

Research Statement

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I am a health economist interested in studying the health and development of low-income children. My research focuses on the evaluation of policies and programs, and examines the role of healthcare resources and environment in the well-being of children and other vulnerable populations. The two overarching objectives of my research agenda are: 1) to produce rigorous empirical evidence that informs public health and policy interventions, and 2) to understand how we could better allocate resources to promote health and mitigate disparity and inequality throughout the life course.

Job Market Paper

My Job Market Paper evaluates the impact of COVID-19 vaccinations on the health and educational outcomes among public school students in New York City during the first fully in-person school year following the onset of the pandemic. As a critical public health intervention, COVID-19 vaccines hold the promise of making schools safer. At the same time, we know little about the real-world effectiveness of vaccines on health and, more so, on other outcomes relevant to children's development. The study identified the effects of vaccines by utilizing the quasi-experiment of vaccine rollout by age groups. Specifically, I compared students who were just above the age cutoff at the time of vaccine release to those just below – two groups of otherwise very similar children were granted vaccine eligibility six months apart. This policy-induced early eligibility led to substantial subsequent differences in vaccine uptake and, notably, a significant gap in vaccine uptake between these two groups even two years after the initial vaccine release.

Supported by the National Institute of Nursing Research (NINR) grant and various city government agencies, I utilized machine learning algorithms to link student educational records to their Medicaid claims. Then, instrumenting the individual vaccination decision with the early eligibility status, I find that COVID-19 vaccines provide substantial benefits. For health outcomes, vaccine uptake exhibited strong protective effects, which are similar to those of the clinical trials. The effects on educational outcomes are also strong. The improvement in math test scores is comparable to past non-vaccine-related interventions, revealing an important link between one's health and learning in times of crisis. The results mark the very first empirical study that quantified the causal effects of vaccines on both health and educational outcomes among low-income children. The protective effects also vary across time and places, with more pronounced effects during periods or in places with high infection risks. The paper contributes to a better understanding of the effects of vaccines in the real world by using a quasi-experiment and examining a broader set of outcomes than previous studies did.

Current Research

In addition to the JMP, my doctoral dissertation titled, *The Health and Education of NYC Children During the Pandemic: Evaluating the Role of Vaccines and Healthcare Utilization*, provided a comprehensive investigation into the role of medical resources such as COVID-19 vaccines and healthcare utilization on health and education during a time of crisis. The second paper of my dissertation delves into how students (and their families) make decisions about COVID-19 vaccinations and subsequent booster shots. Building on a growing body of literature, this paper utilizes a comprehensive set of administrative clinical databases with novel features on individual students. The study makes important contributions by providing descriptive evidence on the role of access to vaccines and providers, peer and network effects, and pre-existing conditions in one's decision

to vaccinate against COVID-19.

Another study within my dissertation addresses the alarming delays in routine childhood vaccinations and healthcare visits, a direct consequence of the pandemic's disruption. Specifically, the study presents a comprehensive description of the delay of routine vaccination, physical exams, and well-visits. Moreover, it aims to examine the role of school-based health centers/clinics, access to Medicaid providers, and other factors in the delay of care use. Lastly, it measures the disparity in the delays across racial, ethnic, and geographical lines. This work informs strategies for equitable healthcare recovery in the aftermath of the pandemic.

Published Work

Outside the dissertation work, I have published the two following papers during my doctoral study. The first, a co-authored paper published in [JAMA Network Open](#), examines disparities in COVID-19 vaccine uptake among New York City public school students. This research highlights marked differences in vaccine acceptance across various racial and ethnic groups and boroughs, providing essential insights for the development of nuanced public health interventions. In another paper where I serve as the lead author, published in [Obesity \(Silver Spring\)](#), I study the impacts of urban gentrification on the weight outcomes of students in public housing. This study utilizes rich individual-level data, capturing clinically measured weight outcomes on an annual basis. By leveraging the quasi-random assignment of student families to public housing buildings across different neighborhoods, this research offers a nuanced understanding of how gentrification impacts children's weight outcomes in certain neighborhoods.

Future Research

For future work, my research agenda sets out to address two critical areas with significant implications for children's health. Firstly, the unwinding of the Medicaid program in New York State presents a unique opportunity to examine how changes in healthcare policy affect children's health insurance coverage and access to medical care. This research will delve into the intricacies of Medicaid enrollment and renewal processes, focusing on populations disproportionately affected by increased administrative burdens and potential loss of coverage. Given that over 75% of all public school students are enrolled in Medicaid, the project bears broad significance. Secondly, I aim to confront the pressing issue of nutritional inequality and its health consequences, particularly obesity and food insecurity among low-income children. This research will involve a comprehensive analysis of neighborhood food environments, utilizing a blend of traditional data sources and innovative metrics. By identifying the barriers to healthy eating and the disparities in food access, my work will contribute valuable insights for policy interventions aimed at fostering nutritional equity and healthier community foodscapes.

In summary, my academic pursuit is rooted in a firm commitment to practical implications for policy and public health. The improvement of the well-being of children, particularly those in low-income communities, is the main motivation for many aspects of my academic endeavors. Through this lens of compassion and purpose, I approach my role as a researcher, seeking to contribute to the scholarship that has long promoted the health and development of children in this country and around the world.