Equity & medical impoverishment into cost-effectiveness: Extended Cost-Effectiveness Analysis (ECEA)

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Overview

- Background

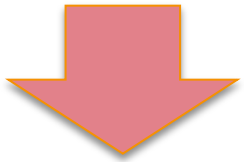
  A new perspective on economic evaluation

- ECEA example

  Public finance of rotavirus vaccination

Background

- Traditional economic evaluation focus
  Cost-effectiveness of technical interventions
  (e.g. antiretroviral therapy for HIV/AIDS)

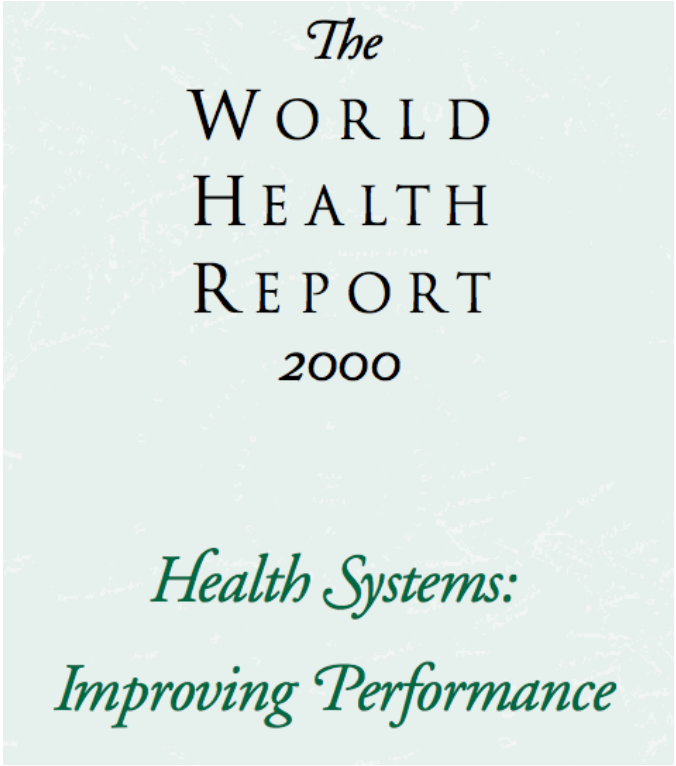


- Decision-making & priority setting focus
  Resources allocated across different options
  1) Health service delivery platforms
  2) Health policy levers
  (e.g. public finance, taxation, CCTs)

  Take consideration of several criteria:
  → burden, costs, equity, medical impoverishment

