



Mapping Georgia Community Pharmacies and Clinics: An Evaluation of Diabetes Mellitus Outcomes and access to Care

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Background

- Over 12% of adult Georgians have diabetes
- Almost 60% of Georgia counties are considered medically underserved, with the majority being rural
- A higher prevalence of the common risk behaviors that increase type 2 diabetes development are seen in rural communities
- Early intervention can mitigate or delay progression of macrovascular and microvascular disease associated with diabetes mellitus

Objective

This study sought to evaluate Georgia care access points, compare county health outcomes and factor rankings to diabetes mortality, and determine if care access points would improve if community pharmacies were to provide diabetes-related services.

Methods

Data collection sources

Health outcome and factor rankings

- 2020 Health Ranking report Robert Wood Johnson Foundation and the University of Wisconsin Population
- Georgia Department of Public Health Data warehouse

Access to care to safety net clinic or pharmacy map generation

- Geographic information system librarian utilized ArcGIS Online's Create Drive-Time Areas analysis tool and the 2019 census block group data

Statistical analysis

- Care access point 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

Variables	Diabetes Mortality Prevalence			
Health Outcome ranking- Top 50%	-1.657	-8.366*	-----	-----
Poverty Rate	1.354***	-----	1.001**	-----
Percent Female	186.6**	102.8	204.4**	168.3**
Rural County	-0.800	2.867	-0.149	3.311
Percent Black Population	0.0193	0.207*	0.0119	0.0140
Percent other Race Population	-1.285	-2.118***	-1.266	-1.821**
Health Factor Ranking – Top 50%	-----	-----	-7.830	13.43***
Constant	-80.44*	-12.29	-78.75*	-42.20
Observations R squared	0.3	0.242	0.316	0.288

Standard errors in parenthesis ***P<0.01, **P<0.05, *P<0.1

Table 1: Diabetes mortality prevalence (out of 100) compared to variables to determine statistical differences of combinations of variables on prevalence.

