Research Statement

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My research seeks to understand the interaction between health policy and behavior at the individual and firm level. At the center of my research agenda are three key questions: What are the effects of individual behavior on health outcomes? How do firms respond to health policy shocks? How can optimal health policy be implemented in regards to maximizing welfare? In past and ongoing research I have unpacked these questions in specific industries and fields. In the future, I hope to continue working on questions related to health policy and its effects on individual and hospital behavior. Below I describe my current research, and I discuss topics that I plan to pursue in the near future.

In my job market paper – "*The Dynamics of Health Behaviors, Pregnancies, and Birth Outcomes"* – I answer the question of how past health behaviors, like smoking and marijuana use, impact birth outcomes. It is understood that behaviors like smoking and marijuana use while pregnant have a large impact on birth outcomes, yet little is known about the possible influence of health behaviors prior to pregnancy on birth outcomes. Such an understanding is complicated by the fact that these behaviors are, by nature, dynamic. Smoking yesterday influences whether or not someone will smoke today. I fill this gap by appropriately accounting for many potential threats to identification when studying the dynamics of health. I show that, conditional on smoking behavior while pregnant, those who never smoke or who quit earlier in life have better birth outcomes than those with a recent history of smoking prior to pregnancy. Additionally, I find that this pattern does not hold for marijuana use.

I have started to extend this work in two ways. First, I study the effect of the recent federal increase in smoking age from 18 to 21 on birth outcomes. Within the context of my previous work, I extend my model to incorporate agents' forward-looking decision-making process in order to estimate counterfactual scenarios of smoking policies. Second, in joint work, we develop a method for dealing with missing data that allows us to utilize data sets that are rich in health behavior information, yet have non-uniform intervals between survey responses that disrupt dynamic analyses. Utilizing this new missing data method and an appropriate data set, we study the relationship between a variety of health measures and birth outcomes.

In another co-authored paper – "*Biosimilar Entry and the Pricing of Biologic Drugs"* – we study the impact of the Biologics Pricing and Competition Act (BPCIA) on the market for biologic drugs. Biologic drugs have a relatively small share of the overall prescription drug market in terms of volume, but they tend to be very expensive for consumers to purchase and pharmaceutical companies to develop. Biosimilars, generic biologics, were given an expedited pathway to enter into markets through BPCIA with the intention to incentivize entry and create competitive markets as patents for originator biologics fell. However, the price of biologics remains high, even in the face of competition. We find suggestive evidence that perceived differences in quality are driving the observed outcomes.

In co-authored work entitled "*The Impact of Including Drug Spending on Risk and Performance of Alternative Payment Models for Oncology Patients*", we evaluate how the inclusion of drug spending affects the risk-benefit tradeoff of a hospital participating in an oncology alternative payment model (APM). APMs for oncology are usually designed around the total cost of care (TCOC) for a given episode

of care. This design includes the cost of expensive —but often hard to substitute—chemotherapy and immunotherapy drugs. Providers are often reticent to be financially accountable for drugs because they believe physicians have very little agency over drug prices and utilization. We conduct a proof-of-concept empirical exercise using commercial claims data to show that, under a wide range of realistic circumstances, including drugs in TCOC is optimal for both the payer and the hospital.

While learning more about alternative payment models, I became interested in the tradeoff between one- and two-sided risk models in terms of behavior response. In ongoing work, I utilize a policy shock in Medicare due to the COVID-19 pandemic to determine whether or not two-sided risk is necessary to generate model savings and improve patient outcomes. I am in the process of applying for grant funding for this project.

Moving forward, I look forward to expanding my portfolio of work on substance use and the optimal design of alternative payment models. I hope to contribute to our understanding of the interaction between individual behavior and health outcomes in response to policy changes, with the goal to improve welfare.