

Cost Analysis in the Disease Control Priorities Project

Presentation by

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DCPP (2002-2008)

The Disease Control Priorities Project (DCPP) was an independent effort to assemble the *best available* information on interventions to prevent or manage diseases of major importance in developing countries. Its goal, only partially met, was to present this information in terms of comparable estimates of cost and of effectiveness for the World Bank's six regional groupings of low and middle-income countries. Closely related objectives were to assemble the best available evidence on what works in the design of health systems and on the global burden of disease and risk factors.



Sponsors of the DCPD

Fogarty International Center of the National
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DCP2 by the Numbers

2 Books

14 Editors

73 (+6) Chapters

~300 Interventions

~400 Authors

1400 Pages

Six million dollars



Major Publications of the DCP2

Disease Control Priorities in Developing Countries, (DCP2)
edited by D. Jamison, et. al.

Global Burden of Disease and Risk Factors,
edited by A. Lopez, et. al.

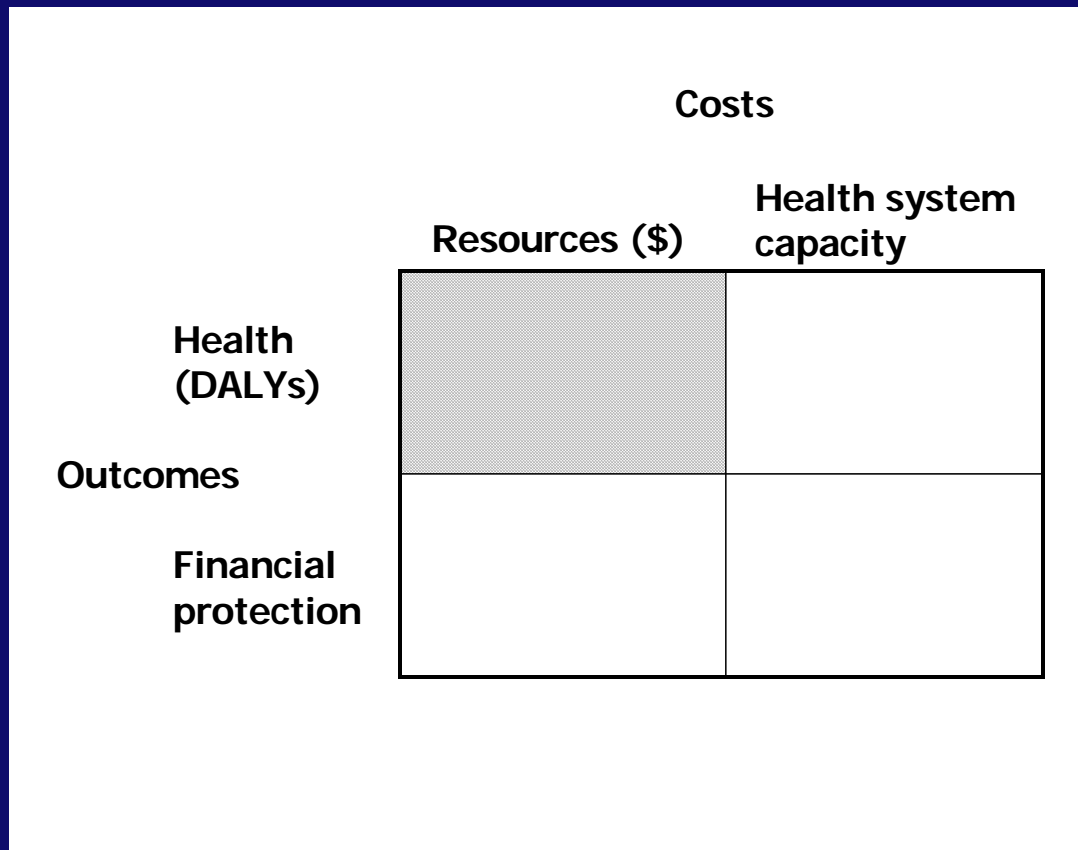
Both published by Oxford University Press in 2006.

The full content of both books can be downloaded as pdf files at no cost from
the web site:

dcp2.org



Figure 3 Intervention Costs and Effects –
A More General View



Note: The shaded box represents the domain of traditional cost-effectiveness analysis



Costs in DCP2

Costs of Disease

- Ill Health (DALYs)
- Financial risks
- Productivity of labor, land and capital
- Welfare loss

Costs of Intervention

- Financial costs
- Deadweight loss (gain?) from taxation
- Health system capacity costs
- Medical risks and side effects
- Time of patients and their families
- Pleasure



Thinking about Costs

The costs of both disease and intervention can up divided into 3 categories:

1. Costs measured in the National Income and Product Accounts (NIPA) (e.g. productivity losses from disease, financial costs by intervention as measured in national health accounts).
2. Costs that are well measured but not included in NIPA (e.g. DALYs, welfare loss measured through VSL methods).
3. Costs outside NIPA in which we have research assessments but for which a range of comparable measures don't exist (examples include time costs of breastfeeding or cancer care).



Examples

To illustrate some of the directions for continued effort, I will discuss (very briefly)

- Financial risks
- Welfare loss



Financial Risks

- Assume risk-averse CRRA Utility—
What is the economic cost of financial risk?
- McClellan and Skinner's 1997 study of the incidence of Medicare is a guide for proceeding (NBER Working Paper 6013).



