



INNOVATION AND TECHNOLOGY ADOPTION IN HEALTH CARE MARKETS

HOW COST-EFFECTIVENESS CRITERIA STIFLE INNOVATION

By Anupam B. Jena and Tomas J. Philipson

FOR IMMEDIATE RELEASE: September 22, 2008

In an effort to contain burgeoning expenditures, health care providers are increasingly turning to cost-effectiveness criteria in order to determine which new medical technologies should qualify for reimbursement. These standards dictate that the benefits of a treatment should at least equal its cost. New research shows, however, that this approach may be short-sighted—yielding serious unintended consequences for future patients.

In *Innovation and Technology Adoption in Health Care Markets* (AEI Press, September 2008) health economists Anupam B. Jena and Tomas J. Philipson argue that the use of cost-effectiveness criteria, while lowering the cost of health care in the short term, threatens to harm future patients by stifling vital medical innovations.

Under a cost-effectiveness regime, the expense of a given drug, device, or procedure is weighed against its immediate benefits to patients, often measured in quality-adjusted years of life. If the cost per year of life exceeds the cost-effectiveness threshold, the treatment is denied reimbursement. Jena and Philipson note several flaws in this approach. They argue that cost-effectiveness criteria:

- Ignore the costs and risks to the producer in developing the new technology; instead, they consider only the transaction immediately at hand, taking the existence of the medical technology as given.
- Do not consider how a decision to deny reimbursement for an innovative drug, device, or procedure will affect the incentives of innovators to produce new technologies. If producers are not adequately reimbursed for their innovations, they will not be inclined to innovate further.
- May limit health-care costs in the short term, but the gains to today's buyers may be more than offset by potential losses to future patients, who may be deprived of more advanced technologies that have yet to be invented.

To examine the effect of cost-effectiveness regimes on producers' incentives, Jena and Philipson analyze producer and consumer gains in the market for drugs for HIV/AIDS, a disease that receives substantial R&D funding from the government.

- The total value of HIV/AIDS treatments—in years of life gained as well as profits to pharmaceutical companies—is estimated at \$1.4 trillion. Allowing for variable costs of production, consumer gains amount to 95 percent of the total, leaving a scant 4.5 percent in profit for producers.
- Weakened incentives may already be hindering the development of new drugs to treat HIV/AIDS. Comparing the expected survival curves of AIDS patients today with those of the uninfected population, the authors estimate that the value of a complete cure for AIDS would be an additional \$1.8 trillion in gross benefit. In other words, almost thirty years after AIDS first emerged, more than half the potential value of AIDS treatments remains to be captured.
- Are the limited profits for producers of HIV/AIDS treatments typical of other industries in the health care sector? Jena and Philipson consider more than two hundred medical technologies and find that the median value for producer profits is only about 13 percent of total social gains. Therefore, inadequate reimbursement for innovators is far from being isolated to the case of HIV/AIDS drugs.

Jena and Philipson demonstrate in *Innovation and Technology Adoption in Health Care Markets* that there is ample room to increase the producers' share of the total value of medical technologies and treatments without eroding benefits to health care consumers. Policymakers and health care providers should adopt a more inclusive view of cost-effectiveness, one that reflects not only the short-term costs to patients but also the long-term effect on medical innovation—and the welfare of future patients. Existing cost-effectiveness criteria must be adjusted to provide sufficient incentives for companies to develop new medical technologies—and prevent a dangerous shortage of live-saving drugs in the future.

Anupam B. Jena, Ph.D., is a visiting fellow at the Bing Center for Health Economics at the RAND Corporation and a fellow in the Medical Scientist Training Program at the University of Chicago.

Tomas J. Philipson, Ph.D., is a visiting scholar at the American Enterprise Institute and the Daniel Levin Professor at the University of Chicago's Irving B. Harris Graduate School of Public Policy.

###

**INNOVATION AND TECHNOLOGY ADOPTION
IN HEALTH CARE MARKETS**

By Anupam B. Jena and Tomas J. Philipson

978-0-8447-4268-7113 • 113 pages • \$15.00 • September 2008