

DATA-DRIVEN

Chris Wellisz profiles MIT's Amy Finkelstein, who tests economic models with large data sets

Ever since she produced a report on elephants in the first grade, Amy Finkelstein knew she would be a scholar like her parents, both PhD biologists. But it wasn't until her senior year at Harvard College that she chose economics.

Majoring in political science, she decided to take a course in applied microeconomics. It was 1994, and the topics reflected some of the contentious issues of the day in the United States, including how cash welfare payments affected labor force participation and whether people moved around the country in search of more generous welfare benefits.

"That was a totally transformative experience for me," Finkelstein recalls. "It opened my eyes to the idea that one could use data to inform what had otherwise seemed like ideological debates."

In the years since, Finkelstein, who now teaches at the Massachusetts Institute of Technology (MIT), has established herself among the country's preeminent health economists. In a series of groundbreaking studies, she delved into the mechanics of an industry that accounts for 18 percent of US gross domestic product and has been at the center of fierce debates over the government's role in providing health insurance. Her work has earned her the MacArthur Fellowship and the John Bates Clark Medal, awarded every year by the American Economic Association to the American economist under 40 judged to have made the biggest contribution to the field.

Finkelstein's extensive body of work ranges across a wide variety of issues, large and small, from estimating the welfare benefits of alternative social insurance programs to the effectiveness of mammogram screening. The common thread: using large data sets to test economic models—and arriving at conclusions that often challenge conventional wisdom.

"What I love about economics is the models and frameworks—the lens it gives you for how to think about social policy problems," she says. "But I'm not a theorist, and at the end of the day what I like to do is take those models and see how they work in the real world and what the quantitative implications are."

Finkelstein is a torchbearer for what fellow MIT economist and 2021 Nobel laureate Joshua Angrist has called the "credibility revolution" in empirical economics, which focuses on designing studies that seek to replicate some of the certainty of experiments in the natural sciences.

"That approach has percolated widely into many fields in economics," says MIT's James Poterba,

who was one of Finkelstein's thesis advisors. "Amy has been very influential in pushing that forward in the field of health economics."

Unusually for someone with comparatively little economics training, she won a Marshall Scholarship to study for a master's degree in economics at the University of Oxford. But the technical nature of the coursework—which seemed to have little relevance to solving real-world problems—left her uncertain about pursuing a doctorate.

White House interlude


So she accepted a junior post at the White House Council of Economic Advisers in the Bill Clinton administration. Working for a year alongside economists who could bring their academic training to bear on practical issues like the minimum wage "made it very clear that I absolutely wanted to get a PhD in economics," she says.

It also introduced her to markets for insurance against all types of risks, from unemployment to natural disasters. She found them fascinating because they often seemed to defy the laws of supply and demand, offering scope for government efforts to correct market flaws and improve human welfare.

She applied to MIT, where her dissertation on the impact of policy changes on health insurance markets laid a foundation for much of her subsequent work. She went on to collaborate on a number of articles with Poterba, including studies of so-called information asymmetries in insurance markets, whereby buyers of policies have more information about their riskiness—their likelihood of filing a claim—than insurance companies.

For years Finkelstein considered herself an insurance economist, not a health economist. But over time, she gravitated toward health, initially drawn to the rich data and fertile ground to study the impact of various policies on insurance markets but ultimately because she grew fascinated by the subject.

In a 2007 paper, she probed the reasons for the dramatic increase in US health care costs, using data from the 1965 introduction of Medicare, the insurance program for the elderly. To isolate the impact of Medicare, she took advantage of the fact that before 1965, different regions of the country had widely varying rates of private health insurance. Her conclusion: Medicare resulted in an increase in hospital spending that was six times greater than earlier research would have predicted.



Finkelstein says she keeps a mental list of questions that interest her and an eye out for settings that will help her find the answers. That is what happened in 2008, when the host of a TV comedy show she was watching joked about the state of Oregon's decision to use a lottery to choose a limited number of people to be enrolled in Medicaid, the health insurance program for low-income adults. The lottery provided an ideal opportunity to conduct a randomized controlled trial, the gold standard for scientific research.

"Oh my God, an RCT!" Finkelstein recalls thinking. "We've got to get the data!"

Commonly used in medicine to test new drugs and vaccines, randomized controlled trials were relatively rare in health care policy. Finkelstein saw an opportunity to compare one group—chosen at random for Medicaid coverage—with a similar group who signed up for the lottery but weren't enrolled.

Team research

She joined forces with Katherine Baicker, a health economist who now heads the University of Chicago's Harris School of Public Policy. They quickly assembled a team that included doctors, an epidemiologist, health services researchers, statisticians, and partners in the state government.

"She has appreciated the power of the team research model in economics, which has become very popular," Poterba says.

Finkelstein traveled to Oregon multiple times, to meet with people in the health care system and the state government and watch focus group interviews with study participants. The team conducted mail surveys as well as in-person interviews and health exams over the first two years after the lottery.

Their conclusions: Medicaid significantly increased the probability of using medical care of all kinds—primary care, preventive care, emergency room visits, and hospital admissions—increasing total health care spending by about 25 percent. Medicaid also bolstered financial security and reduced people's risk of suffering from depression.