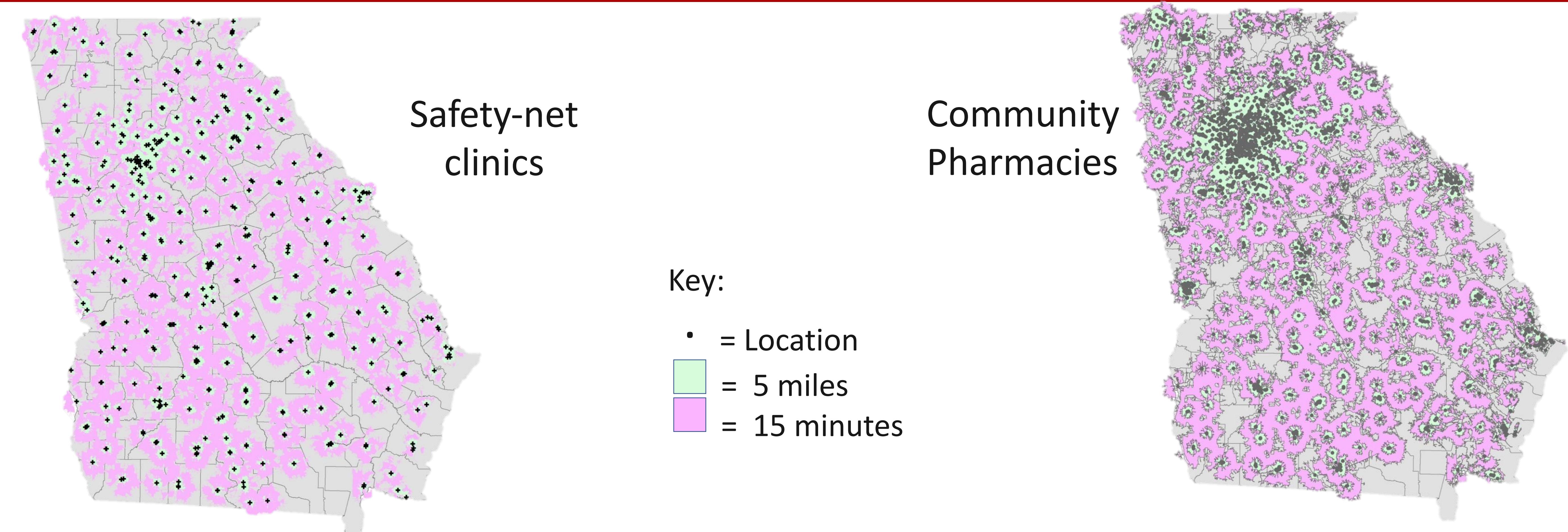


Figure 1: Mapping the accessibility of community pharmacies and safety-net clinics within the state of Georgia based on 2020 location data using 5 miles and 15 minutes as a surrogate marker for accessibility

- Access to community pharmacies vs. safety net clinics was significantly different in urban counties, when measured as a 15-minute drive time (p< 0.05) or 5-mile distance (p< 0.001)
- State-wide, access to community pharmacies vs. safety net clinics was significantly different as well when measured by 15-minute drive time (p< 0.001) or 5-mile distance (p< 0.05)

	5 Mile Driving Distance %	15 Minute Drive Time %
Pharmacies	77.81%	95.07%
Safety-net Clinics	47%	82.92%

- If community pharmacies were to provide primary care services, 94.9% of Georgia counties would experience more than 50% increase in care access points

Implications

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

References

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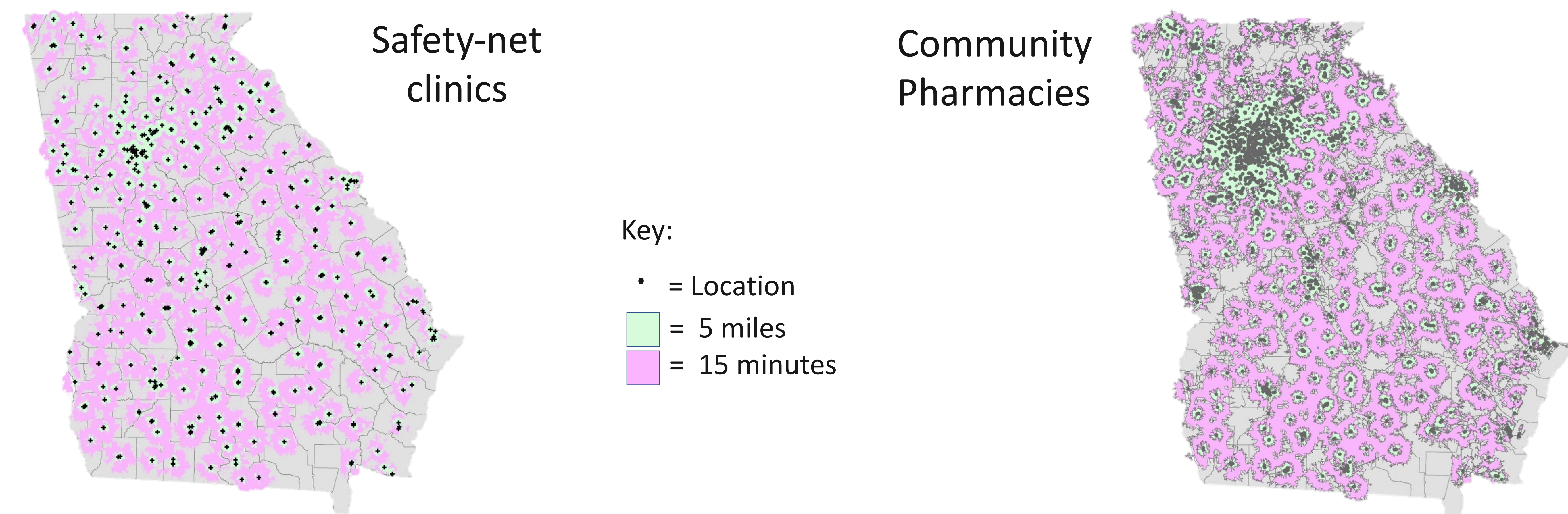


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