

SCHOLARSHIP (80%)

Government plays a pivotal role in healthcare. More than half of the annual U.S. healthcare spending of \$4 trillion comes from state and federal budgets, and the private portion is heavily regulated by the public sector. My research studies the equity and efficiency of government interventions in healthcare markets. I investigate why some interventions are effective while others become costly and distortionary. To do this I combine tools and ideas from health economics, public economics, and industrial organization.

Specifically, I use large-scale administrative datasets and a rich toolbox of experimental, quasi-experimental, and structural empirical methods, combining causal inference and model-based simulations of counterfactual policies. I have analyzed a variety of healthcare contexts, including the U.S. Medicare, Medicaid, and Affordable Care Act (ACA) Marketplace programs, as well as acute and long-term healthcare systems in Sweden and Germany. My work in these contexts has been motivated by two main questions: (1) How can the government design health insurance systems that generate the highest economic and health returns on each dollar it spends? (2) What are the root causes of socio-economic differences in health, and what policies can mitigate such differences?

1. Health Insurance Policy

A. Public Funding of Private Health Insurance

A central issue in the design of public health insurance programs is the classic “make or buy” dilemma. The government can either run public insurance programs itself or procure health insurance from private firms. If the government decides to “buy,” how much should it pay? I have examined this question in two related papers. In [Decarolis et al. \(2020, JPE\)](#), we compare consumer economic well-being, firm profits, and government spending across several payment mechanisms in the context of nearly \$100 billion in annual federal spending on the U.S. Medicare Part D program that offers prescription drug insurance to older adults. We describe the properties of optimal payment mechanisms and show that the existing mechanism is close to optimal in a particular class of practical payment arrangements. This paper is one of the first to examine the economic efficiency of funding mechanisms in a privately run, publicly financed health insurance market.

In [Polyakova and Ryan \(2021, NBER WP\)](#) we similarly combine theory and data to examine payment design in U.S. ACA Marketplaces (“Obamacare”), a subsidized health insurance market created under the umbrella of ACA reforms. The policy objective here is more complex than in Part D, aiming to reap the (presumed) efficiency benefits of competition in combination with a classic redistributive policy. Nearly \$40 billion of annual government payments in this market take the form of means-tested subsidies. We find that unlike in Part D, the ACA payment design generates a substantial surplus for consumers, but is highly inefficient economically. This happens both because consumers place low value on health insurance (they would have preferred to receive their subsidies as unrestricted cash instead of being required to buy health insurance) and because firms capture nearly 50% of subsidies. We find that means-testing is one of the forces that drive the inefficiency, but it channels subsidies to lower-income consumers and may still be a desirable policy. The contribution of this paper is to allow for market power in the analysis of means-testing of public benefits, which has implications for both subsidy design and antitrust policies—two issues usually analyzed separately. The modelling approaches from both papers have since been used by other researchers.¹

My earlier research examined other aspects of health insurance procurement. In [Einav et al. \(2018, AEJ: Policy\)](#) we show that Medicare Part D plans set higher cost-sharing for prescription drugs with more price-elastic demand, consistent with a theoretical model of optimal firm behavior. In [Polyakova \(2016, JHE\)](#) I show empirically using data from Germany that long-term health insurance contracts can significantly mute concerns about risk selection in insurance markets, as they incentivize consumers to make choices early in life before

¹For example, [Starc and Town \(2019\)](#), [Geddes \(2023\)](#).

private information about health is revealed. In [Polyakova \(2016, AEJ: Applied\)](#) I demonstrate that consumers in Medicare Part D exhibited substantial inertia in their choices of plans and that their decisions propagated stark adverse selection across plans, muting the effectiveness of the regulator’s intervention in later years of the program that reduced differences in coverage across plans.

B. Health Insurance as Labor Market Policy

In my most recent as well as ongoing work, I have been investigating what effects publicly funded health insurance has on the broader economy. I show how health insurance can function as a powerful industrial policy tool, creating jobs and reallocating talent within and outside of healthcare.

In [Gottlieb et al. \(2023, revise and resubmit QJE\)](#) we use more than ten years of personal tax records for the universe of U.S. physicians to describe novel patterns of physicians’ earnings and to document the central role that the government plays in allocating talent in physician labor markets, both via the direct procurement of care and through health insurance funding. We find that physicians’ annual earnings average \$350,000 and comprise less than 10% of national healthcare spending. The age-earnings profile is steep; business income comprises one-quarter of earnings and is systematically underreported in survey data. There are major differences in earnings across specialties, regions, and firm sizes, with an unusual geographic pattern compared with other workers. Government influence is central to the patterns of earnings, and in turn affects the type and quantity of medical care physicians supply in the short run; retirement timing in the medium run; and earnings affect specialty choice in the long run. This paper provides the richest evidence to date on the nature of earnings and the role of government in this important occupation at the top of the labor market.

