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Abstract

Although Philadelphia has an adequate supply of primary care providers overall, spatial analysis shows wide variation across neighborhoods, with stark racial disparities. This study identifies six low-access areas within the city that warrant attention.

Keywords

healthcare workforce, primary care, access & equity, access to care

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Racial Disparities in Geographic Access to Primary Care in Philadelphia

Elizabeth J. Brown, Daniel Polsky, Corentin M. Barbu, Jane Seymour, and David Grande

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KEY FINDINGS: Although Philadelphia has an adequate supply of primary care providers overall, spatial analysis shows wide variation across neighborhoods, with stark racial disparities. This study identifies six low-access areas within the city that warrant attention.

THE QUESTION

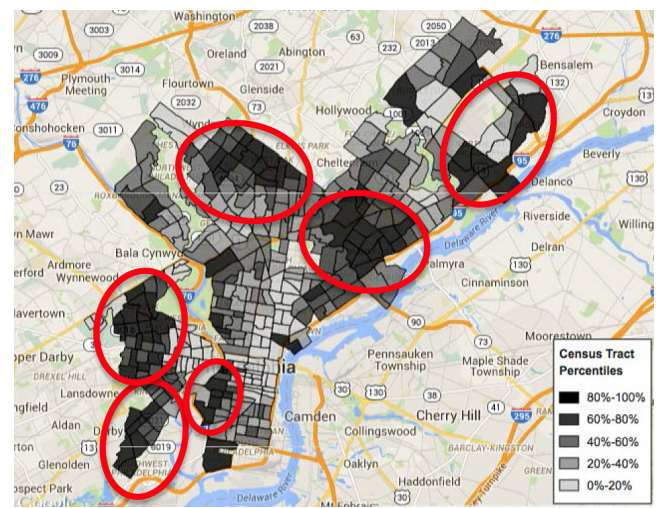
Geographic access to primary care providers is usually considered a problem of rural areas, rather than of more densely populated urban ones. But the supply of primary care providers may be inadequate in certain neighborhoods even if the number of providers for the population is adequate for the city as a whole.

The authors conducted a spatial analysis of census tracts in Philadelphia to assess the supply of primary care providers, quantify differences in supply that might contribute to disparities, and determine population characteristics associated with variations in geographic access. They calculated the ratio of adults-per-primary-care-provider in each tract using a five-minute travel time from the center of each census tract. They wanted to know if the overall number of providers in a city obscures significant differences across neighborhoods, and if so, whether low-access neighborhoods are more likely to be found in areas with large concentrations of racial and ethnic minorities.

THE FINDINGS

The study found that across 363 census tracts in Philadelphia, the ratio of adults per primary care provider averaged 1,073, well within established benchmarks for an adequate supply. (The definition of Health Professional Shortage Area is 3,500:1). However, supply varied widely by tract, ranging

from 105 to 10,321. When the authors mapped these ratios, six low-access areas emerged, defined as five or more contiguous census tracts with the lowest supply of providers. These areas of Philadelphia, which include 63 census tracts, are mapped below.



Philadelphia areas with the lowest levels of geographic access to primary care providers.

Nearly one-third of tracts with concentrated African American populations (80% or more) were in low-access areas, compared to just 6% of tracts with less than 20% African American populations. Low-access areas had higher rates of uninsurance. After adjusting for sociodemographic and insurance characteristics, the odds of being in a low-access area were 28 times greater for high-African American tracts than low-African American tracts, and six times greater for high-Hispanic tracts than low-Hispanic tracts.

THE IMPLICATIONS

This study shows the wide variation of geographic accessibility of primary care among different neighborhoods in a city that appears to have a sufficient amount of primary care providers overall, with stark racial differences.

However, geography is not destiny. The study looked at where people live in relationship to where the primary care practices are; there are many other factors that play an important role in determining whether people have adequate access to primary care. It may be that people may not choose the care that is geographically closest, preferring instead to see a provider near their work, near where they used to live, or easily accessible by public transportation.

Nevertheless, a low supply of primary care providers in a neighborhood might mean that residents must travel farther or wait longer, which creates additional barriers to primary care. Low-access areas are often neighborhoods with high concentrations of ethnic and racial minorities; the low supply of primary care providers might exacerbate existing health disparities, especially as minority populations make the largest gains in insurance coverage through the ACA, if demand for services increase as well.

The analysis does not point to the causes of these disparities, but it does highlight a factor that should be considered when assessing the adequacy of our health system. Providers and policy makers could use similar methods when planning primary care locations, such as federally qualified health centers.

THE STUDY

The authors examined spatial variation in primary care access for adults in 363 census tracts, or neighborhoods, in Philadelphia. They constructed a geocoded database of primary care providers (physicians, nurse practitioners, physician assistants, and community health centers) from multiple data sources,

including the largest commercial and Medicaid insurers in the region, the local department of public health, and community health centers. Providers were quantified (head counts and effort level) through a telephone survey. They calculated ratios of adults per primary care provider in each tract, using a five-minute drive time from the center of the tract as a measure of access. This corresponded to an average of 1.4 street miles traveled. They used relatively short travel times given urban populations' reliance on mixed modes of transportation, but the results did not differ when they expanded the measure to an eight-minute drive time. They identified clusters of census tracts with the lowest supply. Using the American Community Survey 2008-2013 estimates, they examined census tract characteristics such as age, race/ethnicity, household income, and rates of uninsurance. The researchers used multivariate logistic regression to model the association of demographic characteristics with being in a low-access area.

Brown EJ, Polsky D, Barbu CM, Seymour J, Grande D. [Racial Disparities in Geographic Access to Primary Care in Philadelphia](#). DOI: 10.1377/hlthaff.2015.1612. Health Affairs, August 2016.

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