

Physician-Level Clustering on Quality Assessment Results,” *Annals of Internal Medicine* 136(2): 111–21, January 2002.

Iezzoni, Lisa I., ed. *Risk Adjustment for Measuring Health Care Outcomes*. 3d ed. Chicago: AcademyHealth/HAP, 2003.

Web Sites

Centers for Medicare and Medicaid Services (CMS):
<http://www.cms.hhs.gov>

InterRAI: <http://www.interrai.org>

Johns Hopkins University ACG Case-Mix System:
<http://www.acq.jhsph.edu>

National Association of Children’s Hospitals and Related Institutions (NACHI):
<http://www.childrenshospitals.net>

CATO INSTITUTE

The Cato Institute seeks to broaden the parameters of public policy debate—including debates over health and medicine—to allow consideration of the traditional American principles of limited government, individual liberty, free markets, and peace. Toward that goal, the Cato Institute strives to achieve greater involvement of the intelligent, concerned lay public in questions of policy and the proper role of government.

Background

The Cato Institute was founded in 1977 by Edward H. Crane. It is a nonprofit public policy research foundation headquartered in Washington, D.C. The institute is named for *Cato’s Letters*, a series of libertarian pamphlets that helped lay the philosophical foundation for the American Revolution.

To maintain its independence, the Cato Institute accepts no government funding. Cato receives approximately 75% of its funding from individuals, with smaller amounts coming from foundations, corporations, and the sale of publications. Cato’s 2005 revenues were more than \$22.4 million, and it has approximately 95 full-time employees, 70 adjunct scholars, and 20 fellows, plus interns.

Publications Program

The Cato Institute undertakes an extensive publications program dealing with the complete spectrum of public policy issues. Books, monographs, briefing papers, and shorter studies are commissioned to examine issues in nearly every corner of the public policy debate. Policy forums and book forums are held regularly, as are major policy conferences, which Cato hosts throughout the year and from which papers are published thrice yearly in the *Cato Journal*. All these events are recorded and archived on Cato’s Web site. Additionally, Cato has held major conferences in London, Moscow, Shanghai, and Mexico City. The institute also published the quarterly magazine, *Regulation*, and a bimonthly newsletter, *Cato Policy Report*. The institute recently launched the Cato@Liberty blog, where its scholars provide timely commentary on public affairs, and *Cato Unbound*, a monthly online magazine that engages the world’s leading thinkers in the exchange of big-picture ideas.

Health Policy Studies

Cato scholars argue that individuals should be free to own and control their earnings, to engage in whatever exchanges of health-related goods and services they choose, and to engage in whatever behaviors they choose—provided they respect the equal rights of others. Cato scholars maintain that in a free and open society, the government should play no special role in health or medicine: In the absence of violence, theft, tortious injury, fraud, or breach of contract, introducing the government’s power to coerce is unwarranted, immoral, and counterproductive.

For example, Cato scholars assert that federal and state governments deny individuals the freedom to choose whether to purchase health insurance and what type; deny the freedom to choose whether and how to provide charitable care; restrict patients’ ability to choose their course of medical treatment; restrict free entry into the medical professions; prohibit the sale of human organs; and refuse to honor contracts limiting providers’ liability for malpractice. These scholars argue that individuals have a fundamental right to self-determination in each of these areas, free from any coercive restraints.

Where advocates of government regulation of drugs and medical devices claim that such regulation protects the public from unsafe products, Cato scholars maintain that government has no constitutional or moral authority to prohibit a patient from using a medical treatment that imposes costs on no one but herself or himself. Moreover, the economic literature suggests that the U.S. Food and Drug Administration (FDA) causes more morbidity and mortality than it prevents.

Likewise, proponents of medical licensing, which restricts entry into the professions and dictates what services each profession may offer, claim that it enhances the quality of care. Cato scholars say that licensure denies patients the right to be treated by the practitioner of their choice; that low-quality care is widespread despite licensing; that licensing does not improve overall quality because it reduces access to care (primarily among the poor); and the chief proponents of licensing are incumbent practitioners who profit by restricting entry; and that licensing has enabled the medical profession to resist evidence-based efforts to improve quality such as electronic medical records. Cato scholars further argue that markets—backed up by the tort system—develop voluntary means of ensuring quality, such as hospital-admitting privileges and board certification.

Cato scholars argue that laws prohibiting the sale of human organs (to transplant patients or organ brokers) restrict the freedom of individuals to control their own bodies, cause an artificial shortage of transplantable organs that leads to thousands of unnecessary deaths each year, and ominously allow the government to assert a property right in the body of every citizen.

Cato scholars also object to the refusal of courts to uphold contracts limiting a provider's liability for malpractice in exchange for reduced-price or free medical care. Opponents of such contracts argue that patients harmed by negligent providers might not be able to recover. Cato scholars counter that such a rule limits the right of consenting adults to engage in mutually beneficial exchanges that harm no one else, reduces access to care among those least able to pay, and reduces experimentation with malpractice rules that ensure both quality and access.

