

Research Statement

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My research areas are health economics and industrial organization. The health care industry involves a tangled web of public and private actors interacting in a complex environment governed by interconnected financial, regulatory, moral, and legal incentives. I seek to understand the consequences of these incentives and how to alter them to achieve greater health and welfare at a lower cost.

My work focuses on two main areas. First, I seek to understand the role of administrative burdens in the US health care system. Despite administrative costs in health care consuming up to a trillion dollars a year, we are only just beginning to understand their consequences. My research indicates that the impact of administrative burdens depends crucially on the context in which they are imposed, having the potential to reduce waste and fraud on the one hand or spur consolidation, raise health care costs, or obstruct access to care on the other. Second, I study the dialysis industry, a part of the health care system that is particularly expensive and captures many of the issues common to other markets, including extensive market power and government intervention. I find that while reforms in this industry have improved outcomes for many patients, they have often entailed unintended consequences. Furthermore, pervasive issues of high prices and market power remain.

Administrative Burdens

The primary focus of my work is the role of administrative costs and burdens in the US health care system. Despite the massive price tag of administrative costs, there is little evidence on how providers respond to increased administrative burden. In my job market paper, **“Administrative Burden and Consolidation in Health Care: Evidence from Medicare Contractors Transitions,”** I exploit the decentralized administrative structure of Medicare to answer this question. Using administrative changes in the jurisdictions of the private contractors that administer Traditional Medicare, I show that being exposed to an administrator that imposes greater administrative burden leads to higher total health care spending and consolidation of health care providers. I explain these results using a simple model of providers investing in fixed cost billing technology to maximize profit. The model predicts a number of phenomena that are corroborated by the data with the implication that high administrative burdens will lower firm profits and advantage large practices over small ones. Estimating a parameterized version of this model, the cost of investment induced by administrative burdens is extremely high. These results indicate that the endogenous responses of providers to increased claim denials counteracted the increased denials to raise Medicare spending while resulting in the unintended consequence of increased consolidation as well.

While administrative burdens can affect the way providers report care, they also have the ability to alter the provision of care. In **“Regulation and Diffusion of Innovation Under Information**

Spillovers: The Case of New Medical Procedures,” I show that Medicare coverage decisions affect the adoption of new medical procedures. The private contractors that administer Traditional Medicare determine whether and when Medicare will reimburse providers within their jurisdiction to perform new procedures, leading to geographic variation in when new procedures can be performed. These administrative regulations affect not only utilization, but the dissemination of information as well, with coverage decisions resulting in spillovers consistent with providers learning from the experience of those in other jurisdictions. Estimating a structural model of provider learning, I find that information spillovers are an important determinant of the adoption of new procedures and that regulatory barriers to coverage slow this learning process and restrict access to valuable innovations.

Administrative burdens can have more positive consequences as well. In **“Ambulance Taxis: The Impact of Regulation and Litigation on Health Care Fraud” (NBER Working Paper No. 29491)**, Paul Eliason, Jetson Leder-Luis, Ryan McDevitt, Jimmy Roberts, and I present novel evidence on the ability of an administrative burden called prior authorization to prevent fraud and medically unnecessary care. In particular, we compare the effectiveness of the pay-and-chase litigation strategy common in anti-fraud enforcement to the administrative burden of prior authorization in the context of medically unnecessary non-emergent ambulance rides for dialysis patients. We find that while criminal and civil enforcement had little impact, prior authorization caused a massive reduction in spending with no negative health consequences for patients. This result indicates that in contexts where medically unnecessary care is prevalent, administrative burdens have the opportunity to effectively achieve their purpose of reducing health care spending without compromising the quality of care.

Dialysis Industry

In addition to being the site of widespread ambulance fraud, the dialysis industry has other issues of substandard care quality and high spending as well. My second main research agenda relates to understanding the role of incentives in this industry and how policymakers can better harness these incentives to improve care and control costs in this market. In **“The Effect of Bundled Payments on Provider Behavior and Patient Outcomes” (R&R at *American Economic Review*)**, Paul Eliason, Ben Heebsh, Ryan McDevitt, Jimmy Roberts, and I study a payment reform that led to a large drop in the use of an expensive and controversial anti-anemia drug called EPO to treat dialysis patients. Using an instrument that leverages the interaction of providers’ financial incentives and physiological differences of patients based on elevation, we find that in equilibrium, EPO leads to adverse health outcomes such as hospitalizations and death. Our findings highlight the importance of understanding financial incentives and patient heterogeneity for the clinical effects of medical interventions when deployed at scale and altered by policy reforms.

