# Research Statement

Caroline Welter

My research lies at the intersection of health economics, regional and urban economics, and public policy. I examine how economic inequalities, health disparities, access to care, and policies play out across urban and rural contexts. I am especially interested in the heterogeneous effects of public programs and the administrative barriers that disproportionately impact different groups, including rural communities and those facing heightened challenges from the digital divide and automation. In all my research, I emphasize how place and policy interact to shape program participation, labor market, and health outcomes.

My expertise is in the implementation of causal inference techniques and quasi-experimental designs. While my work focuses on rigorous empirical strategies, I remain open to using alternative methods when they efficiently connect with the needs of policymakers. My long-term research goal is to produce timely, policy-relevant economic information, particularly from the fields of health and regional economics, that informs the design and implementation of public programs.

My job market paper, *The Impact of Social Security Administration (SSA) Field Office Closures on Disability Program Participation*, exploits the natural experiment of widespread SSA office closures during the COVID-19 pandemic to estimate changes in disability enrollment. Using a difference-in-differences design with ZIP code-level data, I find that closures reduced disability beneficiaries by 2.3%, making it harder for people in need to access benefits. In-person services could no longer be reached, while online and phone options were poor substitutes. The effects were especially larger in non-metropolitan areas and communities with limited internet access. These results lead to important policy considerations, because decisions about where to close or maintain SSA field offices should be made strategically, with attention to local infrastructure and digital connectivity.

The second chapter of my dissertation evaluates maternal responses to the Zika epidemic in Brazil. I examine whether heightened awareness of Zika-related microcephaly risks altered maternal behaviors in ways that extended beyond the immediate threat, specifically by affecting childhood immunization patterns. This research highlights how government-led public health campaigns targeting one health crisis can produce spillover effects on other dimensions of child health. In doing so, it provides insight into the broader consequences of risk communication and the strain placed on the Brazilian public health system during times of crisis.

My research also examines how administrative complexity in public programs creates barriers to continuous health care. The third chapter of my dissertation investigates the effects of Medicaid policy changes on the adoption of Continuous Glucose Monitoring (CGM) devices, a new technology for diabetes treatment, showing how administrative burdens can disrupt access to care. Using restricted, de-identified patient data, I analyze how shortened eligibility review periods, from 12 months to 6 months in 2021 and then to 3 months in 2022, affected CGM uptake and patient health outcomes. The results demonstrate that institutional barriers and policy design choices can create health disparities and limit the effectiveness of public health coverage.

My published and ongoing research contributes to an agenda focused on understanding the impacts of policy interventions and external shocks on regional economic resilience and performance, and health outcomes. In my paper published in *Papers in Regional Science*, my co-author and I evaluate the economic costs of New York City's Financial District and Seaport Climate Resilience Plan (FiDi), a program that will make a large investment to solve the long-term flood risks in the city. Our results indicate that the FiDi plan

generates significant net economic benefits, though concentrated environmental impacts occur during the plan's implementation.

In the paper published in the *Economic Analysis and Policy* journal, my co-authors and I analyze the mitigating role of federal policies during the COVID-19 health crisis in Southwest Florida. We examine how stimulus checks and unemployment insurance shaped regional economic performance during a large-scale public health crisis. These mitigation policies supported a partial economic recovery but were insufficient to fully offset the decline in value added. Another paper, published in the *Journal of Regional Analysis & Policy*, identifies the evolution of industrial clusters and their effects on regional employment and GDP. My co-authors and I modeled how human capital and innovation dynamics influence agglomeration and industrial resilience during a period of growing de-industrialization in the Brazilian economy.

My work in progress on obesity and urban sprawl in Brazil explores the relationship between population density and health outcomes in a developing country context. Using municipal-level data from 2008 to 2021, my co-author and I assess whether lower population density is associated with higher obesity rates. To address potential endogeneity in density, I instrument for urban sprawl using the historical plan of Brazil's federal highway system. Results suggest that greater urban sprawl is associated with lower obesity rates, contrary to findings from the U.S., and point to important contextual differences in how urbanization affects health.

My future research agenda follows a clear pipeline that builds on my ongoing projects. Building on my SSA office closure research, I plan to explore whether other income support programs, such as unemployment insurance, may have served as temporary substitutes for disability benefits during the pandemic, potentially delaying or deterring applications. I also aim to investigate whether retirement benefit claimants (another population reliant on SSA services) encountered similar barriers to access. This broader population may also have been adversely affected by office closures, raising critical questions about federal cost-cutting strategies.

I am also studying the impact of loosening state-level restrictions on out-of-state telehealth providers in WVU Medicine's multi-state region. Using de-identified patient data, my co-author and I will estimate the effects of allowing out-of-state providers to treat patients through telehealth services between 2020 and 2024. This work sheds light on access to health care in rural and remote areas and informs ongoing discussions about licensing flexibility for telemedicine providers. As many states consider telehealth reforms, understanding how cross-state licensing barriers affect patient access is important for expanding provider options and improving care for those with limited local choices. Potential funding sources for this research include the NIH and NSF agencies.

I have been developing projects on the future of work, particularly examining how automation, AI, and the digital divide are shaping labor markets. At the Regional Research Institute at WVU, I contributed to the development of methodologies that identify potential job transitions for individuals based on their existing skills in the face of displacement or automation. The findings are helping regional economic entities design programs that enable workers to adapt by acquiring new skills or certifications, thereby facilitating smoother transitions into new occupations with minimal retraining. This research is especially relevant for public planners in rural areas, where retaining a skilled workforce is critical to sustaining economic growth. The project is currently funded by the Appalachian Regional Commission (ARC). Moving forward, I will continue to advance this line of research, maintain these partnerships, and leverage this work as a potential source of funding for future studies.