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I am an applied economist specializing in health, regional, and public economics. My research focuses on evaluating the effects of Medicaid and opioid-related policies. My analysis uses various applied econometrics and policy evaluation techniques. I supplement my empirical knowledge with the practice of technology-driven methods such as data-scrapping, big-data, predictive, and causal machine learning approaches. My goal is to understand the U.S. health care policies and their intended and unintended consequences. Along with policy evaluation, I also complement my research with policy or intervention design methods.

DISSERTATION

The Medicaid expansion, through the Affordable Care Act (ACA) and the contemporary fiscal pressure, has triggered a national debate amongst diverse stakeholders regarding the impacts of Medicaid coverage on various dimensions of public health, costs, and benefits. Policymakers now look for reforms. My job market paper, *Heterogeneous Treatment Effects of Medicaid and Efficient Medicaid policies*, use the Oregon Health Insurance Experiment data (random assignment of Medicaid) to estimate the heterogeneous treatment effects of Medicaid on health care use, personal finance, health, and wellbeing. I perform the cluster-robust generalized random forest, a causal machine learning approach, to reveal Medicaid policy reforms. My proposed reforms prioritize Medicaid allotments to subgroups that are likely to benefit the most and improve average outcomes by a range of 4% to 10% over a random assignment baseline. My research delivers two unique contributions; first, unlike the series of papers that have evaluated the average treatment effects, my paper estimates the heterogeneous treatment effect of public access to health insurance. Second, my paper contributes insights regarding how to target health insurance interventions for effective policymaking.

My dissertation second chapter, *Impact of Must-access Prescription Drug Monitoring Program on Prescription Opioid Overdose Death Rates*, provides causal evidence of the effectiveness of the "must-access" Prescription Drug Monitoring Program (PDMP). The "must-access" PDPMs require states to view a patient's prescription history to facilitate the detection of suspicious prescription and utilization behaviors. I find that PDMPs are ineffective in reducing prescription opioid overdose deaths overall, but the effects are heterogeneous across states with "must-access" PDMP states. Furthermore, I show evidence of the severity of Fentanyl epidemic for each "must-access" PDMP abiding states. I utilize the Generalized Synthetic Control method to allows multiple intervention units, thus contributes to program evaluation in a regional context. Furthermore, I implement an interactive fixed-effect model to model the unobserved time-varying heterogeneity explicitly. I further supplement the modeling using double-selection post-LASSO method, a causal machine learning method, for model selection. I find that marijuana and naloxone access laws, poverty level, income, and education confound the impact of must-access PDMPs on prescription opioid overdose deaths.

My first chapter relates to policy design and the second chapter on the policy evaluation. To supplement these policy analyses, my final dissertation chapter, *California Proposition 8: Voters Reject the Fair Pricing for Dialysis Act*, examines the political economy. In 2018, California held a ballot on proposition 8, the limits on dialysis clinicsâ revenue and required refund initiative. The

proposition requires clinics to issue refunds to patients or their payers for revenue that exceeds 115% of the cost. While many thought that this proposition would pass, but it failed. In this chapter, I explain the California proposition 8âs failure employing the double-selection post-LASSO approach and show evidence of special interests.

RESEARCH DIRECTION

In addition to my dissertation research, I am working on both independent projects and collaborative research. As my primary focus is on health, regional/public economics with a concentration on the U.S. health care policies. There are several projects at different stages of development under my research portfolio.

I am interested in examining how does work requirements in Medicaid as a condition of eligibility could affect employment and health outcomes. Recently, under the Trump Administration, the Centers for Medicare and Medicaid Services (CMS) issued guidance for state Medicaid waiver proposals that would impose work requirements in Medicaid as a condition of eligibility. As of July 2019, Indiana is the only other state to have implemented a work requirement waiver. Five more states have approved waivers that are not yet implemented, and another seven states have waiver requests pending with CMS. My preliminary analysis uses the Oregon Health Insurance Experiment dataset to examine the effects of work requirements in Medicaid as eligibility.

Another research, which I am collaborating with my supervisor is the county-level heterogeneity assessment of PDMPs, opioid prescription rate, and opioid overdose. For this, we recently received an approval for "the multiple causes of death" confidential data. The main contribution will be to identify the sources of heterogeneities of opioid prescription rate and opioid-related overdose deaths in term of different age, sex, race and ethnicity and other socio, economic and demographic profile at the county level. Our analytical framework comprises of Directed Acyclical Graph to examine mechanism and identification strategy; Difference-in-difference method with double selection post-LASSO technique to investigate the impact of PDMPs on opioid prescription rate, and opioid-related overdose deaths; and spatial Difference-in-Difference method to examine the geographical spillover of opioid prescription rate and opioid-related overdose deaths. The primary significance of this research is to understand the sources of heterogeneities of opioid prescription rate and Opioid-Related overdose deaths in term of different age, sex, race and ethnicity and other socio, economic and demographic profile at the county level. Estimating sources of heterogeneities helps to segment and target the policy susceptible population and understand potential policy intervention strategies.

In summary, my researches are geared toward understanding the U.S. health care policy and developing efficient intervention strategies that can improve the outcomes of these policies by utilizing the frontier econometric methods and causal machine learning approaches.

Sincerely,

Shishir Shakya