Social Determinants of Health for Public Housing Residents
Diabetes

Public Housing Primary Care (PHPC) In 2016, Health Centers provided comprehensive medical and behavioral health services to nearly 610,000 patients living in or immediately accessible to public housing[1]. The majority of those patients lived in poverty (78%), were uninsured (22%) or were enrolled in some type of public health insurance (60% on Medicaid[2].)

Public housing residents often have complex health issues that are impacted by where they live. In general, individuals that receive assistance from the U.S. Department of Housing and Urban Development (HUD) are more likely to have chronic health conditions and are higher utilizers of health care than the rest of the U.S. population, even more so than other low-income renters.

- 35.8% are in fair or poor health vs. 13.8% of other adults
- 71% are overweight or obese vs. 64% of other adults
- 61% have a disability vs. 35.4% of other adults
- 17.6% have diabetes vs. 9.5% of other adults[3]

Social, economic, and environmental factors, such as income, access to high quality health care services, and safe and healthy environments play a large role in determining the health status of public housing residents. For example, community assets, such as healthy food outlets and safe places to engage in physical activity, can determine diet and exercise, and in turn, obesity and diabetes rates.

The map below shows the location of PHPCs across the country and the corresponding rates of diabetes in the county where they are located[4].

- 46 out of 105 PHPCs are located in counties with high diabetes rates, defined as rates higher than the national average.
- 29 out of 105 PHPCs are located in counties with diabetes rates lower than the national average.