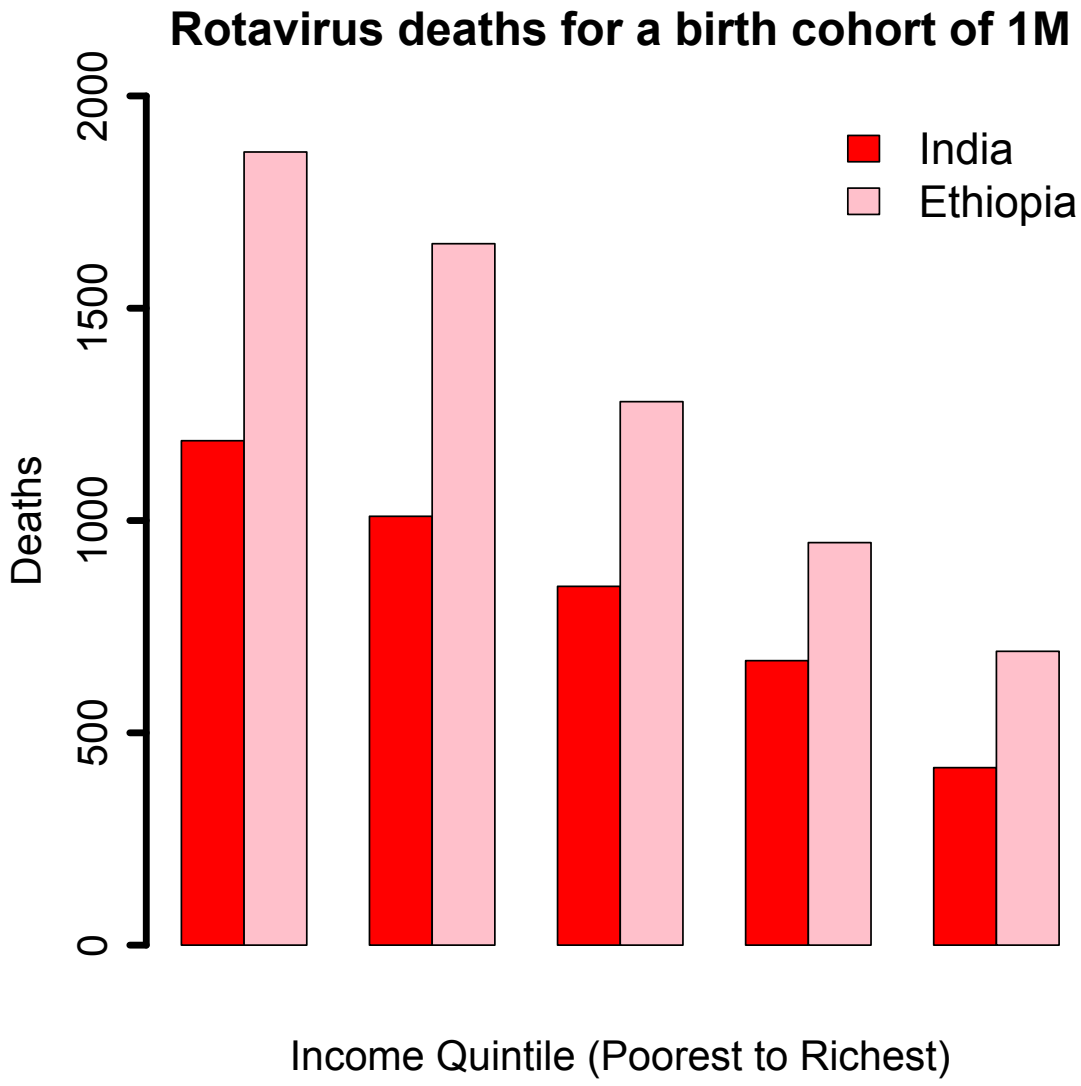
Health system objectives

- Improving health and the distribution of health in the population
- Prevention of medical impoverishment
- Fairness in the financial contribution toward health



