



## Research Statement

My current research has three strands: understanding the implications for patients of “ordeals” and rationing in healthcare, examining the interface between the public and private sectors in healthcare financing and provision, and understanding the role of public health insurance in redistribution. At the core of my agenda is an interest in understanding the efficiency and equity consequences of how health care is allocated in public health insurance programs. In my work, I employ a range of empirical techniques, including quasi-experimental methods and structural modeling. This statement provides an overview of my current research and outlines my future research directions.

### 1. “Ordeals” and non-price rationing in healthcare

Motivated by equity goals, health care is often allocated without prices. However, in the presence of budget or capacity constraints, alternate rationing mechanisms emerge. In my second strand of work, I study two of the most salient ways health care is rationed without prices – paperwork and wait times.

In my paper titled “Rationing Medicine Through Bureaucracy: Authorization Restrictions in Medicare” (NBER working paper #30878, currently Revise & Resubmit at the *American Economic Review*), co-authored with Zarek Brot-Goldberg, Tim Layton, and Boris Vabson, I study the impact of paperwork on access to prescription drugs in Medicare Part D. We use the randomization of beneficiaries to drug plans to study the effect of “prior authorization” requirements that require a physician to fill out a form before an insurer approves a drug. We find that prior authorization reduces consumption of a drug by around a quarter, with half of beneficiaries switching to another related drug. The savings from reduced drug utilization are larger than the paperwork costs. In follow-up work I am trying to quantify the effects on patient health and wellbeing of foregone drug consumption.

During the COVID-19 crisis, health care systems across the world came under immense strain, with many hospitals operating at or above capacity. When systems face capacity constraints, patients typically wait for care. Waits erode the value of care for patients, but they enable hospitals to run with less “slack” capacity and lower costs. In ongoing work, I study the efficiency and equity consequences of rationing by waiting in health care. I use “shocks” to wait times arising from short-run pressures such as flu epidemics and discrete expansions in public sector capacity to estimate the distribution of “willingness-to-wait”. I then evaluate the costs and benefits of public sector capacity expansion.

### 2. Public and private financing and provision of health care

In most health systems around the world, both the government and the private sector play a role in the financing and provision of health care. The role of the private sector is controversial, and there is a concern that private providers may prioritize financial gain over patient well-being, as well as harming public providers by “cream-skimming” profitable cases and diverting resources from the public system. I am interested in how public and private providers interact in these “mixed” systems, and how this impacts spending, patient access and quality of care.

My job market paper, “Equilibrium Effects of Mixed Public-Private Provision: Evidence from the English National Health Service”, investigates the economics of mixed *provision* in health care. I study a reform in England that allowed elective patients to receive treatment at private hospitals using government funds. Using variation in exposure to this reform generated by pre-reform locations of private hospitals and market-level difference-in-differences, I find that this



reform increased annual volume of admissions and reduced market-level waits. Around a third of the volume increase was due to substitution from the private sector. I use variation generated by the reform to estimate a model of patient demand and equilibrium waits to evaluate the welfare gains from the policy. More than half of the welfare gains accrued to patients treated at public hospitals because of reduced congestion, but the reform was regressive, largely benefiting patients in high-income areas with existing private capacity.

In ongoing work, I am tackling a related question around public and private *financing* of health care: does allowing people to pay privately to “jump the queue” for elective surgery alleviate pressure on the public system or, in contrast, draw resources away from the public system, eroding its quality? In many countries, including the UK, answering this question has been hampered by a lack of data on private hospital activity. In this project, I use newly available data on privately funded admissions in England to estimate the effects of the private sector on public patients. I use a variety of empirical strategies, including shocks to public sector wait times and openings and closings of private hospitals, to estimate how patients substitute between the public and private-pay sectors and how physicians split their labor between the public and private sectors.

### 3. Health insurance and redistribution

Public health insurance programs are a large and growing segment of most developed economies. In the final strand of my research, I try to understand the redistributive consequences of public health insurance. Economic theory often sees the primary goal of health insurance as providing financial protection against health shocks and sees additional utilization in response to insurance as “moral hazard”, an undesirable side effect of transfers. In contrast, many policymakers and advocates see the main purpose of providing health insurance as increasing access to medical care. In joint work with Tim Layton and Mark Shepard, we develop a framework to integrate these two viewpoints and evaluate the progressivity of increasing generosity of public coverage. We are currently applying this framework to the recent closure of a coverage gap (the “donut hole”) in public prescription drug coverage in the US.

I also have ongoing work trying to quantify and investigate differences in health care utilization by income in the English NHS, a system with universal public coverage and near-zero copays. In work with Carol Propper, George Stoye and Max Warner published in *BMJ Quality & Safety*, I show that during the COVID-19 pandemic, non-COVID admissions declined more in low-income areas. In a bigger project, I am trying to understand the overall progressivity of the English NHS using a range of administrative and survey data. I find that low-income individuals have worse health and higher utilization of NHS care at any moment in time. However, higher income individuals use more care over their lifetimes because they use more health services conditional on underlying health status, and they live for longer.