Diabetes Prevalence by County

PHPCs

Diabetes Prevalence (%)
- < 3.3
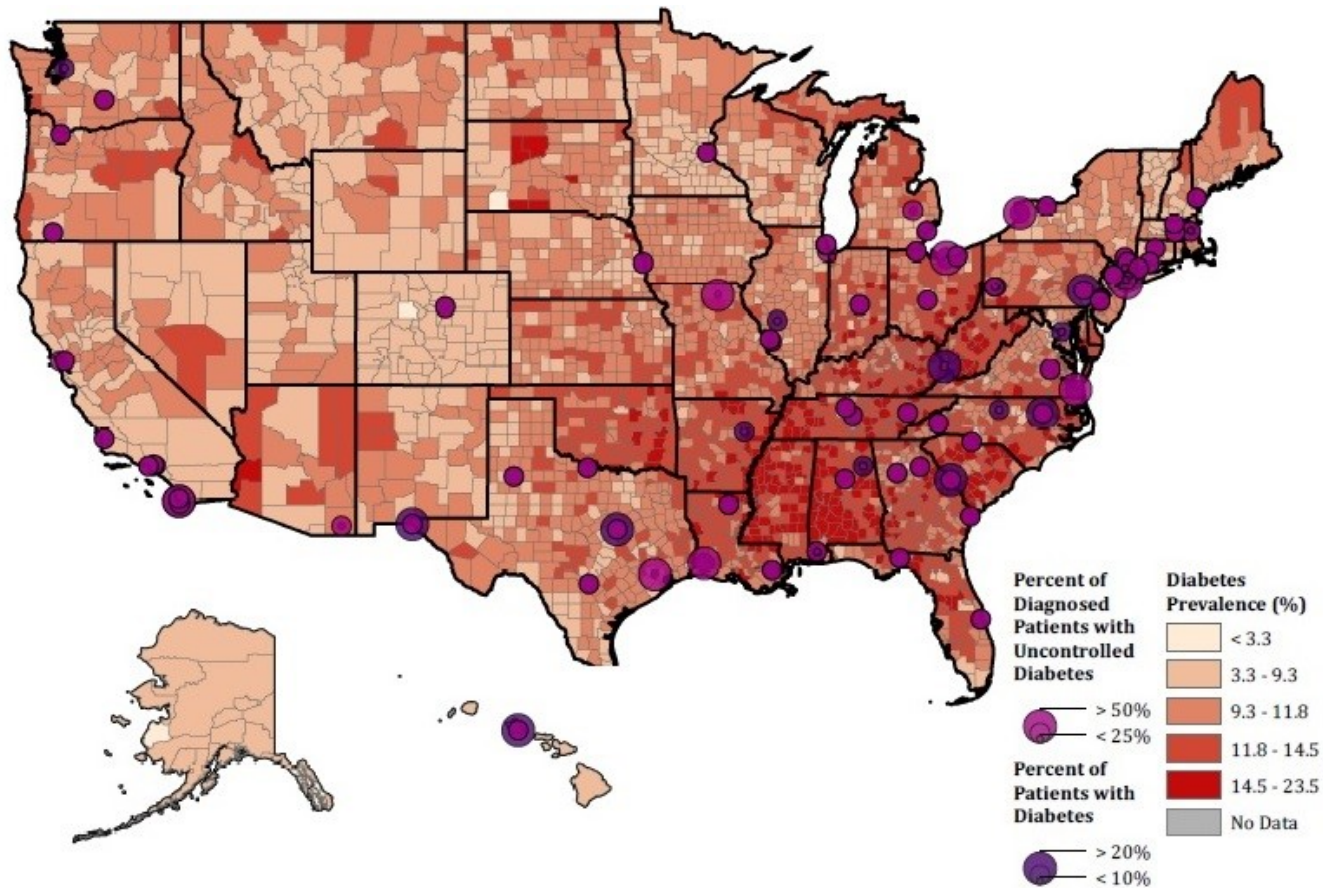- 3.3 - 9.3
- 9.3 - 11.8
- 11.8 - 14.5
- 14.5 - 23.5
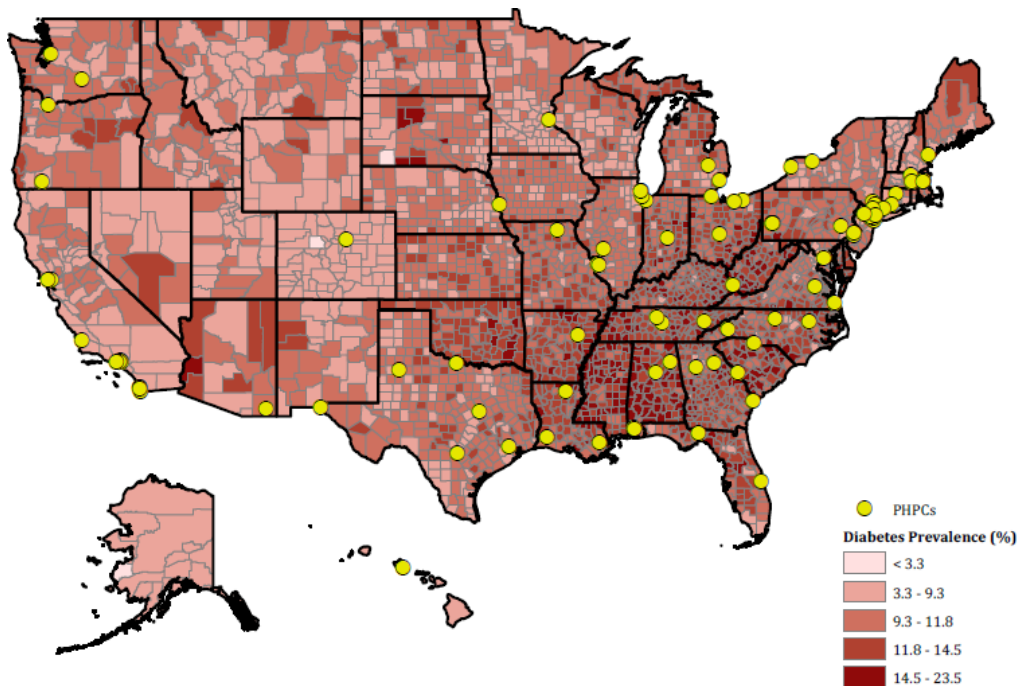
Diabetes is not only more prevalent among public housing residents, it is also more severe.