Murray & Frenk (2000); World Health Report 2000

Distribution of health & equity

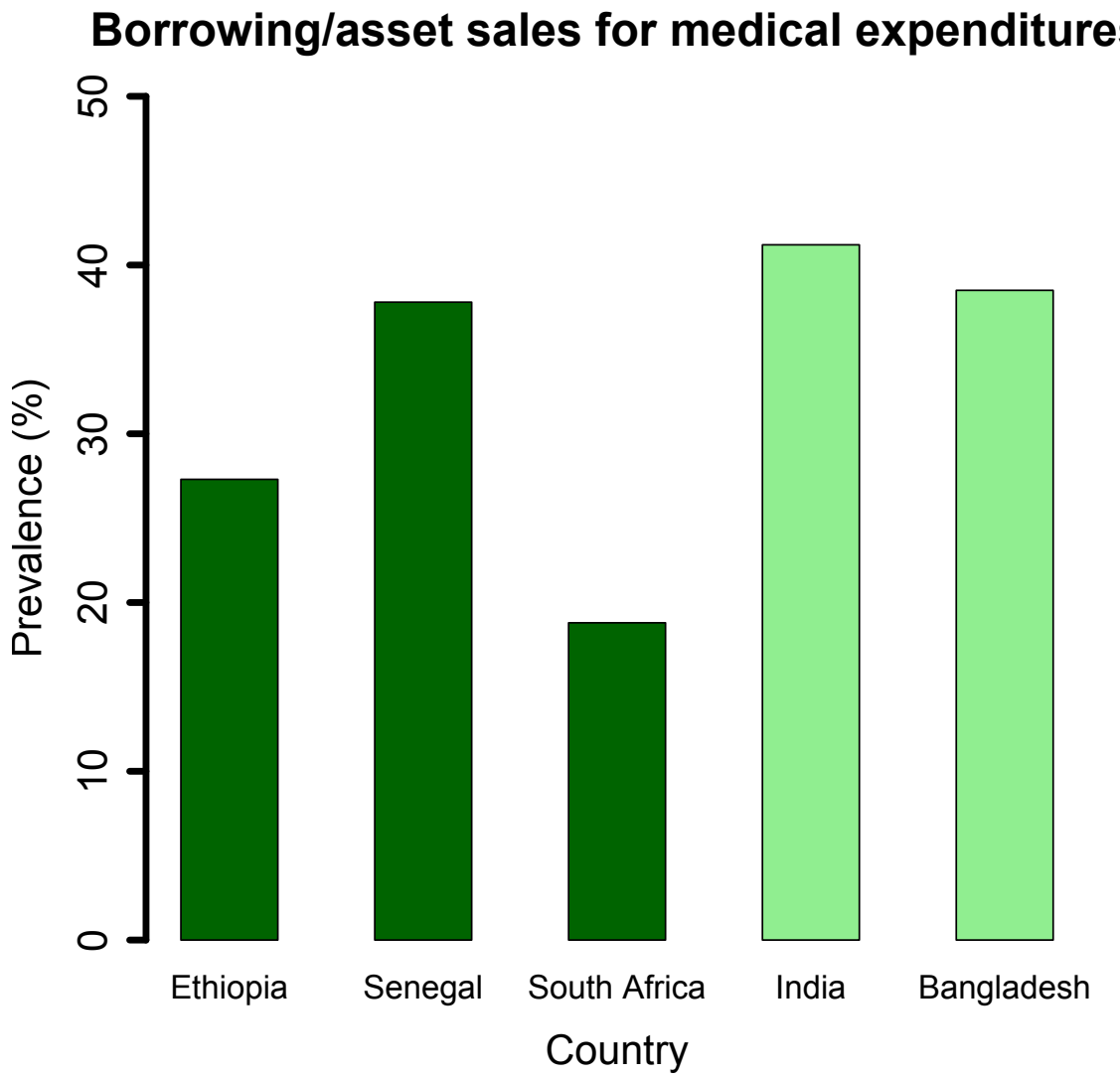


Per capita numbers adapted from:

Tate et al. (2012)

Rheingans et al. (2012)

Medical impoverishment: e.g. borrowing



Adapted from:
Kruk et al. (2009)

Consequences of publicly financed interventions

- Health gains

  Burden of disease averted (e.g. deaths averted)

- Financial consequences for households

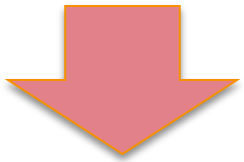
  Public finance "crowds out" treatment which is privately financed (= cost savings for households)

- Financial protection benefits for households

  Public finance provides "insurance" from catastrophic expenditures

Economic evaluation of policy levers

Cost-Effectiveness Analysis (CEA)



Extended Cost-Effectiveness Analysis (ECEA)

(1) Distributional consequences across wealth strata of populations
(2) Financial risk protection benefits for households

ECEA Methods

- Applied to the *Disease Control Priorities* assessments

DCP3 | Disease Control Priorities

economic evaluation for health

www.dcp-3.org
info@dcp-3.org

- ECEA Methods Paper – DCP3 Working Paper No.1
  "Universal Public Finance of Tuberculosis Treatment in India: An Extended Cost-Effectiveness Analysis" by Verguet S, Laxminarayan R & Jamison DT

Case study

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Public finance of rotavirus vaccination in India and Ethiopia: An extended cost-effectiveness analysis

