



# NATIONAL HEALTH INTERVIEW SURVEY EARLY RELEASE PROGRAM

## Wireless Substitution: Early Release of Estimates From the National Health Interview Survey, July–December 2013

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### Overview

Preliminary results from the July–December 2013 National Health Interview Survey (NHIS) indicate that the number of American homes with only wireless telephones continues to grow. Two in every five American homes (41.0%) had only wireless telephones (also known as cellular telephones, cell phones, or mobile phones) during the second half of 2013—an increase of 1.6 percentage points since the first half of 2013 and 2.8 percentage points since the second half of 2012. However, these increases are smaller than those observed in previous years. This report presents the most up-to-date estimates available from the federal government concerning the size and characteristics of these populations.

### NHIS Early Release Program

This report is published as part of the NHIS Early Release Program. Twice each year, the Centers for Disease Control and Prevention’s (CDC) National Center for Health Statistics (NCHS) releases selected estimates of telephone coverage for the civilian noninstitutionalized U.S. population based on data from NHIS, along with comparable estimates from NHIS for the previous 3 years. The estimates are based on in-person interviews that NHIS conducts continuously throughout the year to collect information on health status, health-related behaviors, and health care access and utilization. The survey also includes information about household telephones and whether anyone in the household has a wireless telephone.

Two additional reports are published regularly as part of the NHIS Early Release Program. *Early Release of Selected Estimates Based on Data From the National Health Interview Survey* is published quarterly and provides estimates for 15 selected measures of health. *Health Insurance Coverage: Early Release of Estimates From the National Health Interview Survey* is also published quarterly and provides additional estimates regarding health insurance coverage. Other Early Release Program products are released as needed.

### Methods

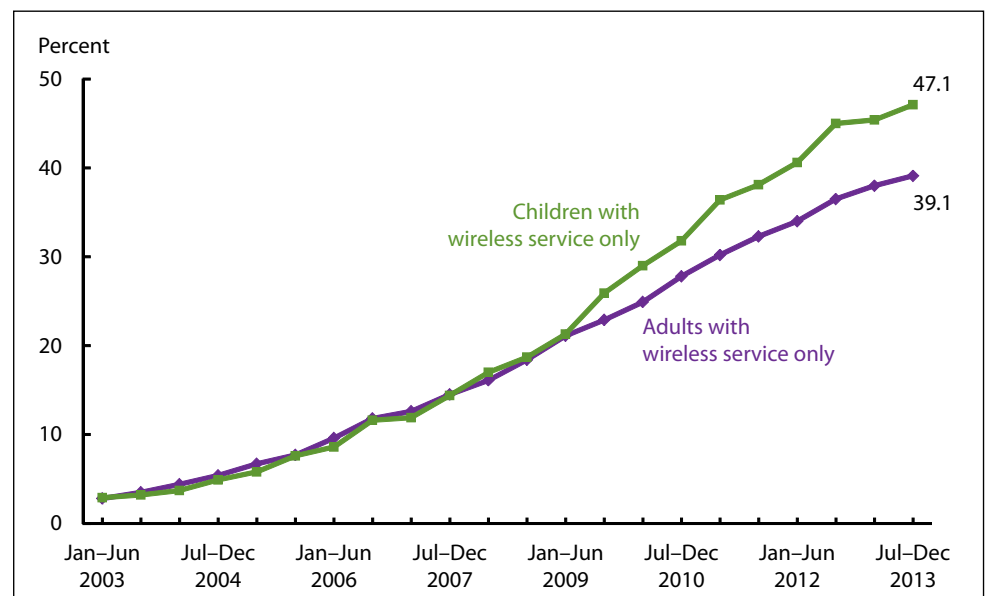
For many years, NHIS has asked respondents to provide residential telephone numbers, to permit the recontacting of survey participants. Starting in 2003, additional questions

were asked to determine whether a family had a landline telephone. An NHIS family was considered to have landline telephone service if the survey respondent for the family reported that there was “at least one phone inside your home that is currently working and is not a cell phone.” (To avoid possible confusion with cordless landline telephones, the word “wireless” was not used in the survey.)

An NHIS “family” is an individual or a group of two or more related persons living together in the same housing unit (a “household”). Thus, a family can consist of only one person, and more than one family can live in a household (including, for example, a household where there are multiple single-person families, as when unrelated roommates are living together).

