Background

- US men who have sex with men (MSM) have a disproportionate HIV burden
- Pre-exposure prophylaxis (PrEP) is effective for MSM 1
- PrEP access requires quarterly (every 3 month) provider visits 2
- Geographic access to providers affects who can adhere to or benefit from PrEP
- Driving time to a provider is an understandable measure of access
- Spatial analyses can highlight geographic inequalities in PrEP access

Objectives

- Describe census-tract level access to PrEP providers using driving time
- Identify areas with reduced geographic access to PrEP providers ("PrEP Deserts")
- Quantify estimated MSM population living in PrEP Deserts
- Identify sociodemographic correlates of PrEP deserts

Methods

PrEP Providers and PrEP Eligibility

- Geocoded and mapped a national database (PrEP Locator) of publicly-listed clinics 3
- MSM PrEP eligibility estimated sourced from a recent national analysis 4

Population Estimates

- County-level MSM population estimates5 were allocated to census tracts based on the ratio of: Males in a tract/Males in all tracts in a given county
- Census tracts: Optimum size of 4,000 persons (2,500 – 8,000 persons) 7

Demographic Variables and Census Tracts

- Demographic variables, including race, median household income, and others sourced from the American Community Survey (ACS) 2011-2015 8
- County urbanicity sourced from the National Center on Health Statistics 9
- Centers of population (population-weighted centroids) for census tracts were sourced from the US Bureau of the Census 10

Driving Time to PrEP Providers

- Calculate nearest PrEP provider to each tract using ArcGIS
- Calculated driving time from population-weighted centroids to the nearest PrEP provider using Google Maps, using ideal traffic conditions
- Tracts classified as being part of a 30-minute or 60-minute PrEP desert based on driving time to the nearest PrEP-providing clinic

Results


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<thead>
<tr>
<th>County Urbanicity</th>
<th>All Tracts</th>
<th>30-Minute Deserts</th>
<th>60-Minute Deserts</th>
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<tbody>
<tr>
<td>All census tracts</td>
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Conclusions

- Most deserts (>70% - 30 mins, 95% - 60 mins) are in less urban areas
- Most MSM in deserts live in the South (53.5% - 60 mins)
- Deserts for clinics offering services to uninsured are larger
- Northeast has the most PrEP providers and fewest desert MSM
- PrEP deserts are less educated, have greater poverty, have lower MH, and lesser proportions of African-American and Hispanic individuals

Acknowledgements

- MAC/ADS Fund
- Emory Center for AIDS Research
- National Institutes of Health

References

8. Centers for Disease Control and Prevention. 2015 Census Tracts to County Matching File. Available at: https://www.cdc.gov/nchs/about/major/nhanes/census2015/tractcounty.asp