Research Statement
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I am an applied microeconomist whose research lies at the intersection of health economics and public economics. My current projects and proposed work pertain to a core theme in public finance: the role of government policies on individuals, families, and markets. I use quasi-experimental variation to estimate the causal effects of important policy changes. To do so, I use restricted large-scale datasets, including insurance claims data and the universe of transplant records in the United States.

My primary area of interest is understanding the role of the government in allocating scarce resources in health sectors. To study this, I investigate the impact of public policy on efficiency and equity in organ allocation. Each day, 13 Americans pass away while waiting to receive a kidney transplant, while at the same time, 20 percent of donor kidneys are discarded because they were unmatched to a recipient in a timely manner.[1] Continuous efforts have been made to tackle this problem but there is little causal evidence on effective solutions. I have two working papers on this highly important topic.

In my job maker paper, "**Can Redrawing Boundaries Save Lives? Evidence from a Reform of the Kidney Allocation System**", I provide new evidence on the role of geographical boundaries in the local distribution of goods and its implications for efficiency and equity in the allocation system. The strict geographical boundaries have long been hypothesized to be a contributing factor to low rates of successful transplant matching as well as disparities in match rates across different types of population. My empirical methods exploit the sharp timing of the reform (regression discontinuity design) as well as variation in treatment intensity across transplant centers based on their precise location (difference-in-differences design). I create a novel dataset consisting of detailed administrative information on the universe of donated organs, transplant candidates, and transplant centers. I provide evidence that the reform reduced disparities in access to kidney transplants by reallocating kidneys to places with lower access prior to the policy change. In addition, I find that the reform led to a 17 percent decrease in the share of kidneys that were discarded and reduced mortality among transplant candidates. Lastly, kidney recipients after the reform were more likely to have high health risk and reside in counties with higher marginalized group populations, suggesting the reform had an important distributional effect.

By using institutional knowledge as well as data, I am interested in extending my work on understanding patient outcomes and health care market. In line with this, my ongoing work, "**Quality Labeling and Allocation Decisions of Scarce Organs**", explores whether introducing a "high risk" designation on organ quality assessment can increase the number of successful matches. Starting from December 2002, cadaveric kidneys are classified as organs from either an expanded criteria donor (ECD) or a standard criteria donor. As all kidney donors aged 60 or above are classified as "ECD" regardless of their health conditions, the policy may have increased confusion about the kidney quality of older donors and thus increased the discard rate. I employ a regression discontinuity design in donor age to study the unintended consequences of this reform on program efficiency and health outcomes.

My second line of research investigates the impact of government regulation on family health insurance. While dependent coverage is a common element of private health coverage in the U.S., little has been known about the effects of dependent coverage on parental labor supply. In a joint work with Katherine Meckel and Maggie Shi, "**Dependent Insurance Coverage and Parental Job Mobility: Evidence from the Affordable Care Act**", we study the outcomes of requiring health insurers to expand dependent coverage through age 26 by developing a regression discontinuity design that exploits variation in coverage eligibility by dependent birth date. Analyzing a large panel of employer-sponsored plan claims that links

dependent insurance enrollment with a proxy for parental job tenure, we find that a one percent increase in the dependent enrollment likelihood increases parental job retention by 0.20 percent. This work is available as NBER Working Paper 30200.

Relatedly, my ongoing work, "**The Increase in the Full Retirement Age and Early Retirement Decisions**", explores the impact of increasing the full retirement age (FRA) on job retention rates of own and spousal labor supply. The Social Security Amendments of 1983 increased the full retirement age (FRA) by two months per birth year for Americans born from 1938 to 1943 to incentivize workers to delay retirement and induce a longer work life for older Americans. Using the job-based coverage claims that link spouses to their primary plan holders, I estimate a regression discontinuity design that exploits the variation in Social Security benefit cuts to study the effects on job retention and retirement at age 62-64. Taking advantage of the richness of medical claims data, I investigate how the treatment effects vary by demographic and health characteristics to elucidate the underlying mechanisms of the main results. These two papers represent the importance of accounting for intra-family spillovers in evaluating the welfare effects of public policies.

My third line of research investigates how changing healthcare delivery methods is linked to patients with chronic diseases and healthcare workers. Remote patient monitoring (RM) adoption is especially relevant for patients with implantable cardiac devices due to their high risk of hospitalization and the need for frequent outpatient visits. However, adopting RM may increase healthcare provider workload, potentially impacting care quality and increasing burnout risk, with limited evidence on the link between RM adoption and changes in clinician workload. YouMi Hwang at St. Vincent's Hospital of the Catholic University of Korea and I study the relationship between RM and changes in clinician workload and patient outcomes. We link data from the first clinical trial involving RM adoption in Korea to the electronic medical record system containing detailed information for each hospital visit. In two published studies[2], we show that RM was linked to increased patient satisfaction and significant time and cost savings for patients, without an increase in adverse health risks during the 12-month post RM period. Related to this, our ongoing work, "**Economic Evaluation of Remote Monitoring for Implantable Cardiac Devices: Evidence from a Clinical Trial in Korea**", shows that RM was linked to a 108-minute increase in clinician workload per patient. Our future work will investigate how RM is associated with long-term patient satisfaction as well as clinician workloads and its implication on the national health insurance system. To do so, we are currently designing a multi-center clinical trial spanning 36 months of the RM adoption.

I look forward to building upon the institutional knowledge developed in my dissertation on the role of government regulations in allocating scarce resources and addressing health disparities. For instance, I am interested in investigating the role of organ allocation policies on the placement and life span of new transplant facilities, as well as on the Medicare system. In addition, I plan to employ the framework explored in my job market paper to examine how changes in geographic eligibility for food assistance programs affect allocative efficiency and health equity.

[1]Health Resources and Services Administration (2022), from https://www.organdonor.gov/learn/organ-donation-statistics; Aubert, et al. (2019). Disparities in Acceptance of Deceased Donor Kidneys Between the United States and France and Estimated Effects of Increased US Acceptance. JAMA internal Medicine, 179(10), 1365-1374.

[2]These two studies are "The First Remote Monitoring Experience in South Korea: Results of a Remote-Care Study" (EP Europace, 2023) and "Patient Outcomes Associated with the First Remote Monitoring Experience of Cardiac Implantable Electronic Devices in South Korea" (Clinical Interventions in Aging, 2023).