The survey respondent for each family was also asked whether “anyone in

**Figure. Percentages of adults and children living in households with only wireless telephone service: United States, 2003–2013**



NOTE: Adults are aged 18 and over; children are under age 18.  
DATA SOURCE: CDC/NCHS, National Health Interview Survey.

your family has a working cellular telephone.” Families are identified as “wireless families” if respondents reported that someone in the family had a working cell phone at the time of interview. This person (or persons) could be a civilian adult, a member of the military, or a child.

Households are identified as “wireless-only” if they include at least one wireless family and if there are no families with landline telephone service in the household. Persons are identified as wireless-only if they live in a wireless-only household. A similar approach is used to identify adults living in households with no telephone service (neither wireless nor landline). Household telephone status (rather than family telephone status) is used in this report because most telephone surveys do not attempt to distinguish among families when more than one family lives in the same household.

From July through December 2013, information on household telephone status was obtained for 21,512 households that included at least one civilian adult or child. These households included 40,173 civilian adults aged 18 and over, and 13,714 children under age 18. Analyses of telephone status are presented separately for households, adults, and children in **Table 1**.

Analyses of demographic characteristics are based on data from the NHIS Person and Household Files. Demographic data for all civilian adults living in interviewed households were used in these analyses. “Household income” is the sum of the family incomes in the household. Estimates stratified by household poverty status are based on reported income only because imputed income values are not available until a few months after the annual release of NHIS microdata. Household poverty status was unknown for 21.5% of adults in these analyses.

Analyses of selected health measures are based on data from the NHIS Sample Adult File. Health-related data for one randomly selected civilian adult (the “sample adult”) in each family were used in these analyses. From July through December 2013, data on household telephone status and selected health measures were collected from 17,967 of these sample adults.

Because NHIS is conducted throughout the year and the sample is designed to yield a nationally representative sample each month, data can be analyzed quarterly. Weights are created for each calendar quarter of the NHIS sample. NHIS data weighting procedures are described in more detail in a previous NCHS report (**Parsons et al., 2014**). To provide access to the most recent information from NHIS, estimates using the July–December 2013 data are being released prior to final data editing and final weighting. These estimates should be considered preliminary. If estimates are produced using the final data files, the estimates may differ slightly from those presented here.

Point estimates and 95% confidence intervals were calculated using SUDAAN software (RTI International, Research Triangle Park, NC) to account for the complex sample design of NHIS. Differences between percentages were evaluated using two-sided significance tests at the 0.05 level. Terms such as “more likely” and “less likely” indicate a statistically significant difference. Lack of comment regarding the difference between any two estimates does not necessarily mean that the difference was tested and found to be not significant. Because of small sample sizes, estimates based on less than 1 year of data may have large variances, and caution should be used in interpreting such estimates.

## Telephone Status

In the second 6 months of 2013, two in every five households (41.0%) did not have a landline telephone but did have at least one wireless telephone (**Table 1**). Approximately 39.1% of all adults (about 93 million adults) lived in households with only wireless telephones; 47.1% of all children (nearly 35 million children) lived in households with only wireless telephones.

Although the percentage of households that are wireless-only continues to increase, there is evidence that the rate of growth may be slowing. Considering the annual change from the second 6 months of one year through the second 6 months of the next, the 2.8-percentage-point increase from 2012

through 2013 is less than the 4.2-percentage-point increase from 2011 through 2012 and the 4.3-percentage-point increase from 2010 through 2011. The annual growth from 2009 to 2010 was 5.2 percentage points (results not shown).

The percentages of adults and children living in wireless-only households has also been increasing over time (**Figure**), although neither the 1.1-percentage-point increase for adults from the first 6 months through the second 6 months of 2013 nor the 1.7-percentage-point increase for children over the same period was statistically significant.

The percentages of adults and children living without any telephone service have remained relatively unchanged over the past 3 years. Approximately 2.5% of households had no telephone service (neither wireless nor landline). About 5.2 million adults (2.2%) and 1.8 million children (2.5%) lived in these households.

## Demographic Differences

The percentage of U.S. civilian noninstitutionalized adults living in wireless-only households is shown, by selected demographic characteristics and by survey time period, in **Table 2**. For July–December 2013, there are five demographic groups in which the majority live in households with only wireless telephones: adults aged 18–34, adults living only with unrelated adult roommates, adults renting their home, adults living in poverty, and Hispanic adults.

