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

Alaina Lewis, BS,[1] Rebecca H. Stone, PharmD,[1] Jayani Jayawardhana, PhD,[2] Meagan Duever, MA, MLIS,[3] Blake R. Johnson, PharmD, MPH, BCACP[1]

[1]University of Georgia College of Pharmacy, Athens, Georgia, [2]University of Kentucky College of Public Health and College of Pharmacy, Lexington, Kentucky, [3]University of Georgia Libraries, Athens, Georgia

Background

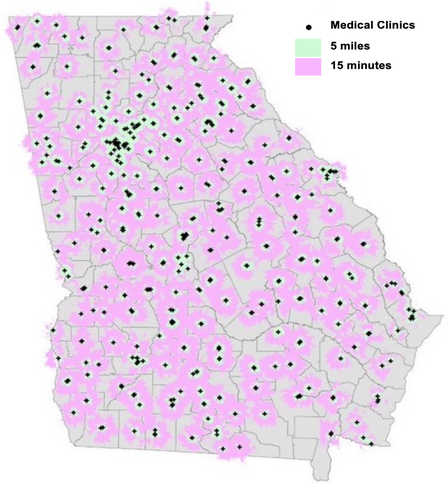
- Chronic lower respiratory disease, influenza, and pneumonia are in the top fifteen leading causes of death in Georgia
- 150 of 159 Georgia counties are considered medically underserved
- Access to care for underserved populations remains a major social determinant of health
- Safety net clinics may not be sufficient in number to meet the healthcare demand for this population

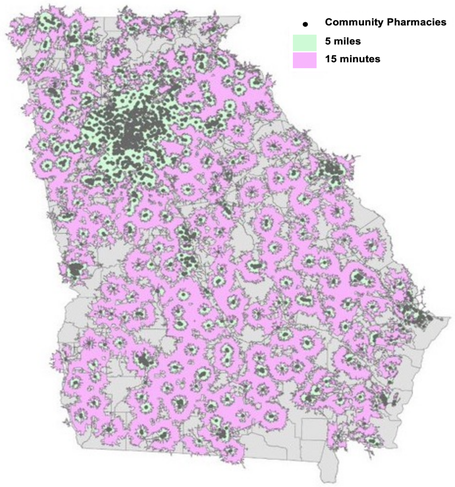
Purpose

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

Methods

- Respiratory Disease mortality data (defined as influenza, pneumonia, bronchitis, emphysema, asthma, and all other lower chronic respiratory diseases) was extracted from the Georgia Department of Public Health Data Warehouse
- Addresses for safety net clinics were found via the Georgia Department of Health website and pharmacies addresses were obtained from the Georgia Board of Pharmacy
- 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





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

Results

- Counties with better health outcome rankings versus counties with worse health outcome rankings, are associated with a lower respiratory mortality prevalence regardless of controlling for poverty ($p<0.01$).
- Poverty rate is associated with a higher respiratory mortality prevalence, when controlling for health outcome ranking ($p<0.01$) and when controlling for health factor ranking ($p<0.05$).
- Regardless of poverty status, there is a correlation between respiratory mortality prevalence and counties with poor health outcome and factor rankings ($p<0.01$).
- For the 159 Georgia counties, 94.9% (n=151) would experience more than a 50% increase in primary care access points in either a fifteen-minute drive time or five-mile drive distance if community pharmacies were to provide primary care services.

References

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