The Oregon experiment coincided with a debate over the costs and benefits of expanding Medicaid as part of the Affordable Care Act, which was enacted in 2010. Supporters argued that expanded coverage would reduce costs by improving health and so cutting down on inefficient use of hospitals. Many critics said Medicaid provided little

benefit that recipients couldn't get on their own. Finkelstein's results cast doubt on both arguments.

Similarly, in a 2016 paper, Finkelstein and her coauthors took on the widely accepted view that health care responds little to the competitive market forces of other industries.

They looked at which hospitals Medicare patients (or their doctors) chose for conditions and procedures such as heart attacks and hip replacement surgery, which accounted for almost a fifth of Medicare spending. They found compelling evidence that higher-quality hospitals had greater market share, which tended to grow over time, suggesting that market forces played a bigger role than previously thought.

"She's a strong believer in the evidence, and if the evidence goes against the conventional wisdom or it goes against the theory. . . you ought to pay attention to it," says Harvard's Lawrence Katz, who taught the undergraduate course that inspired Finkelstein's love of economics.


Finkelstein's interest gradually shifted from the impact of health policy on consumer behavior and welfare to looking at how health care providers respond to incentives. And while she generally sticks to the measured language of scholarly publications, the title of a 2021 paper, co-written with Stanford University's Liran Einav and Neale Mahoney, seems intended to provoke controversy—"Long-Term Care Hospitals: A Case Study in Waste."

Until the early 1980s, there were only a few dozen such hospitals in the United States. But when a new payment system limited Medicare reimbursements for so-called acute care hospitals, it made an exception for long-term care hospitals (LTCHs), which are reimbursed at far higher rates than comparable skilled nursing facilities. The result: the number of LTCHs eventually mushroomed to more than 400.

Finkelstein and her collaborators found that when LTCHs come into a market, they essentially care for patients who would otherwise have gone to a skilled nursing facility. They were paid about a thousand dollars a day more and had "no measurable benefits on, say, mortality or the chance you'll be home in 90 days," she says.

After crunching 17 years of data, they concluded that Medicare could save about \$4.6 billion a year by reimbursing LTCHs on the same basis as skilled nursing facilities—with no harm to patients.

Finkelstein says the paper is an example of what MIT professor and Nobel laureate Esther Duflo



“I really appreciate it when academics in other disciplines or even my own write a user-friendly version of what they’ve learned.”

calls the “plumbing approach” to economics—identifying specific flaws that can be fixed relatively easily, as opposed to coming up with big systemic solutions that may have disappointing results or unintended consequences.

The paper generated interest in Congress and meetings with legislative staff, but no concrete action. The industry pushed back, saying that patients in LTCHs receive benefits that weren’t reflected in the study, such as reduced pain and greater comfort.

“That’s a perennial problem in health economics research,” Finkelstein says, “because often we can’t measure all aspects of health.”

Making a mark

Finkelstein says she’s not frustrated by the lack of immediate impact on policy. She hopes to make a mark in other ways, by influencing the work of other economists and training and supporting the next generation of scholars.

To that end, she and Katz established J-PAL North America, which the two codirect, in 2013. A branch of the Abdul Latif Jameel Poverty Action Lab (J-PAL) cofounded by Duflo, J-PAL North America provides staff, money, and training to help scholars conduct randomized controlled trials across a range of areas, from health care and housing to criminal justice and education.

“Some of the junior people that we were helping start their first RCTs are getting tenure or have gotten tenure and now are moving into leadership positions and able to give back themselves,” she says.

She gets high marks for teaching and mentoring students, some of whom have become collaborators. One is Heidi Williams, who was a research assistant for Finkelstein and now teaches at Stanford University. Williams and Finkelstein have collaborated on studies that examine how moving from one place to another can affect a person’s level of health care spending, their health, and the chances of opioid addiction.

Williams marvels at Finkelstein’s ability to solve knotty problems of methodology, like how to account for the impact of variables that cannot be directly observed.

“I learned as much from collaborating with her as I did as a student and a research assistant,” Williams says.

Finkelstein is also what Poterba calls “a very important provider of public goods within the profession.” In 2017, she founded *American Economic Review: Insights*, a journal that she continues to edit. Published by the American Economic Association, it’s an effort to overcome the lengthy review and revision process of traditional journals and to get relatively short articles into print quickly. She and Williams are codirectors of the Health Care Program at the National Bureau of Economic Research.

Given her intense focus on academic work, it’s perhaps not surprising that Finkelstein met her future husband, Benjamin Olken, at an economics seminar when both were graduate students. He is now a professor at MIT specializing in the public sector in developing economies.

In her limited spare time, Finkelstein says she likes to read nonfiction books aimed at a general audience.

“I really appreciate it when academics in other disciplines or even my own write a user-friendly version of what they’ve learned,” Finkelstein says. “So I thought it would be fun to try.”

She is now working on a book with longtime collaborator Liran Einav of Stanford and Raymond Fisman of Boston University. The book is aimed at lay readers and will seek to “explain how you can be a real libertarian and still think there’s scope for government intervention in insurance markets,” she says.

Finkelstein said she and her collaborators joked that the book, titled *Risky Business*, should have been called *Is Insurance Different from Broccoli?*—a reference to a quip by the late US Supreme Court Justice Antonin Scalia, who wondered whether Americans, if required to buy health insurance under the Affordable Care Act, could also be made to buy broccoli.

She sees the book as an extension of teaching. “Except now instead of teaching students, we’re trying to reach a general audience.” **FD**

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