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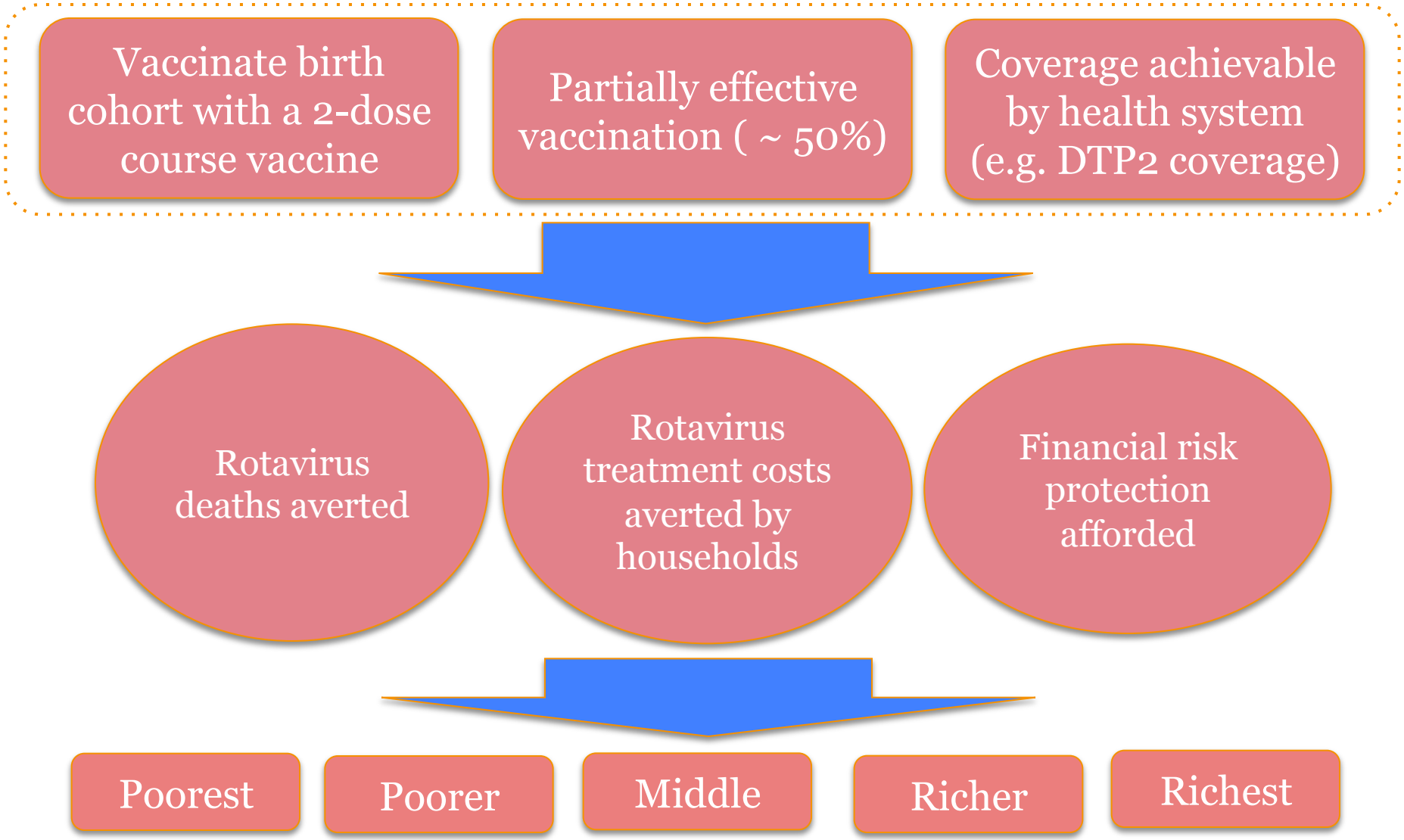
Rotavirus burden of disease