- Nearly two-thirds of adults aged 25–29 (65.7%) lived in households with only wireless telephones. This rate is greater than the rates for those aged 18–24 (53.0%) or 30–34 (59.7%). The percentage of adults living in households with only wireless telephones decreased as age increased beyond 35 years: 47.8% for those aged 35–44; 31.4% for those aged 45–64; and 13.6% for those aged 65 and over.
- Three in four adults living only with unrelated adult roommates (76.1%) were in households with only wireless

telephones. This rate is higher than the rates for adults living alone (46.6%) and for adults living only with spouses or other adult family members (31.0%).

- Three in five adults living in rented homes (61.7%) had only wireless telephones. This rate is more than twice the rate for adults living in homes owned by a household member (28.5%).
- Adults living in poverty (56.2%) were more likely than adults living near poverty (46.1%) and higher income adults (36.6%) to be living in households with only wireless telephones. (**Table 2**, footnote 3, gives definitions of these categories.)
- Hispanic adults (53.1%) were more likely than non-Hispanic white (35.1%) or non-Hispanic black (42.7%) adults to be living in households with only wireless telephones.

Other demographic differences were also noted:

- Men (40.4%) were more likely than women (37.9%) to be living in households with only wireless telephones.
- Adults living in the Midwest (43.7%), South (41.9%), and West (41.2%) were more likely than those living in the Northeast (24.9%) to be living in households with only wireless telephones.

## Demographic Distributions

The demographic differences noted in the previous section are based on the distribution of household telephone status within each demographic group. When examining the population of wireless-only adults, some readers may instead wish to consider the distribution of various demographic characteristics within the wireless-only adult population.

**Table 3** gives the percent distributions of selected demographic characteristics for adults living in households with only wireless telephones,

by survey time period. The estimates in this table reveal that the distributions of selected demographic characteristics changed little over the 3-year period shown. The exceptions were related to age and home ownership status. From the second 6 months of 2010 to the second 6 months of 2013,

- Among all wireless-only adults, the proportion aged 35 and over has increased steadily. In the second 6 months of 2013, more than one-half of wireless-only adults (54.6%) were aged 35 and over, up from 47.6% in the second 6 months of 2010.
- Among all wireless-only adults, the proportion living in homes owned by a household member increased. In the second 6 months of 2013, 48.5% of wireless-only adults were living in homes owned by a household member, up from 43.3% in the second 6 months of 2010.

## Selected Health Measures by Household Telephone Status

Many health surveys, political polls, and other types of research are conducted using random-digit-dial (RDD) telephone surveys. Until recently, these surveys did not include wireless telephone numbers in their samples. Now, despite operational challenges, most major survey research organizations are including wireless telephone numbers when conducting RDD surveys. If they did not, the exclusion of households with only wireless telephones (along with the small proportion of households that have no telephone service) could bias results. This bias—known as coverage bias—could exist if there are differences between persons with and without landline telephones for the substantive variables of interest.

The NHIS Early Release Program updates and releases estimates for 15 key health indicators every 3 months. **Table 4** presents estimates by household telephone status (landline, wireless-only, or phoneless) for all but two of these measures. (“Pneumococcal vaccination” and “personal care needs” were not included because these indicators are

limited to older adults aged 65 and over.) For July–December 2013,

- The prevalence of having five or more alcoholic drinks in 1 day during the past year among wireless-only adults (29.0%) was substantially higher than the prevalence among adults living in landline households (17.2%). Wireless-only adults were also more likely to be current smokers than were adults living in landline households.
- The percentage without health insurance coverage at the time of interview among wireless-only adults under age 65 (25.2%) was greater than the percentage among adults in that age group living in landline households (14.7%).
- Compared with adults living in landline households, wireless-only adults were more likely to have experienced financial barriers to obtaining needed health care, and they were less likely to have a usual place to go for medical care. Wireless-only adults were also less likely to have received an influenza vaccination during the previous year
- Wireless-only adults (45.1%) were more likely than adults living in landline households (32.3%) to have ever been tested for human immunodeficiency virus (HIV), the virus that causes AIDS.

The potential for bias due to undercoverage remains a real threat to surveys conducted only on landline telephones.

