**Deena Nicole Brosi, Ph.D., MPH**

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An avid quantitative health services researcher, my skills include comprehensive biostatistics and health econometric methods with a focus on causal inference; expert-level programming in R Studio and STATA, with intermediate experience of SAS, SPSS, ArcGIS, QGIS, and Python. I also enjoy creative data visualizations using ArcGIS, RStudio, Adobe Illustrator, Photoshop, and InDesign.

**Education**

*University of Colorado, Anschutz Medical Campus*

August 2018 – Fall 2023

Ph.D. in Health Services Research at the Health Systems, Management & Policy Department

Cognate: Biostatistics

*Washington University in St. Louis*

August 2014 – May 2016

Master’s Degree in Public Health

Specialization in Public Health Policy and Administration

*University of California, Irvine*

September 2009 – June 2013

Bachelor’s of Science Degree in Biology

**Dissertation**

My dissertation examined the causal effects of state-level, proof-of-vaccine (POV) mandate ban effects on COVID-19 vaccinations in the US. I took a multi-faceted approach, including two-way fixed effects estimation of POV mandate ban treatment effects on COVID-19 vaccination behavior before and after policy implementation and geographic regression discontinuity design methods to select treatment and control groups. I also further investigated any heterogeneity in treatment effects by local political climates using latent class analysis in combination with spatial clustering analysis. I found that politicized legislation can causally effect COVID-19 vaccination behavior and that the effect differs across how the legislation was passed and the contents of the bill.

**Relevant Experience**

**Research Instructor,** January 2024 to Present

Division of Transplant Surgery, University of Colorado School of Medicine

* Investigate health disparities with the US organ transplant system by analyzing survival times to organ transplantation, graft loss, and/or death.
* Review organ transplant studies for journal submission to improve the quality of research and expand the existing knowledge base.
* Apply for grants to merge other claims data and publicly available data to ask more complex questions within the organ transplant system to generate richer and more informed analyses.

**Senior Professional Research Assistant II,** August 2018 to December 2023

Robert Wood Johnson Foundation’s Systems for Action – Colorado School of Public Health

* Worked with the National Longitudinal Survey of Public Health Systems (NALSYS) to investigate public health system effects on health behaviors and outcomes.
* Am the lead author on a paper that examines the relationship between local public health system performance and COVID-19 mortality using NALSYS data using logistic regression and generalized linear model in a two-part model.
* Taught a workshop for the ICPSR Summer Program on complex data management and survey management of NALSYS to investigate the role of public health systems in U.S. health outcomes (August 2021).

**Senior Research Assistant,** August 2017 to August 2018 (promoted from Research Assistant in 2015)

Washington University in St. Louis – Center for Public Health Systems Science

* Evaluated the *Expanding Coverage* *Initiative* created by the Missouri Foundation for Health to reduce the number of uninsured Missourians.
* Analyzed Agent-Based Model (ABM) simulation data of tobacco-control policies to predict impacts on tobacco retail environments and consumer behavior in Minnesota.
* Interviewed key informants, facilitated focus groups, and created surveys.
* Conducted qualitative analysis of focus group transcripts and created reports based on findings.
* Designed data dashboards, graphics, and website layouts to translate and disseminate findings to stakeholders.

**Publications**

1. Brosi DN, Mays GP. Local Public Health System Capabilities and COVID-19 Death Rates. Public Health Reports. Published online 2022:00333549221097660.

2. Combs TB, Brosi D, Chaitan VL, He E, Luke DA, Henriksen L. Local retail tobacco environment regulation: Early adoption in the United States. Tobacco Regulatory Science. 2019;5(1):76-86.

3. Combs TB, McKay VR, Ornstein J, et al. Modelling the impact of menthol sales restrictions and retailer density reduction policies: insights from tobacco town Minnesota. Tobacco control. 2020;29(5):502-509.

**Reports and Articles**

1. Center for Public Health Systems Science, Bacon C, Brosi D, Huntzberry K. Expanding Coverage Initiative: 2016-2017 Evaluation Report. Center for Public Health Systems Science. Published online January 1, 2017. doi:https://doi.org/10.7936/1x60-e987
2. Without Strong Local Public Health System Support, Counties Suffer More COVID-19 Deaths. Public Health Post. Published May 8, 2023. Accessed May 8, 2023. <https://www.publichealthpost.org/viewpoints/without-strong-local-public-health-system-support-counties-suffer-more-covid-19-deaths/>

**Presentations**

1. 2020 Public Health in the Rockies (PHiR) Conference Presentation: *How Multi-Sector Community Networks Are Shaping COVID-19 Pandemic Trajectories and Outcomes Across the U.S.*
2. 2021 Academy Health Virtual Annual Research Meeting (ARM) Presentation for “Infrastructure and Delivery Systems for Improving Population Health” Breakout Session. Presentation Title: *Local Public Health System Capacity and Its Relationship to COVID-19 Mortality Patterns Across the U.S.*
3. 2023 Academy Health ARM Presentation for “COVID-19: Promising Interventions” Session. Presentation Title: *Causal Effects of State-Level Proof of Vaccine Mandate Bans on COVID-19 Vaccination Behavior by Political Ideology.*
4. 2023 American Society of Health Economists (ASHEcon) 12th Annual Conference Presenting: *Causal Effects of State-Level Proof of Vaccine Mandate Bans on COVID-19 Vaccination Behavior.*

**Miscellaneous**

1. Testified in support of Colorado SB19-008 (Substance Use Disorder Treatment In Criminal Justice System) in 2019 on behalf of the Public Health Policy Lab at the Colorado School of Public Health.