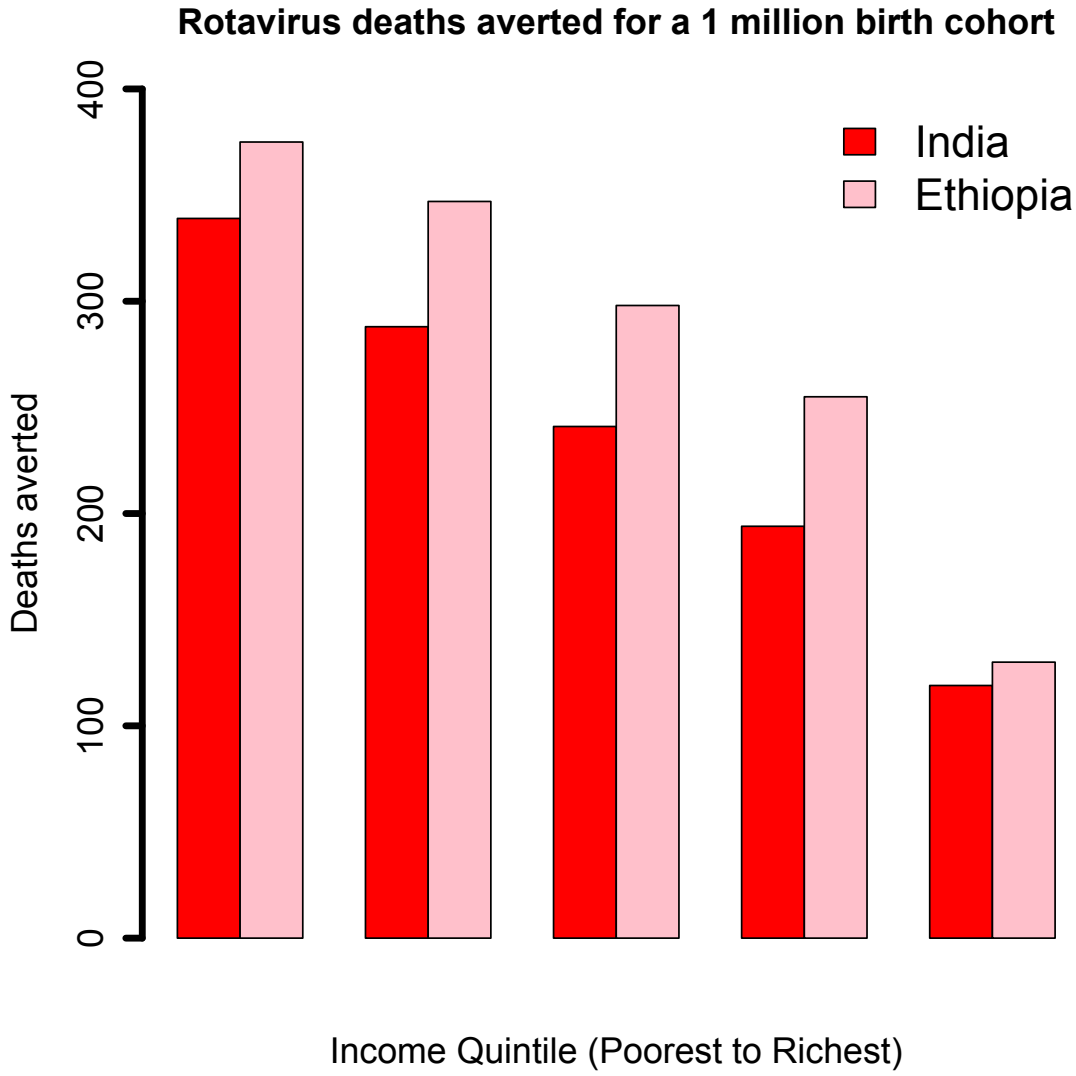
- 5 countries account for > 50% of all rotavirus deaths (300,000 deaths): (Tate et al. 2012; Liu et al. 2012)
  - D.R. of the Congo
  - Ethiopia (5% of global rotavirus deaths)
  - India (30% of global rotavirus deaths)
  - Nigeria
  - Pakistan

