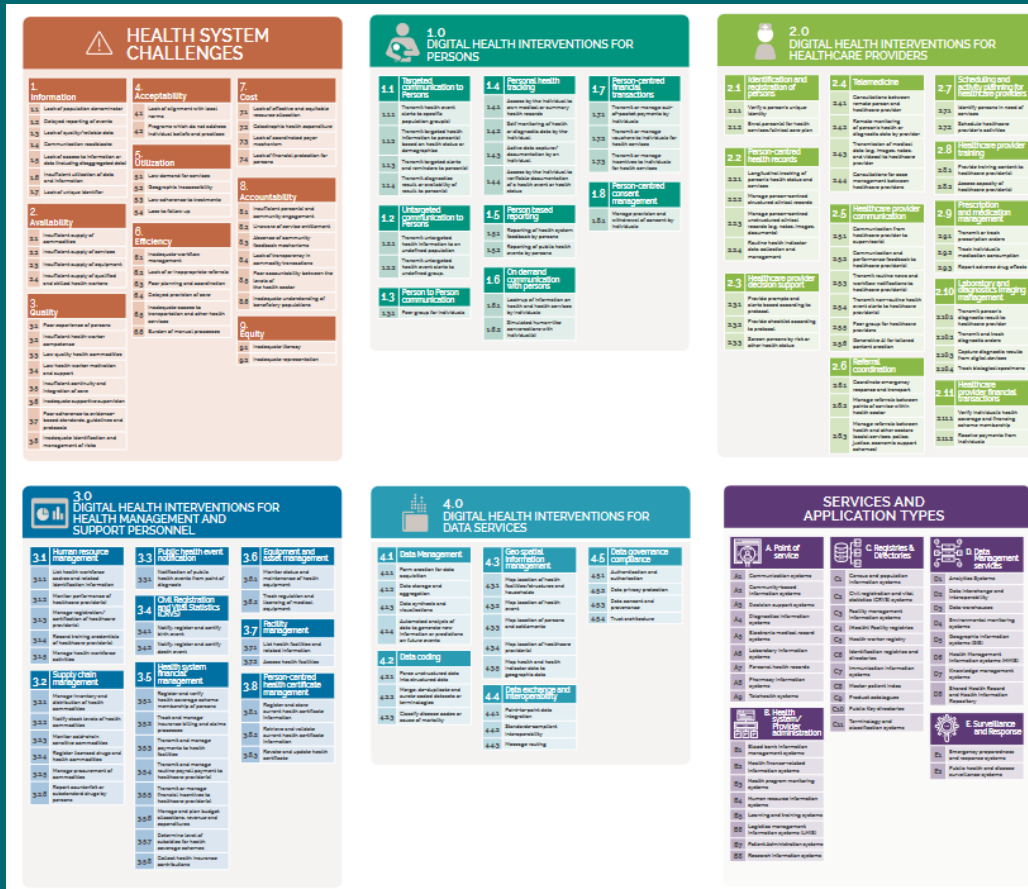
Global GHG abatement cost curve beyond business-as-usual – 2030



Note: The curve presents an estimate of the maximum potential of all technical GHG abatement measures below €60 per tCO₂e if each lever was pursued aggressively. It is not a forecast of what role different abatement measures and technologies will play.
Source: Global GHG Abatement Cost Curve v2.0

Lists and classification of digital services are the start, not the end

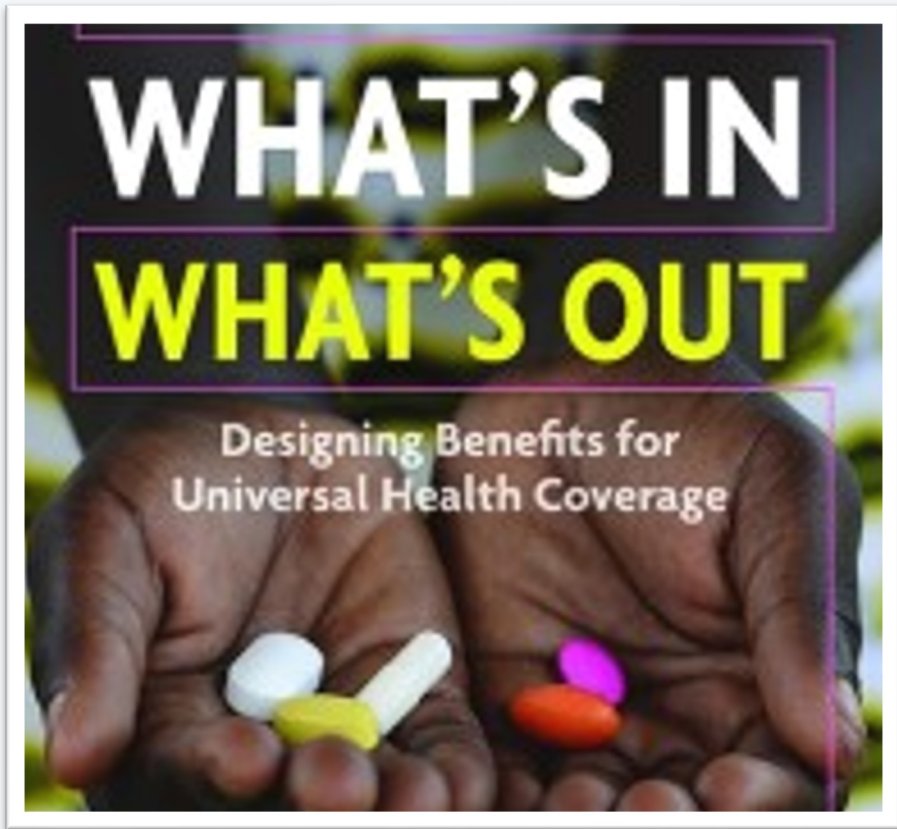
- Lists
 - WHO classification of digital interventions, services and applications in health
 - 3ie Digital Health Interventions (DHI)
- Methods
 - ICT Works Toolkit to Value ICT4D Project Impact
 - World Bank Framework for the Economic Evaluation of Digital Health Interventions