## Wireless-mostly Households

The potential for bias due to undercoverage is not the only threat to surveys conducted only on landline telephones. Researchers are also concerned that some people living in households with landlines cannot be reached on those landlines because they rely on wireless telephones for all or almost all of their calls.

In 2007, a question was added to NHIS for persons living in families with both landline and cellular telephones. The

respondent for the family was asked to consider all of the telephone calls his or her family receives and to report whether “all or almost all calls are received on cell phones, some are received on cell phones and some on regular phones, or very few or none are received on cell phones.” This question permits the identification of persons living in “wireless-mostly” households—defined as households with both landline and cellular telephones in which all families receive all or almost all calls on cell phones.

Among households with both landline and wireless telephones, 33.6% received all or almost all calls on wireless telephones, based on data for July–December 2013. These wireless-mostly households make up 16.1% of all households. During the second 6 months of 2013, about 44 million adults (18.3%) lived in wireless-mostly households. This prevalence estimate was greater than, but not significantly different from, the estimate for the second 6 months of 2010 (17.4%).

**Table 5** gives the percentage of adults living in wireless-mostly households, by demographic characteristics and by survey time period. For July–December 2013,

- Adults with college degrees (22.3%) were more likely to be living in wireless-mostly households than were high school graduates (16.5%) or adults with less education (12.4%).
- Adults living with children (22.6%) were more likely than adults living alone (9.4%), with roommates (11.2%), or with only adult relatives (18.1%) to be living in wireless-mostly households.
- Adults living in poverty (9.1%) and adults living near poverty (12.0%) were less likely than higher-income adults (22.1%) to be living in wireless-mostly households.
- Adults living in rented homes (12.4%) were less likely to be living in wireless-mostly households than were adults living in homes owned by a household member (21.0%).

Research by **Boyle, Lewis, and Tefft (2009)** suggests that the majority of adults living in wireless-mostly households are reachable using their landline telephone number. NHIS data cannot be used to estimate the proportion of wireless-mostly adults who are unreachable or to estimate the potential for bias due to their exclusion from landline surveys.

## References and Other Sources of Information

For more information about the potential implications for health surveys that are based on landline telephone interviews, see

- Blumberg SJ, Luke JV. Reevaluating the need for concern regarding noncoverage bias in landline surveys. *Am J Public Health* 99(10):1806–10. 2009. Available from: <http://ajph.aphapublications.org/cgi/content/abstract/99/10/1806>.
- Blumberg SJ, Luke JV, Cynamon ML, Frankel MR. Recent trends in household telephone coverage in the United States. In: Lepkowski JM et al., eds. *Advances in telephone survey methodology*. New York: John Wiley and Sons, 56–86. 2008.
- Boyle JM, Lewis F, Tefft B. Cell phone mainly households: Coverage and reach for telephone surveys using RDD landline samples. *Survey Practice* 2(9). 2009. Available from: <http://surveypractice.wordpress.com/2009/12/09/cell-phone-and-landlines/>.

When including wireless telephone numbers in RDD surveys, researchers have many methodological, statistical, operational, legal, and ethical issues to consider. These issues have been described in a report from a task force of the American Association for Public Opinion Research (AAPOR). That task force included staff from CDC, and its report is available online:

- AAPOR Cell Phone Task Force. *New considerations for survey researchers when planning and conducting RDD*

telephone surveys in the U.S. with respondents reached via cell phone numbers. Deerfield, IL: American Association for Public Opinion Research. 2010. Available from: [http://aapor.org/cell\\_phone\\_task\\_force.htm](http://aapor.org/cell_phone_task_force.htm).

The potential for bias may differ from one state to another because the prevalence of wireless-only households varies substantially across states. For more information about prevalence estimates at the state and local levels, see

- Blumberg SJ, Ganesh N, Luke JV, Gonzales G. *Wireless substitution: State-level estimates from the National Health Interview Survey, 2012*. National health statistics reports; no 70. Hyattsville, MD: National Center for Health Statistics. 2013. Available from: <http://www.cdc.gov/nchs/data/nhsr/nhsr070.pdf>.

