

Mapping Georgia Community Pharmacies and Clinics: An Evaluation of Kidney Disease Outcomes and Access to Care

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Background

- Chronic kidney disease (CKD) is one of the top 10 leading causes of death in the United States
- 3.4% of Georgians have reported being told they have CKD
- Risk factors for CKD include comorbid hyperlipidemia, hypertension, diabetes, and heart failure
- Previous data demonstrates that pharmacist intervention with CKD patient care improves health outcomes
- Access to care for underserved populations remains a major social determinant of health
- Safety net clinics may not be sufficient in number to meet the healthcare demand for this population

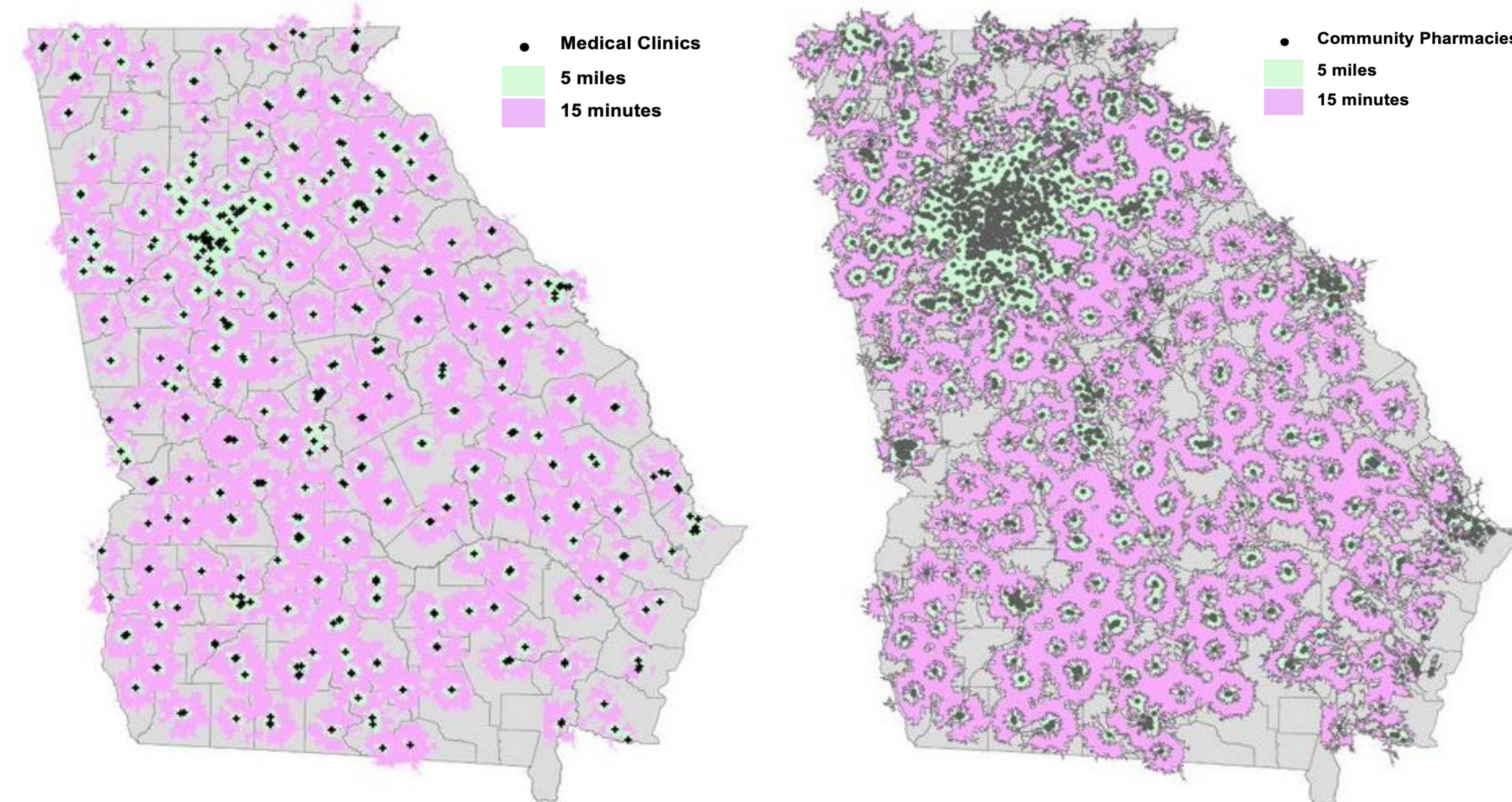
Purpose

This study sought to evaluate Georgia access to care, compare county health outcome and factor rankings to CKD mortality, and determine if access to care improves if community pharmacies were to provide CKD-related services

Methods

- Kidney disease mortality data was extracted from the Georgia Department of Public Health Data Warehouse
- Safety net clinic and community pharmacy street addresses were provided to a geographic information system (GIS) librarian
- The GIS librarian then generated maps and evaluated access to care utilizing ArcGIS Online's Create Drive-Time Areas analysis tool and the 2019 census block group data
- The population within each care area was then aggregated to the county-level, and the percentage of population within the access to care area buffer was calculated
- Access to care difference was analyzed using a two-sample t-test
- Health outcomes were evaluated using ordinary least square regression analysis
- Statistical analysis was completed using STATA version 14.2

Results



	5-mile driving distance (%)	15-minute drive time (%)
Pharmacies	77.81%	95.07%
Safety-net clinics	47.004%	82.92%

Conclusion

- Community pharmacies are well-positioned to address kidney disease and associated comorbid risk factors that lead to kidney disease progression.
- Leveraging Georgia pharmacists to provide primary care services can address current care access issues and improve the quality of care for persons living with kidney disease.
- Community pharmacists may enter state collaborative drug therapy modification protocols to deliver primary care kidney disease-focused services, and by doing so would increase care access points and potentially address health disparities seen in Georgia.

Results

- 78% of the Georgia population lives within a 5-mile driving distance and 95% of the population lives within a 15-minute drive time of a community pharmacy
- Counties in the top 50% vs. bottom 50% health outcome rankings are associated with a lower prevalence of kidney disease mortality, without controlling for poverty ($p < 0.05$)
- Counties in the top 50% vs. bottom 50% health factor rankings are associated with a lower prevalence of kidney disease mortality, without controlling for poverty ($p < 0.05$)
- Counties with higher white vs. non-white population are associated with a higher kidney disease mortality, regardless of poverty status ($p < 0.01$)
- No difference in kidney disease mortality was found in counties with higher percent female vs. male population, higher percent black vs. white population, or rural vs. urban coding, regardless of poverty status

References

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