Technical Notes:
Reaching America's Health Potential: A State-by-State Look at Adult Health

Data Sources

The American Community Survey (ACS), conducted by the U.S. Census Bureau, is a nationwide survey designed to provide information on changes in demographic, housing, social and economic characteristics every year for all states and for all cities, counties, metropolitan areas and population groups of 65,000 people or more. The 2007 ACS data for adults' (ages 25-74 years) were analyzed to obtain information nationally and in each state on household income, level of educational attainment, and racial or ethnic group. Income was based on reported household income (national N=1,793,705, excluding missing observations), measured as a percentage of the federal poverty level (FPL); adults were considered to be poor (<100% of FPL), near-poor (100-199% of FPL), middle-income (200-399% of FPL), or higher-income (400% of FPL or higher). Education was based on the reported highest level attained by the respondent (national N=1,822,218); adults were categorized as less than high-school graduate, high-school graduate, some college, and college graduate. Racial or ethnic group was based on the respondent's report of his or her own race and whether he or she was of Hispanic origin (national N=1,822,218), with the following mutually-exclusive groups: non-Hispanic white; non-Hispanic black; Hispanic (of any race); non-Hispanic Asian; non-Hispanic American Indian or Alaska Native; non-Hispanic Native Hawaiian or other Pacific Islander; and non-Hispanic "other," which includes adults who reported any other or more than one racial or ethnic group. Analyses of the ACS were completed using the U.S. Census Bureau's DataFerrett program.

The Behavioral Risk Factor Surveillance System Survey (BRFSS) established by the U.S. Centers for Disease Control and Prevention is designed to examine preventive health practices and risk behaviors in the adult population (18 years of age or older) living in U.S. households. Data are collected from a random sample of adults (one per household) through a telephone survey. The 2005-2007 BRFSS data for respondents aged 25-74 years (national N=914,669) were combined and analyzed to obtain information on (1) adult health status nationally and in each state, both by highest level of educational attainment (categorized as above) and by racial or ethnic group (categorized as above); (2) adult health status by educational attainment within racial or ethnic groups nationally; and (3) adult health status by both educational attainment and health-related behaviors nationally and in each state. Adult health status was based on self-reported assessment of one's own health measured as excellent, very good, good, fair or poor, and dichotomized to compare adults who rated their health as poor, fair, or good with those who rated their health as very good or excellent. Individuals were considered to practice healthy behaviors if they did not currently smoke and had recent leisure-time physical exercise (i.e., reported physical activity or exercise other than their regular job—including running, calisthenics, golf, gardening or walking—during the past month). SUDAAN, version 10.0, was used to produce prevalence estimates that were age-adjusted to the 2000 standard population and weighted to account for the complex sample designs. (Note: To assess the suitability of BRFSS for examining educational disparities within states, we compared the educational distributions of the state-specific BRFSS samples with those based on ACS data. Similar findings reassured us that the variable and often low state-specific response rates in BRFSS would not introduce potentially substantial response bias.)

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Analyses

(1) National Benchmark

Based on 2005-2007 BRFSS data, a national benchmark calculated for adult health status—intended to represent a level of good health that should be possible for all adults in every state—was featured to emphasize two points:

(1) Levels of adult health are better in some states than in others, even when only adults in the most-educated groups are considered; and
(2) Differences in health occur among adults even within the most-educated groups; at every level of educational attainment, adult health is also shaped by other factors, including whether they practice good health-related habits like refraining from smoking and exercising regularly.

The national benchmark used here—19.0 percent of adults who rated their own health as less than very good, seen in Vermont—was selected as the lowest statistically reliable rate of less than very good health observed in any state among college graduates who were non-smokers and had recent leisure-time physical exercise.

(2) National Overview

Based on the 2007 ACS data, distributions of household income, level of educational attainment, and racial or ethnic group are displayed to provide a snapshot of three key social factors that affect adults' health. Data are shown for six racial or ethnic groups (non-Hispanic white; non-Hispanic black; Hispanic; non-Hispanic Asian; non-Hispanic American Indian or Alaska Native; and non-Hispanic "other."

Based on 2005-2007 BRFSS data, differences in adult health status were shown: (a) by educational attainment and by racial or ethnic group separately; (b) by educational attainment within racial/ethnic groups; and (c) by healthy behaviors within educational attainment groups. In each case, graphs included the U.S. overall rate of less than very good health and the national benchmark. All national-level rates were considered statistically reliable, with relative standard errors of 30% or less.

(3) How Do States Compare?

Based on 2005-2007 BRFSS data, summary tables include the following information for each state and Washington, DC:

a) Size of adult population, defined as the yearly average (2005-2007) number of adults ages 25-74 years.
b) Percent of adults in less than very good health in the state overall.
c) State ranking based on the overall percent in less than very good health, from smallest (ranking=1) to largest (ranking=51); states with the same percent were assigned the same ranking.
d) Percent of adults in less than very good health for each level of educational attainment.
e) Percent of adults statewide who were not college graduates (i.e., the percent of adults who would be affected if the health gap by education were eliminated).
f) Size of gap in adult health status by educational attainment, defined here as the population attributable risk (PAR) (i.e., the difference between the state's overall percent of adults in less than very good health and the percent among college graduates).
g) State ranking based on the size of the health gap, from smallest (ranking=1) to largest (ranking=51); states with the same size gap were assigned the same ranking.

ArcView (version 9.2) was used to create a map displaying the state rankings based on the size of the health gap (PAR) in adult health status by educational attainment. States were grouped into approximately three equal groups based on the size of the gap (small, 9.0-12.8; medium, 13.0-14.7; large, 15.1-19.9).

(3) Snapshots of Each State

For each state and Washington, DC, distributions of household income, level of educational attainment, and racial or ethnic group are shown to provide a snapshot of three key social factors that affect adults' health. For most states, four racial or ethnic groups (non-Hispanic white, non-Hispanic black; Hispanic; and non-Hispanic other) are shown. In states for which BRFSS data included more detailed information, additional racial and ethnic groups were shown as well.

For each state and Washington, DC, differences in adult health status both by educational attainment and by racial or ethnic group are shown along with the state's overall rate, the U.S. overall rate, and the national benchmark. Racial or ethnic groups that comprised at least 3 percent of the dataset are included as separate groups; otherwise, they are included in the "other" racial or ethnic group. All state-level rates were considered to be statistically reliable, with relative standard errors of 30% or less.

Note: In comparative statements included in the accompanying captions for charts throughout the chartbook, only those differences that were statistically significant based on non-overlapping 95% confidence intervals were highlighted.