FOMO: We can't not talk about ChatGPT

- In the year of rapid advancements in the applications of artificial intelligence and machine learning, not to mention their enormous energy consumption requirements, the path forward for countries to effectively use AI remains hazy
- Cooper/Smith (March 2024) argue there are a dearth of appropriate benchmarks for AI applications in global health and development and begins to outline a potential list of benchmark methods that are relevant for global health
- “There are no standards for AI use, no clear accounting of the risks, and no consensus on how to measure the performance of its many applications in clinical settings.” (The Economist, March 2024)
- “Gen AI: too much spend, too little benefit?” (Goldman Sachs, June 2024)

Health Benefit Packages (HBPs) are much more than just lists of interventions



- HBPs informs every health system function eg financing, payment
- Process, governance, and capacity to build and maintain an HBP is critical for effectiveness, sustainability, and public satisfaction
- <https://www.cgdev.org/publication/whats-in-whats-out-designing-benefits-universal-health-coverage>

How are benefits of digital health interventions (DHIs) defined and measured?

- There are hundreds of thousands of DHIs across different diseases, technologies and populations
- Most either aim to improve health outcomes for patients or efficiency outcomes for health systems
 - siloed pilots have led to a fractured evaluation system
 - costs, natural units, utility measures, other KPIs
- DHIs also create secondary benefits that are often uncaptured in evaluations
 - Health system benefits, benefits to users, time savings, quality improvement, improved data, and other cross-sectoral benefits

What metrics can we define and use for priority setting?

- Health metrics are often measured in terms of years or lives saved e.g. DALYs (disability-adjusted life years) or QALYs (quality-adjusted life years), which are typically used in cost-effectiveness analysis.
- But if these metrics do not fully capture the benefits of DHIs, then do we need a better metric or evaluation tool?



New Metrics and New Evaluation Tools

- Potential metrics:
 - Digital DALY measured along a set of predefined criteria or set of benefits
 - System Health Adjusted Labor Year (SHALY) – estimating evidence of enhanced efficiencies
- Potential tool:
 - Cost-benefit analysis that captures full costs and benefits beyond effects on saving lives and reducing morbidity

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- **Resource Tracking and Coordination:**

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Resource Tracking

- Resource tracking tools such as National Health Accounts, Public Expenditure Reviews, and other tools are useful to understand where and how public and private money is being spent on key health priorities.
- Expenditure tracking for disease specific areas such as HIV have helped to bolster attention and resources
- The absence of digital health as expressed as part of current tracking tools hinders tracking of resources, even though such expenditure tracking is itself a core function for health information systems
- OECD-CRS is widely useful for tracking donor projects to countries but has yet to track highly cost-effective interventions or digital health in its purpose code classification.

What Have We Learned from Past Coordination Platforms

- Future of Global Health Initiatives has re-emphasized the importance of integration and coordination over fragmentation of development assistance, but the global and country solutions to address fragmentation remain elusive
- International Health Partnership (IHP+) from 2007 and its Country Compacts failed in part due to mismatch between donor reporting requirements and national public financial management systems; the Health Systems Funding Platform from 2011-15 also failed in part due to inherent tensions of results (vertical) and systems integration (horizontal) but also the voluntary nature

Summary Recommendations

- Identification and classification of interventions are a necessary first step before prioritization based on economic analysis, but are just the beginning for making the case and building the package
- We need new metrics and tools to estimate the value and benefits of interventions
- Resource tracking are crucial for making investment case, and existing tools can be altered for including digital health but need country ownership and stewardship
- Coordination platforms have failed because of their voluntary nature, the lack of funding, and the critical importance of country ownership in directing how donor funds are used for integrated platforms including integrating digital into health

Thank you

- Acknowledgements and thanks to WHO (Alain Labrique, Derrick Muneene, Melissa Cederqvist Njihia)
- Contact: vfan@post.harvard.edu

Our Next Webinar

The NCTRC Webinar Series

Occurs 3rd Thursday of every month.

Telehealth Topic: Telehealth Technology Assessment Center (TTAC)

Hosting TRC: Connecting Closer To Home – Why Broadband And Telehealth Need Each Other

Date: August 15, 2024

Times: 11 AM – 12 PM (PT)

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