Cato scholars argue that the government likely does the greatest damage in the area of financing medical care. Government programs such as Medicare and Medicaid finance nearly half of all medical expenditures in the United States, displace private markets, deny adults the freedom to choose how to fund their health needs in retirement and how to assist the needy, and waste scores of billions of dollars each year on services that make patients no healthier or happier. Cato scholars argue that targeted tax breaks, principally for employer-sponsored insurance, have much the same effects: They deny workers control over their earnings and health insurance decisions, encourage wasteful spending, strip workers of their coverage when they leave a job, and hamper the pursuit of high-quality, affordable healthcare.

Cato scholars seek to eliminate these restrictions on the freedom of individuals to control their earnings and on the decisions that affect their health. Moreover, Cato scholars reject government intervention to remedy private health problems, such as obesity, diabetes, or addiction.

Health Policy Impact

The Cato Institute has played an influential role in U.S. health policy for more than a decade. In 1992, the institute published the book *Patient Power: Solving America's Health Care Crisis*, which laid the intellectual foundation for the consumer-directed healthcare movement. Two years later, Cato published a companion book, titled *Patient Power: The Free-Enterprise Alternative to Clinton's Health Plan*, for a wider audience. The book made *medical savings accounts* a household term, helped defeat President Bill Clinton's Health Security Act, and set the stage for the creation of health savings accounts in 2003.

Cato scholars continue to advocate the restoration of liberties that have been eroded by political intervention in health and medicine.

Michael F. Cannon

See also American Medical Association (AMA); Consumer-Directed Health Plans (CDHPs); Credentialing; Public Policy; U.S. Food and Drug Administration (FDA)

Further Readings

- Cannon, Michael F., and Michael D. Tanner. *Healthy Competition: What's Holding Back Health Care and How to Free It*. 2d ed. Washington, DC: Cato Institute, 2007.
- Goodman, John C., and Gerald L. Musgrave. *Patient Power: Solving America's Health Care Crisis*. Washington, DC: Cato Institute, 1992.
- Goodman, John C., and Gerald L. Musgrave. *Patient Power: The Free-Enterprise Alternative to Clinton's Health Plan*. Washington, DC: Cato Institute, 1994.
- Hyman, David A. *Medicare Meets Mephistopheles*. Washington, DC: Cato Institute, 2006.
- Kling, Arnold. *Crisis of Abundance: Rethinking How We Pay for Health Care*. Washington, DC: Cato Institute, 2006.

Web Sites

- Cato Institute: <http://www.cato.org>
 Cato@Liberty (blog): <http://www.cato-at-liberty.org>
Cato Unbound (monthly magazine):
<http://www.cato-unbound.org>

CAUSAL ANALYSIS

Does smoking cause lung cancer? It is hard to believe that this was once a question in some dispute. Yet despite the fact that there has been no randomized controlled trial (RCT) in which research subjects were randomly assigned to smoking or nonsmoking conditions with subsequent long-term follow-up to ascertain differences in health outcomes, there has long been a consensus that smoking does indeed cause lung cancer, although it is certainly not the only cause. However, although smoking-and-health is certainly not the only case where a consensus has been reached about causality, asbestos exposure being another, the research literature and the popular press are full of cases where causal impacts are in hot dispute. For example, currently bisphenol A, a chemical found in baby bottles and many other plastic products, has been tentatively associated with various health conditions. However, the extent to which the association is causal and the strength of the effect, if any, remain in dispute, and a long series of investigations will need to be conducted to resolve the matter.

Why is causal inference so difficult? Even in cases where RCTs are possible, the results are often open to challenge. In cases where randomized studies are not possible, due to ethical or other reasons, establishing causality is far more difficult. The concept of cause itself is famously elusive. Apart from definitional problems, attempts to elucidate sets of causal criteria, from David Hume to John Stuart Mill to Austin Bradford Hill, have not provided necessary and sufficient conditions for concluding that an observed association between two variables results from the causal impact of one on the other. From the standpoint of social science research, at least three issues are problematic. First, many philosophical discussions of cause begin with a deterministic relationship. If X changes, Y changes, by the same amount and for all cases under study. But in health services research relationships are usually probabilistic and heterogeneous. A change in X may or may not result in a change in Y , the amount of change may vary across units of the population, and changes in X may not be the only source of variation in Y . While statistical models are designed to cope with probabilistic outcomes, they are often based on assumptions that are difficult to defend (e.g., that the source of random noise in the data is uncorrelated with systematic sources of variation). A second problem, related to the first, is that variation in many outcomes is multicausal. For example, a teenager's proclivity to commit violent acts may have its origins in a variety of genetic and environmental factors, any one of which may be sufficient to cause violent behavior in some but not all persons exposed to the risk. Finally, in health services research, researchers are often interested in a causal sequence such that at a particular attribute, say race, puts an individual at varying levels of risk for some outcome, say discrimination, which in turn is reflected in a subsequent outcome such as access to healthcare. Demonstrating the validity of the mediational assumption is often difficult.

An important source of confusion is a failure to distinguish between research that seeks to find the *causes of an effect* and that which examines the *effects of causes*. In the former case, researchers seek to elucidate a set of variables that explain variance in some outcome, say the probability of preterm birth. The result may be a series of regression models in which various candidate variables