Cleveland Health Survey Data Collection, Interpretation, Analysis, and Mapping

Background

The Prevention Research Center for Healthy Neighborhoods (PRCHN), located at 1974 E 66th Street, Suite 300, Cleveland, OH 44103, is a community-focused public health research center within Case Western Reserve University. The PRCHN partners with neighborhoods, community organizations, and the Cleveland Department of Public Health to study health challenges and address structural barriers. Its work emphasizes collaboration, equitable research practices. and strong community relationships. This practicum was completed through the Cleveland Health Survey, a PRCHN-CDPH collaboration designed to measure neighborhood-level health behaviors and access to care

Population

This project focuses on adult residents of the City of Cleveland who participated in the 2025 Cleveland Health Survey. The survey sampled individuals living in Cleveland's Statistical Planning Areas (SPAs), commonly referred to as neighborhoods. A total of 1,497 usable surveys were collected from adults ages 18 and older across 34 SPAs. Responses were weighted to represent the broader adult population of Cleveland and to account for differences in sampling and non-response.

Learning Objectives

Develop proficiency in ArcGIS Pro to manage, analyze, and map Cleveland Health Survey data, Analyze neighborhood-level patterns in healthcare utilization and relationships among four types of care. Compare present-day healthcare utilization with historic redlining boundaries and interpret public health implications.

Deliverables

Created a set of GIS-based maps illustrating neighborhoodlevel healthcare utilization across Cleveland. Produced an analysis comparing these patterns with historic redlining to highlight spatial disparities.

Activities

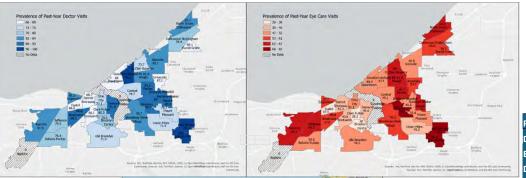
During the first phase of the practicum, I conducted telephone administrations of the Cleveland Health Survey. assisting participants who called in to complete the survey and following up with individuals who had expressed interest in participating. I documented responses, ensured data accuracy, and supported efforts to increase survey completion. After the survey period, I received training in ArcGIS Pro and applied these skills to manage, clean, and analyze neighborhood-level health data. I created multiple thematic maps displaying healthcare utilization measures across Cleveland's Statistical Planning Areas. These maps were used to compare current health access patterns with historic redlining boundaries.

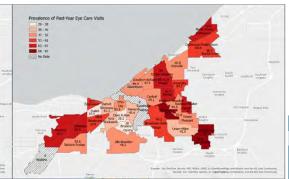
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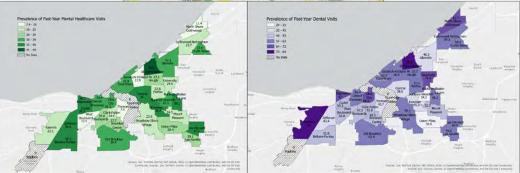


Prevention Research Center for Healthy Neighborhoods at Case Western Reserve University











Master of Public Health Program

Results

Correlation analysis showed limited relationships among the four healthcare utilization measures. Doctor and eve visit prevalence had the strongest association (r = 0.54). Other relationships were weak, including a small positive correlation between eye and dental visits and a small negative correlation between mental health and doctor visits. Neighborhood maps revealed clear variation in utilization across Cleveland but no single pattern that aligned consistently with historic HOLC grades. Some areas with past "C" or "D" ratings showed relatively high utilization, while others remained below city averages.

Pearson Coefficient	Doctor I	Eye	Dental	Mental
Doctor	1	0.535616	-0.113506	-0.26702
Еуе	0.535616	1	0.32596	0.134573
Dental	-0.11351	0.32596	1	0.023912
Mental	-0.26702	0.134573	0.023912	1

Lessons Learned

I gained practical experience using ArcGIS Pro to conduct spatial analysis and create clear, interpretable maps.

I learned how to administer a large community health survey and saw firsthand the challenges of recruitment, response, and data quality. This project deepened my understanding of how health disparities in Cleveland are shaped by neighborhood context, history, and economics. I also reinforced and expanded my knowledge of health equity by connecting abstract concepts to real, place-based data.

Public Health Implications

The Cleveland Health Survey provides up-to-date. neighborhood-level information on health behaviors in a city where BRFSS data have not been collected since 2015. By using a geography-focused, hybrid sampling design, the survey reveals differences in healthcare utilization that would be hidden in citywide averages. This project shows that access to primary care, dental care, eye care, and mental health services does not move in lockstep, suggesting that interventions must be tailored to specific types of care and specific neighborhoods. The mixed relationship between historic redlining and current utilization highlights both the long-term impact of structural inequities and the influence of more recent policy, economic, and healthcare system changes. Together, the Cleveland Health Survey and related mapping work can guide local agencies, health systems, and community partners in targeting resources, monitoring progress, and advocating for policies that reduce neighborhood-based health disparities.