The map below shows the percent of diabetic patients seen at PHPCs with uncontrolled diabetes, defined as HbA1c levels greater than 9[5]. HbA1c provides a reliable measure of chronic hyperglycemia and correlates well with the risk of long-term diabetes complications.

Nationally, about 18% of patients with diabetes have HbA1c levels greater than 9 compared to 32% of diabetic patients seen at PHPCs[6].

⇒ 96 of the 105 PHPCs have a higher percentage of patients with uncontrolled diabetes compared to the national average.

Uncontrolled Diabetes by County

Percent of Diagnosed Patients with Uncontrolled Diabetes
- > 50%
- < 25%

Percent of Patients with Diabetes
- > 20%
- < 10%

Diabetes Prevalence (%)
- < 3.3
- 3.3 - 9.3
- 9.3 - 11.8
- 11.8 - 14.5
- 14.5 - 23.5
- No Data

There are many reasons why diabetes is so pervasive among public housing residents. Limited income, lack of transportation, and access to healthy, affordable foods is a challenge for low income populations.

While 15% of the country report they do not have enough food for an active, healthy lifestyle, low income populations are more likely to live in food deserts[7]. A map from the U.S. Department of Agriculture shows that access to food is more challenging for low income populations living in urban and rural areas[8].

Physical activity is also important for the prevention and management of diabetes and prediabetes. A geospatial analysis by the University of Wisconsin Population Health Institute finds that 87.5% of the population living in counties where PHPCs are located have access to exercise opportunities through parks and recreational facilities[9]. However, 22% report that they do not engage in any leisure time physical activity[10]. There are other factors that can influence decisions to be physically active. For public housing residents, one of those issues is safety.

A meta-analysis by Rees-Punia on the relationship between crime, perceived safety, and physical activity shows that individuals living in areas where they felt unsafe or in areas with higher crime had a 28% reduced odds of achieving higher levels of physical activity[11].

Rates of violent crime are higher in areas where PHPCs are located compared to the national average. There is an average of 508 violent crimes per 100,000 population in PHPC counties compared to the national average of 386 per 100,000[12].

