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

Laura Ramirez, BA, MA, 1 Rebecca H. Stone, PharmD, BCPS, BCACP, FCCP, 1 Jayani Jayawardhana, PhD, 3 Meagan Duever, MA, MLIS, 4 Blake R. Johnson, PharmD, MPH, BCACP 1
1University of Georgia College of Pharmacy, Athens, Georgia, 2University of Kentucky College of Public Health and College of Pharmacy, Lexington, Kentucky, 3University of Georgia Libraries, Athens, Georgia

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

<table>
<thead>
<tr>
<th>Pharmacies</th>
<th>5-mile driving distance (%)</th>
<th>15-minute drive time (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Safety-net clinics</td>
<td>77.81%</td>
<td>95.07%</td>
</tr>
</tbody>
</table>

| Pharmacies       | 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.

References

5. StataCorp. 2015. Stata Statistical Software: Release 14. College Station, TX: StataCorp LP.