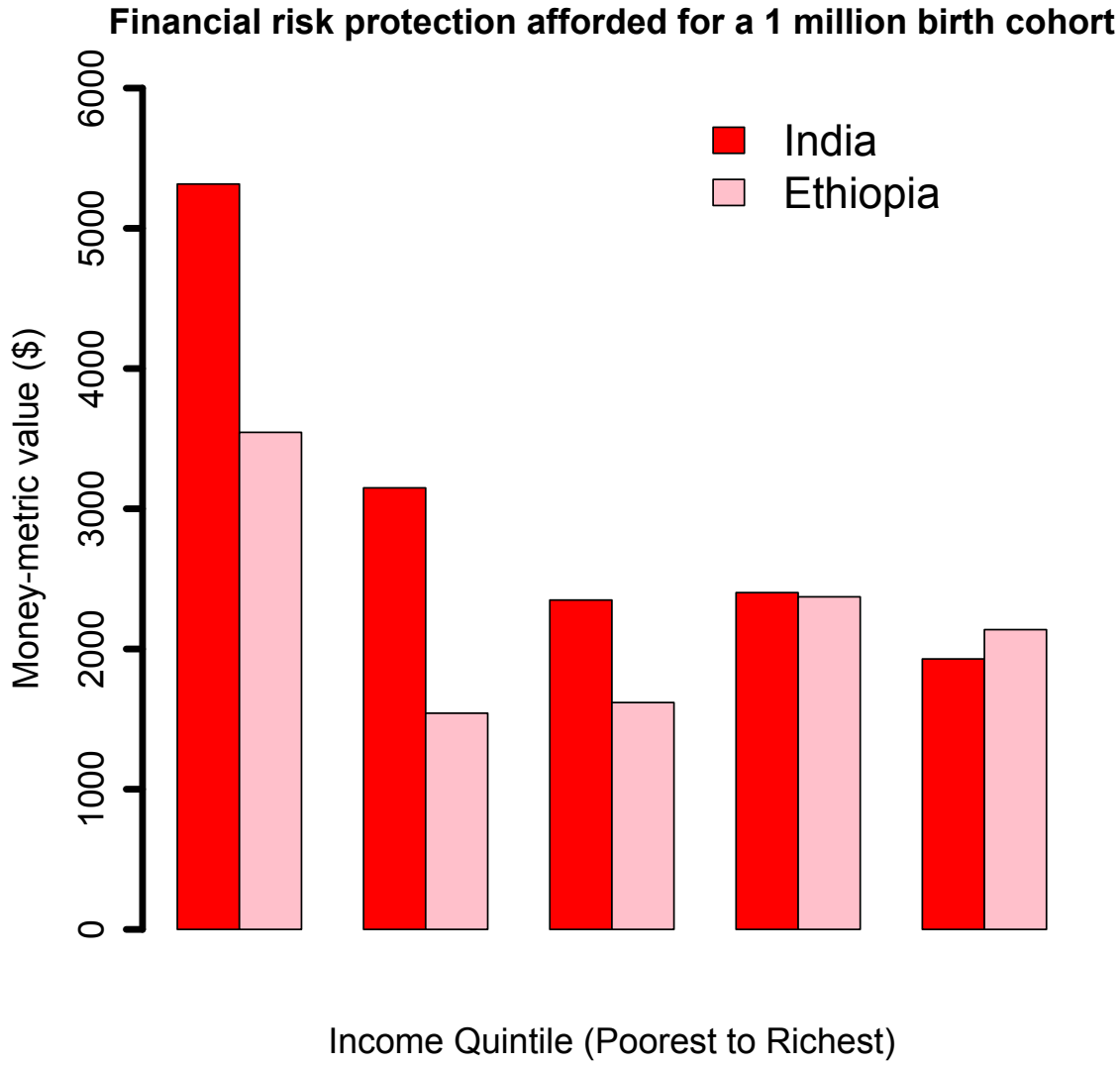
Public finance program for rotavirus vaccination