While the dialysis industry is unique in that all patients are automatically eligible for Medicare regardless of age, the dialysis industry also features a privately insured market that previous research has largely ignored due to data constraints. In a series of short papers, Paul Eliason, Ryan McDevitt, Jimmy Roberts, Heather Wong, and I use a large new database of claims from

private insurers to highlight the high costs of privately insured dialysis patients. In **“Variability of Prices Paid for Hemodialysis by Employer-Sponsored Insurance in the US, 2012-2019” (JAMA Network Open, 2022)**, my coauthors and I show that the median price paid by private insurers for dialysis is more than six times the Medicare rate, with the private price being much higher in some states. In **“Assessment of Health Care Spending Among Privately Insured Patients Initiating Dialysis Care” (forthcoming, JAMA Network Open)**, my coauthors and I show that these large spending differences for patients with end-stage renal disease extend to care other than dialysis. We find that total health care spending rises \$14,000 per month when privately insured patients initiate dialysis care while the median Medicare patient costs \$180,000 less in their first year of care. These large price differences indicate the importance of our ongoing work to uncover the causes and consequences of high prices in this market, as discussed further in the final section of this document. Finally, my coauthors and I show that in addition to having particularly high health care costs, privately insured dialysis patients were also disproportionately affected by the outbreak of the COVID-19 pandemic. In **“COVID-19 Hospitalization Rate Among Privately Insured Dialysis Patients,”** we show that in 2020 privately insured dialysis patients were over 32 times more likely to be hospitalized for COVID-19 than other privately insured patients, a much larger disparity than has been found for other types of patients.

Other Research

In addition to the two main components of my research agenda, I have also performed research contributing to our understanding of how social programs and environmental shocks interact. In **“The Impact of Early-Life Shocks on Adult Welfare in Brazil: Questions of Measurement and Timing” (Journal of Economics & Human Biology, 2020)**, Dylan Fitz and I show that early-life environmental shocks can have lasting effects into adulthood, but that existing research uses varied measurements of shocks that affect the veracity of results. We extend this research in **“School, Shocks, and Safety Nets: Can Conditional Cash Transfers Protect Human Capital Investments During Rainfall Shocks?” (Journal of Development Studies, 2021)**. In this paper, we show that positive rainfall shocks cause lower-income children in Brazil to substitute away from schooling and toward paid labor, but the Bolsa Família program acts as a partial safety net that stabilizes human capital investments during short-run shocks. Not only is the Bolsa Família program able to serve as a safety net during short-run shocks, it also facilitates long-term catch up in health for children exposed to adverse in utero conditions, as we show in **“Early-Life Shocks and Childhood Social Programs: Evidence of Catch-Up in Brazil.”** While my primary research focus is the US health care system, understanding the determinants of health in other contexts is key to achieving a broader and more externally valid understanding of health and health care.

Future Work

My existing research primarily concerns the role of administrative burdens in the US health care system and understanding the economics of the dialysis industry. In ongoing work, I am continuing both of these endeavors. To shed light on how administrative burdens compare to

market-based price-setting mechanisms at combating waste and fraud, Paul Eliason, Jetson Leder-Luis, Ryan McDevitt, Jimmy Roberts, and I are investigating the consequences of the implementation of prior authorization regulations and competitive bidding procurement auctions in the durable medical equipment industry. Preliminary results indicate that both programs have reduced health care spending, with competitive bidding being especially effective in areas with a history of health care fraud. This project will shed light on the mechanisms through which anti-fraud programs work and provide evidence on when administrative burdens or price-setting reforms are likely to be effective deterrents to waste.

As mentioned above, I also have ongoing work on price-setting in the market for dialysis care for the privately insured. While our previously published research shows that private prices for dialysis are extremely high, Paul Eliason, Ryan McDevitt, Jimmy Roberts, Heather Wong, and I show in ongoing work that prices are especially high for facilities owned by the large chain providers that dominate this market. Furthermore, we present extensive evidence of national price setting in this market that is unresponsive to local market power, indicating that existing locally targeted antitrust remedies are unlikely to effectively combat market power in this industry.

In addition to investigating pricing in the dialysis industry, my future research will address questions about quality as well. In ongoing work, Luca Bertuzzi, Paul Eliason, Ben Heebsh, Ryan McDevitt, Jimmy Roberts and I assess the impact of the Quality Improvement Program on care for Medicare beneficiaries. Our results indicate that this pay-for-performance reform led to more severe patient selection by dialysis providers, with penalty-inducing patients being more likely to switch to worse facilities following changes in the measures on which facilities are assessed. This research—in combination with my existing research on the bundled payment reform in this industry—indicates that payment reforms can have both positive and negative consequences for patients and highlight the need for continued research on the role of incentives in the dialysis industry and health care more broadly.