In [Hackmann et al. \(2021, Upjohn WP\)](#), we test the idea that health insurance programs can stimulate local labor markets. We combine decades of rich administrative data and the quasi-experimental variation in the introduction of universal long-term care (LTC) insurance in Germany, finding that insurance expansion resulted in a significant growth of LTC jobs and of overall employment in local labor markets. Our welfare calculations suggest that German LTC insurance was net welfare positive in the second-best sense, as subsidies that it generated for LTC relaxed labor market frictions from collective bargaining and high unemployment benefits that were present prior to the expansion. Motivated by these findings in the German context, we develop a new general conceptual framework for thinking about the welfare effects of product-market subsidies, which we argue can be net welfare positive if the gains in input markets (e.g. the labor market) dominate the traditional deadweight loss in product markets.

2. Socio-Economic Differences in Health

A. Differences in Information as a Root Cause of Health Disparities

Several of my projects aim to quantify the role of differences in information as a causal channel contributing to the persistent socio-economic differences in health that are observed across a variety of contexts. In [Chen et al. \(2022, AEJ:Applied\)](#), we document that exposure to informal health expertise, through the presence of a health professional in the family, can substantially increase preventive health investments and lead to as much as a 10% reduction in mortality. Continuing this line of inquiry in [Finkelstein et al. \(2022, AER:Insights\)](#), we document that medical experts appear to deviate from formal medical guidelines when caring for themselves and their family, in ways that are consistent with having more nuanced information about optimal treatments.

In [Bundorf et al. \(accepted, Management Science\)](#), we ask whether differences in expertise can be overcome by providing individuals with expert advice. In a field experiment with a physician organization and its patients, we find that offering personalized information had little effect on consumer behavior, whereas expert advice altered choices. We show that demand for information and expert advice is weaker among lower-income households, even though the estimated effect of advice is higher. We develop and estimate a theoretical model that shows how advice affects consumers differently from information: advice sends signals about the value of a product, whereas information provides insight only about product features. The ability of advice interventions by public

or private entities to affect utility weights (how consumers value different features of plans), raises a host of regulatory questions and sheds light on the possible impact of predictive algorithms that may be used to advise consumers in the future, both in healthcare and in elsewhere.

B. Improving our Understanding of Health Disparities

A vast literature in health economics and related disciplines has documented that children and adults living in lower-income households generally have poorer health than their better-off peers. I have used large-scale, high-precision data to generate new insights and document more precise patterns in the relationship between health and income. In [Polyakova and Hua \(2019, Annals of IM\)](#), we show a striking pattern of spatial co-variation of more than 50 measures of morbidity among lower-income older adults in the U.S. In [Udalova et al. \(2022, JAMA\)](#), we document that among children and adolescents, gradients reflecting the relationship between income and health are steep at the lower end of the income distribution, are particularly pronounced for mental health conditions, and fan out as children grow older, with a notable emergence of gradients related to addictive disorders and mortality among adolescents.

I used similar administrative data to provide some of the most comprehensive and precise measures of the variation in health and economic damage inflicted by the COVID-19 pandemic on different socio-economic and demographic groups in the U.S. I showed that both in the first month and after two years of the pandemic, the economic and health impacts were concentrated in lower-income, less educated, and minority households ([Polyakova et al. 2020 PNAS](#); [Polyakova et al. 2021, Health Aff.](#); [Finkelstein et al. 2022 revise and resubmit REStat](#)). Linking back to my interest in understanding the role of information as a determinant of health, in [Bundorf et al. \(2022, REStat\)](#), we implemented a national survey of beliefs during COVID-19, showing that people had substantial private information about their risk of contracting or becoming severely ill from the virus, including the increased risk among people of lower socio-economic status. Behavioral responses were consistent with this information, providing an explanation of behavior that went beyond the impact of policy-driven restrictions on activity.

TEACHING, MENTORSHIP, FUNDING, SERVICE (20%)

I greatly value my opportunity to contribute to the teaching and training programs of the Department of Health Policy. I designed the “Health Policy Graduate Student Tutorial” (HRP 201A) and teach this course to Health Policy Master’s and PhD students. The course exposes students to empirical methods and key topics based on original research. I also teach “Topics in Health Economics” (ECON 249), a second-year PhD field course. I regularly advise PhD students in Health Policy and Economics. I co-created a biweekly research group for PhD students working in health economics; more than 25 students now participate.

I have been a PI on grants from multiple organizations, including NIH K01 and R21 grants. I have also served on Executive and Admissions Committees for Stanford’s Health Policy PhD program.

RECOGNITION IN THE FIELD

I am a frequent peer reviewer for all top journals in my field and have also served as a grant reviewer for multiple national and international organizations. I am an associate editor at the *Journal of Health Economics*. I was invited to serve on the program selection committees for the 2023 NBER Public Economics Summer Institute meeting and three NBER COVID-19 meetings. I am on the organizing committee for the national Annual Health Economics Conference and have served twice as program chair for the “Demand for and Effects of Health Insurance” theme of the American Society of Health Economists national conference. I have delivered more than 50 invited talks and 40 conference presentations and have discussed my research with policymakers including the office of a California Assemblymember and an Assistant U.S. Attorney. My research has been cited in numerous national and international media, including *New York Times*, *Washington Post*, *The New Yorker*, *BBC*, *Forbes*, *Freakonomics MD podcast*, as well as in the [2019 UN Human Development Report](#). My work on COVID-19 was cited by [CDC](#) and [HHS briefs](#), and [Polyakova et al. \(2021, Health Aff.\)](#) was noted as the most cited *Health Affairs* article across congressional sources in 2021.