Violent Crime Rate (per 100k pop) by County

Violent Crime Rate
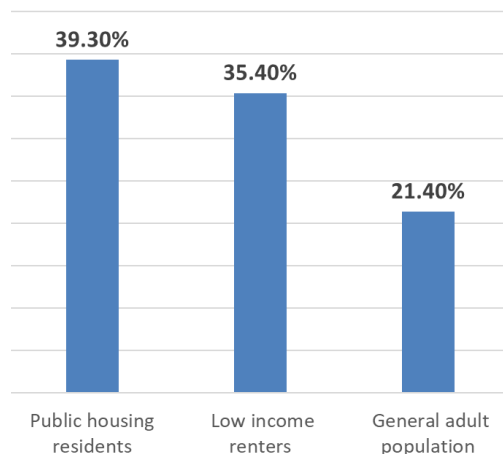- 0-100
- 101-200
- 201-300
- 301-400
- > 401
- ○ PHPCs
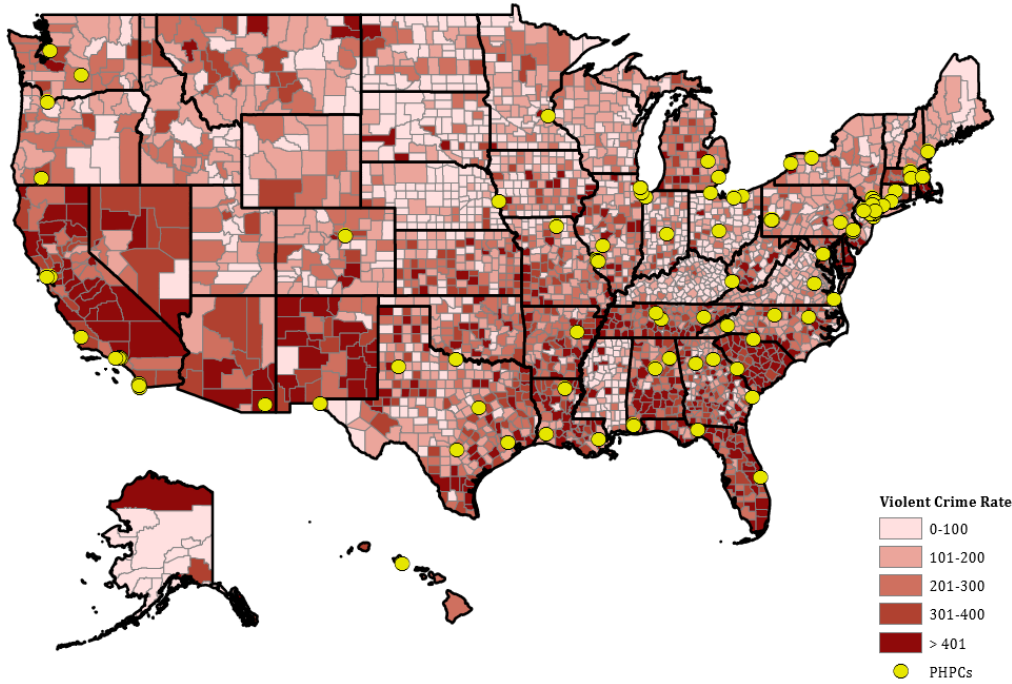
Violence, crime, and the cumulative stress of poverty, unemployment, and other social determinants, impact the mental health of public housing residents. Public housing residents are more likely to report feelings of anxiety, depression, and hopelessness, and those feelings are more likely to interfere with daily activities compared to the general population[13]. Mental health is a critical component to the prevention and management of diabetes because stress informs diet, metabolism, and other health behaviors, such as smoking.

Serious Psychological Distress

- Public housing residents: 11.60%
- Low income renters: 8.70%
- General adult population: 3.70%
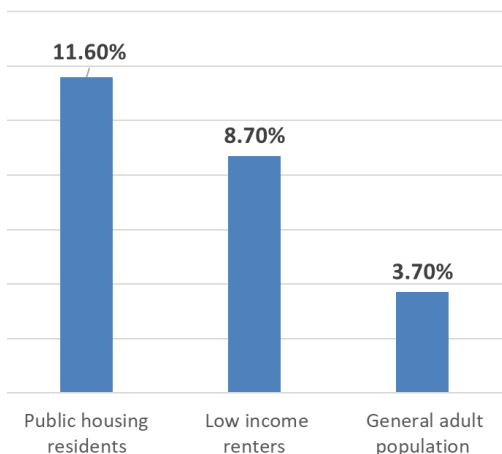
Distress with Mental Hardship

- Public housing residents: 39.30%
- Low income renters: 35.40%
- General adult population: 21.40%

Smoking rates have declined over the last decade, but they still remain high for this patient population. About 33.5% of public housing residents smoke compared to 22% of the general population[14].

Smoking increases the risk of developing diabetes, makes diabetes harder to control, and increases risk for developing diabetic complications, such as heart and kidney failure, retinopathy, and leg or foot amputations[15].

