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Access to Affordable and Nutritious Food: Updated Estimates of Distance to Supermarkets Using 2010 Data

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What Is the Issue?

Efforts to encourage Americans to improve their diets and to eat more nutritious foods presume that a wide variety of these foods are accessible to everyone. But, for some Americans and in some communities, access to healthy foods may be limited. In the 2009 report to Congress, *Access to Affordable and Nutritious Food: Measuring and Understanding Food Deserts and Their Consequences*, the U.S. Department of Agriculture estimated several indicators of access to healthy food sources, based on population data from the 2000 Census and supermarket location data from 2006. This report uses data from 2010 to provide updated population estimates of spatial access to affordable and nutritious food. These estimates reflect openings and closings of supermarkets, changes in the distribution of the population in relation to supermarkets, and the effects of the 2007-09 recession, which include the expansion of the number of low-income people and areas. Estimates by income, vehicle availability, and other characteristics of the population are provided in addition to estimates for those who live in low-income neighborhoods. These estimates are based on data from 2010 and, therefore, precede Federal policy initiatives to reduce barriers to food access, which began in 2011.

What Did the Study Find?

Updated estimates from 2010 data present a mixed picture of the extent of food access challenges in the United States. First, there was very little change in the distance to the nearest supermarket between 2006 and 2010 overall, both in terms of the median distance to the nearest supermarket and throughout the distribution.

Second, vehicle availability for households more than 1 mile from a supermarket has improved. In 2010, 1.8 percent of all U.S. households (2.1 million households) did not have a vehicle and were more than 1 mile from a supermarket. This is a decrease relative to 2006, when an estimated 2.3 percent (2.4 million households) were more than 1 mile from a supermarket and without a vehicle. The number and percentage of households without a vehicle between one-half to 1 mile from a supermarket also decreased in 2010.

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In contrast, the number of people in low-income areas who are more than 1 mile from a supermarket increased. In 2010, 29.7 million people, or 9.7 percent of the population, lived in low-income areas (½ kilometer-square grids where more than 40 percent of the population has income at or below 200 percent of Federal poverty thresholds for family size) more than 1 mile from a supermarket, up from 23.5 million, or 8.4 percent, in 2006. However, given the stability in the distribution of the population relative to the nearest supermarket and in the number of supermarkets overall, growth in the share of population in low-income areas more than 1 mile from a store is likely due more to the greater number of low-income areas in 2010 than in 2006, not to substantial changes in store openings and closings.

Distance to the nearest supermarket by individual income level and area income level differs from rural areas to urban areas. In urban areas, low-income people (those with income at or below 200 percent of Federal poverty thresholds for family size) and people in low-income areas are closer to supermarkets than moderate- and high-income people and areas. But in rural areas, low-income people and people in low-income areas are farther from supermarkets than moderate- and high-income areas.

Examining the distance to only one supermarket does not provide information on whether that supermarket is competitive as it may be the one and only store in the area. Distance to the three nearest supermarkets was estimated for the U.S. population and for subpopulations as an additional indicator of the level of consumer choice and competition among supermarkets. Estimates show that half of the U.S. population lived within 2 miles of three supermarkets in 2010, while 80 percent lived within 5 miles.

How Was the Study Conducted?

This study estimates several distance-based measures of supermarket access. These measures proxy access to healthy and affordable food for the overall U.S. population and for subpopulations, including households without vehicles, populations with low incomes, and populations that live in low-income areas. Data on the total population—along with data on age, race, and ethnicity—come from the 2010 Decennial Census. Data on income and vehicle availability come from the 2006-2010 American Community Survey. These population data were downcast, or allocated aurally, to ½-kilometer-square grids that cover the entire U.S. land area. Two 2010 lists of supermarkets, supercenters, and large grocery stores (food stores selling all major categories of food and having annual sales of at least \$2 million) were combined to produce a comprehensive list of stores that represent sources of affordable and nutritious food. Distances from the center of each ½-kilometer-square grid containing population data to the center of the grid containing the nearest store were estimated for the entire population and for population subgroups. In addition to updating the previous analysis, a new analysis of supermarket access in Alaska Native, American Indian, and Native Hawaiian tribal areas is presented, as well as estimates of the distance to the three nearest stores as an indicator of the amount of competition and consumer choice available.