

The 7th South Asia Economic Policy Network Conference on Vaccinating South Asia

SESSION 2: **EQUITY** AND VACCINE ALLOCATION

Discussant: David Canning

Harvard TH Chan School of Public Health

Three papers

- **Modelling the cost-effectiveness of differing mass COVID-19 vaccination strategies in India from an epidemiological, health economic and supply chain perspective** Hiral Anil Shah, Center for Global Development
- **Practically Implementable Vaccination Plan for South Asia: Allocation Priorities and Purchase Decisions** Anup Malani, University of Chicago
- **Making COVID-19 vaccine a universally accessible public good** Partha Mukhopadhyay, Centre for Policy Research

Cost-effectiveness of vaccination strategies to control COVID19 in India

- Standard Cost Effectiveness Approach
- Vaccine rollout: status quo versus 3 scenarios
 - a pessimistic increase (e.g., 30%)
 - a realistic increase (e.g., 50%)
 - an optimistic increase in current capacity (e.g., 100%).
- Epidemiological model of health benefits of each scenario
 - Life years gained
- Manufacturing and distribution costs
 - implementation, **hospitalisation**, manufacturing, and distribution
- Cost Effectiveness of each strategy

Issues

- Health sector versus societal perspective – including cost savings to health sector
- Cerberus Paribus - all else the same – but will lockdown strategies be the same under the different scenarios?
- **Vaccination versus lockdown** as alternatives
- Economic benefits of vaccination

- Struggle to incorporate economic benefits of vaccination in cost effectiveness studies
 - Childhood measles vaccination – large cognition and schooling effects

Vaccination Plan for South Asia

- Policy scenarios
 - No vaccination – no suppression/social distancing
 - Suppression/ social distancing only
 - Vaccination only
- Vaccination effects on health and income
 - Relative to no policy gain is mainly health
 - Relative to suppression/social distancing gain is mainly income
- Vaccine externality to others
 - Private and social willingness to pay differ
 - Depends on infection risk, numbers already immune, income

Equity Issue

- Talks about different policies in different areas due to different infection risks
- Does not examine heterogeneity by income level - but key for equity
- Private demand for vaccine depends on health gain, income and change in income with social distancing
- Should also consider endogenous social distancing – luxury good poor can not afford – vaccine may be more equitable.
- However model assumes social value of health gain is proportional to income so favors vaccination of the better off.

Valuing health

- Health sector uses cost effectiveness, values life year gains equally across people to get total health gains.
- Economics uses cost benefit – money value of health – higher for the rich than the poor – reflect individual willingness to pay but not social preferences.
- Estimates of willingness to pay money for a statistical life year differ by income

Valuing money as alternative

- Rather than convert health gains to money units economists could convert money gains to life year equivalents (compensating variation)
 - very different welfare effects -
- A rich person may be willing to pay more of money for vaccination than a poor person but will not be willing to give up more life years. Makes value of vaccination equal for them if they get the same health benefit.
- However money gains much less valuable to the rich. The value of money in life years is $1/\text{willingness to pay for a life year}$.
- Many economists fail to understand that while the numéraire does not matter for positive economics it affects welfare rankings in cost benefit analysis and the choice of numéraire (money of life years) has large ethical consequences.

Impediments to Universal Covid-19 Vaccination

- The world has the ability to produce and the capacity to pay for sufficient vaccines to vaccinate all the eligible persons on the planet.
- The challenge is to organizationally implement such a global program and critically to convince people to get vaccinated.
- Very high costs for some countries relative to their government budgets – need for COVID aid
- **Efficiency or equity argument?**
- Key issue is if vaccination is a global public good – if there is an externality for one country to vaccinating another.

Global Externalities

- If one country fully vaccinated – looks like no externality from the other unvaccinated country
- But vaccine hesitancy in rich countries could improve case of a global approach to reach global herd immunity and stop import of cases
- Mutation and new vaccine resistant strains in unvaccinated/partly vaccinated countries could threaten fully vaccinated countries
- Strong externality case for global approach

- Equity based approach less clear – funding could be used by governments for other health issues of COVID not seen as the major problem.