Financial Risks: McClellan and Skinner

McClellan and Skinner evaluated the incidence of Medicare using two frameworks. The first was strictly financial (i.e. utility linear in money). They found Medicare somewhat regressive. In the second they assumed diminishing marginal utility for money via a constant relative risk utility function. In this framework of the greater utility to the poor of benefits received in an assessment of progressivity for Medicare.



Financial Risks: Tuberculosis

For a low-income person DOTS costs a lot. The cost to a person in a population who might develop active TB is not just the treatment costs times the probability of occurrence (in South Asia about one chance in a thousand per adult per year). If the individual is risk averse, there will be the additional welfare loss of bearing risk. The benefits of public finance of treatment should include the value of the 'insurance' provided by the program.

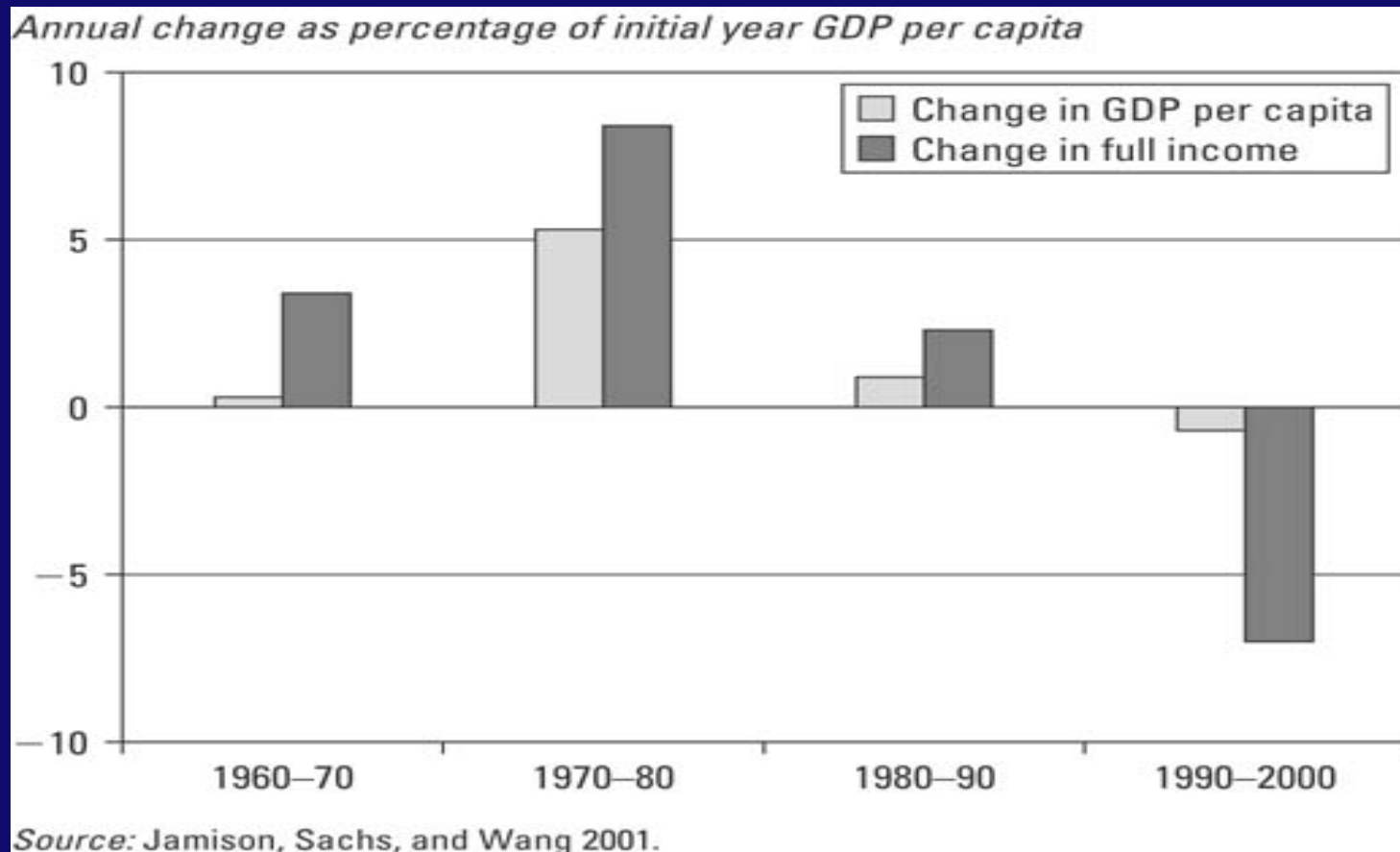


VSLs

Viscusi and Aldy (2003) provide a thorough review of market-based evidence on the value of small (about 10^{-4}) changes in annual mortality. The resulting numbers are transformed, in my view unfortunately, into VSLs or values of a statistical life. Usher (1976) proposed extending NIPA to include VSL-derived estimates of the value of changes in a country's mortality rate. In times of mild to rapid mortality change the effects exceed the value of changes in income. Jamison, Sachs and Wang (2001) reassessed the cost of the AIDS epidemic in Africa from this perspective.



Figure 2 Changes in GDP and Full Income in Kenya, 1960-2000.



Conclusion and Prediction

Improved understanding of the magnitude and valuation of financial risks and of reduced welfare losses from ill-health will lead to marked reassessment of the claim of health investments on public resources.