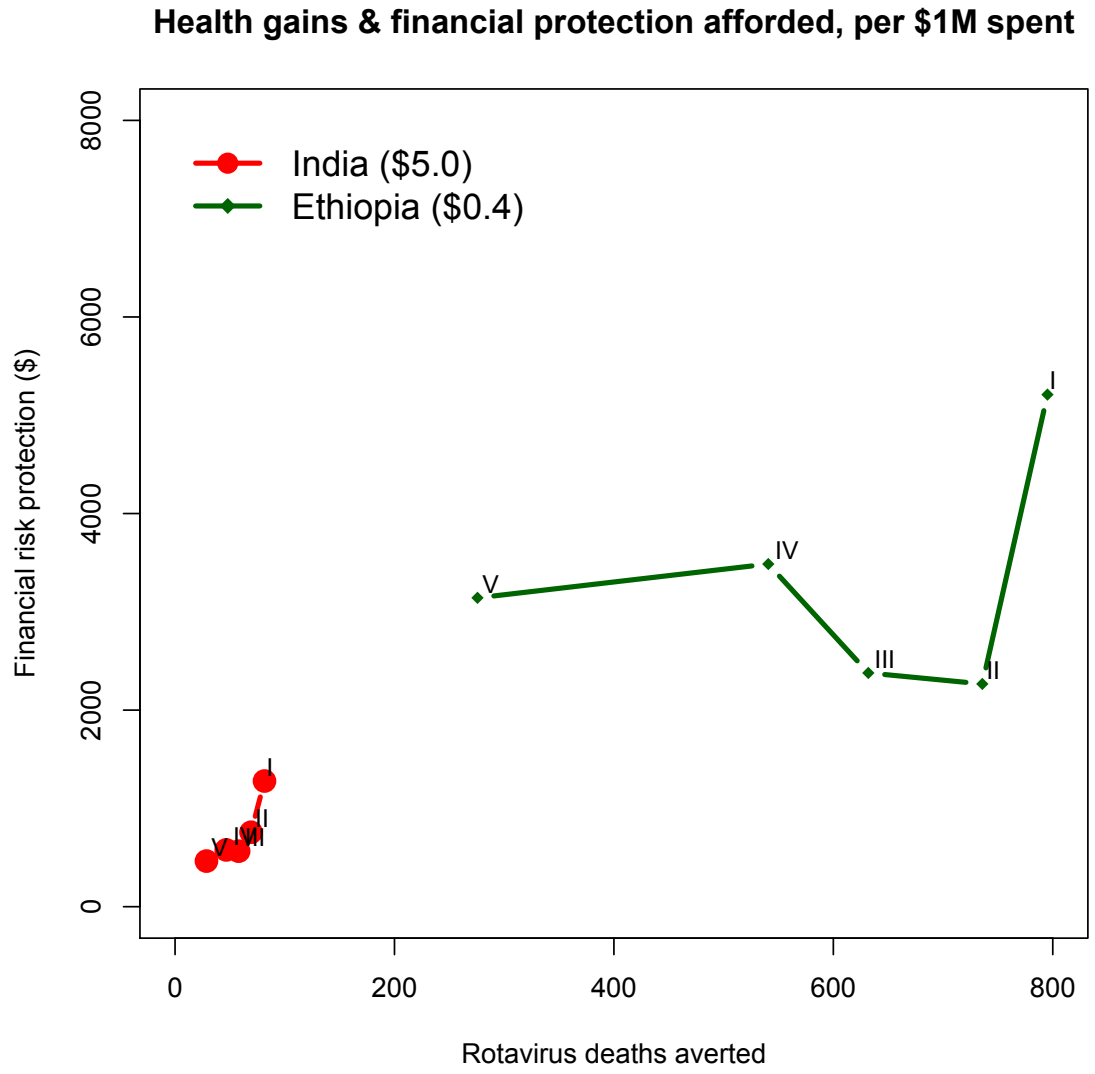


Financial risk protection benefits

- **Different measures of medical impoverishment:**
  - Threshold-based approach (Xu et al. 2003; Wagstaff, 2010)
  - Forced asset sales & forced borrowing (Kruk et al. 2009)
  - Number of cases of poverty averted: estimate number of individuals crossing poverty line because of medical expenses
  - **Money-metric value of insurance provided**
    (McClellan and Skinner 2006; Finkelstein and McKnight 2008; Verguet, Laxminarayan and Jamison, 2012)


Rotavirus deaths averted for a 1 million birth cohort
Deaths averted
0
100
200
300
400
India
Ethiopia
Income Quintile (Poorest to Richest)