Adult Smokers by County

PHPCs

Percentage of Adult Smokers
	< 15%
	15-20%
	20-25%
	25-30%
	> 30%
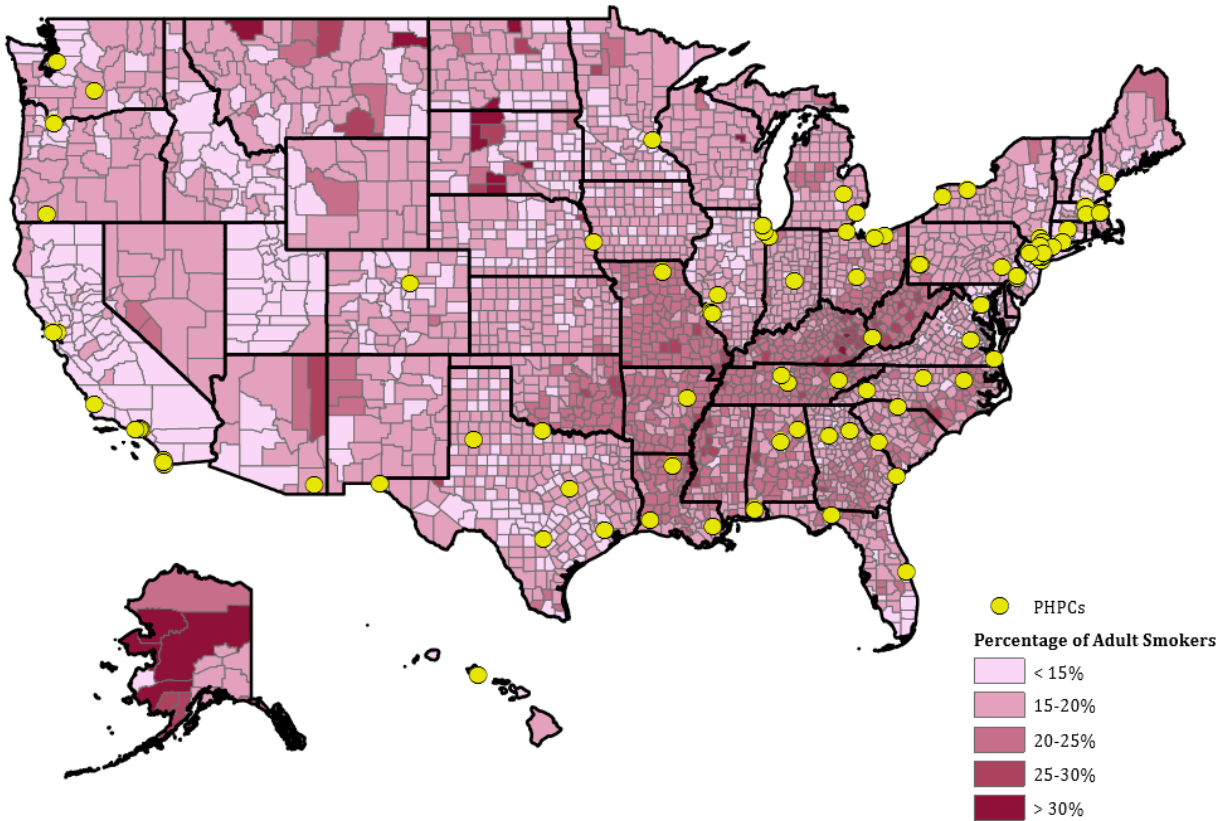
Implications

A comprehensive diabetes prevention and management program that addresses the social determinants of health is critical for public housing residents. Health care professionals should consider and address lack of healthy food options, safe places to exercise, community violence, and the stress of living in poverty when developing a plan with their patients.

Many PHPCs attempt to offset the impact of these determinants through the use of mobile units that provide fresh fruits and vegetables, community gardens and nutrition education programs, exercise and wellness programs with dynamic multilingual staff, flexible hours, transportation, and by collecting and monitoring social determinants of health data for their patient population. For more information on best practices on diabetes prevention and management strategies, please visit www.nchph.org.

National Center for Health in Public Housing

The mission of National Center for Health in Public Housing (NCHPH) is to strengthen the capacity of federally-funded Public Housing Primary Care (PHPC) health centers and other health center grantees caring for public housing residents by providing training, technical assistance and research. The PHPC program is built on a foundation of collaboration between Health Centers, Public Housing Agencies, and residents.

For more information visit www.nchph.org/ interactivemaps

NCHPH The National Center for Health in Public Housing
Enhancing Health Care Delivery for Residents of Public Housing

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Sources:

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