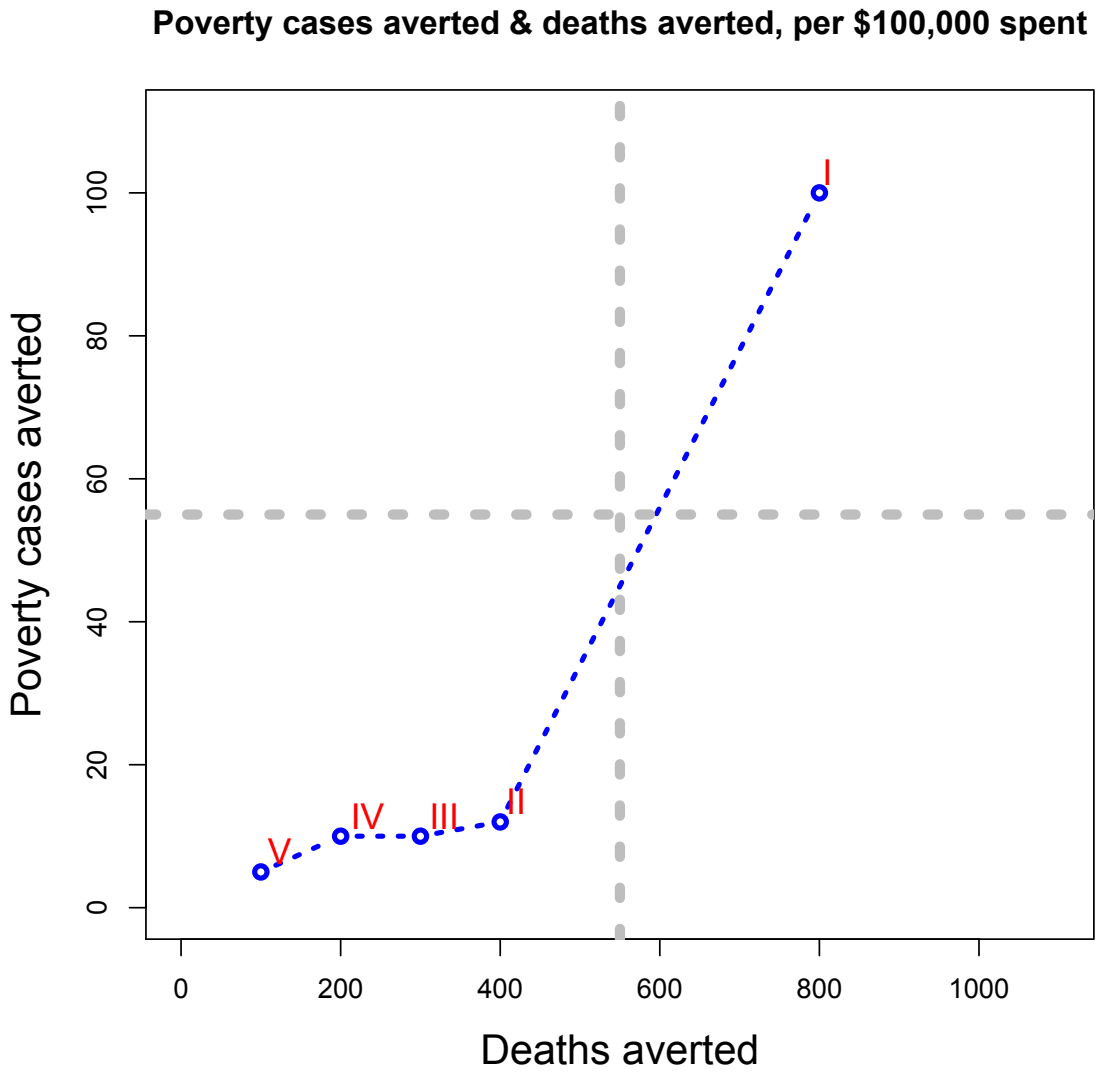

Financial risk protection afforded for a 1 million birth cohort
India
Ethiopia
Money-metric value ($)
0
1000
2000
3000
4000
5000
6000
Income Quintile (Poorest to Richest)



I: Poorest
II: Poorer
III: Middle
IV: Richer
V: Richest

Conclusions

How does each HIV intervention map itself?



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