For more information about NHIS and the NHIS Early Release Program, or to find other Early Release Program products, see

- NHIS home page at <http://www.cdc.gov/nchs/nhis.htm>.
- Early Release Program home page at <http://www.cdc.gov/nchs/nhis/releases.htm>.
- Parsons VL, Moriarity CL, Jonas K, et al. Design and estimation for the National Health Interview Survey: 2006–2015. *National Center for Health Statistics. Vital Health Stat* 2(165). 2014. Available from: [http://www.cdc.gov/nchs/data/series/sr\\_02/sr02\\_165.pdf](http://www.cdc.gov/nchs/data/series/sr_02/sr02_165.pdf).

## Suggested Citation

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Wireless Substitution: Early Release of Estimates From the National Health Interview Survey, July–December 2013

Table 1. Percent distribution of household telephone status for households, adults, and children, by date of interview: United States, July 2010–December 2013

Date of interview	Number of households (unweighted)	Household telephone status						Total
		Landline with wireless	Landline without wireless	Landline with unknown wireless	Nonlandline with unknown wireless	Wireless-only	Phoneless	
Percent of households								
July–December 2010	16,676	55.0	12.9	0.3	0.1	29.7	2.0	100.0
January–June 2011	20,133	55.0	11.2	0.2	0.1	31.6	2.0	100.0
July–December 2011	19,311	53.4	10.2	0.2	0.0	34.0	2.2	100.0
January–June 2012	20,608	52.5	9.4	0.2	0.0	35.8	2.1	100.0
July–December 2012	21,709	50.8	8.6	0.2	0.1	38.2	2.1	100.0
January–June 2013	19,765	49.5	8.5	0.1	0.0	39.4	2.3	100.0
July–December 2013	21,512	47.7	8.6	0.1	0.1	41.0	2.5	100.0
95% confidence interval <sup>1</sup>	...	46.53–48.92	8.05–9.15	0.06–0.16	0.02–0.11	39.82–42.28	2.22–2.79	...
Percent of adults								
July–December 2010	31,791	59.4	10.7	0.3	0.1	27.8	1.8	100.0
January–June 2011	38,104	58.8	9.0	0.2	0.0	30.2	1.8	100.0
July–December 2011	36,564	57.3	8.3	0.2	0.0	32.3	1.9	100.0
January–June 2012	38,896	56.1	7.8	0.2	0.0	34.0	1.9	100.0
July–December 2012	40,839	54.4	7.0	0.2	0.1	36.5	1.9	100.0
January–June 2013	37,268	52.8	6.9	0.1	0.0	38.0	2.2	100.0
July–December 2013	40,173	51.5	7.0	0.1	0.1	39.1	2.2	100.0
95% confidence interval <sup>1</sup>	...	50.27–52.74	6.54–7.53	0.05–0.16	0.02–0.11	37.86–40.36	1.97–2.51	...
Percent of children								
July–December 2010	11,815	59.8	6.2	0.1	0.1	31.8	2.0	100.0
January–June 2011	13,753	56.7	5.1	0.1	0.0	36.4	1.7	100.0
July–December 2011	13,028	54.7	4.8	0.1	0.0	38.1	2.2	100.0
January–June 2012	13,905	52.7	4.5	0.1	–	40.6	2.2	100.0
July–December 2012	14,083	49.5	3.4	0.1	0.1	45.0	1.9	100.0
January–June 2013	12,932	48.3	3.6	0.1	0.0	45.4	2.6	100.0
July–December 2013	13,714	46.4	3.8	0.1	0.0	47.1	2.5	100.0
95% confidence interval <sup>1</sup>	...	44.64–48.21	3.26–4.43	0.03–0.19	0.01–0.07	45.38–48.89	2.06–3.15	...

0.0 Quantity more than zero but less than 0.05.

... Category not applicable.

–Quantity zero.

<sup>1</sup>Refers to July–December 2013.

NOTE: Data are based on household interviews of a sample of the civilian noninstitutionalized population.

DATA SOURCE: CDC/NCHS, National Health Interview Survey, July 2010–December 2013.

**Table 2. Percentage of adults living in wireless-only households, by selected demographic characteristics and calendar half-years: United States, July 2010–December 2013**

Demographic characteristic	Calendar half-year						95% confidence interval <sup>1</sup>	
	Jul–Dec 2010	Jan–Jun 2011	Jul–Dec 2011	Jan–Jun 2012	Jul–Dec 2012	Jan–Jun 2013		
<b>Race/ethnicity</b>								
Hispanic or Latino, any race(s)	38.4	40.8	43.3	46.5	50.5	49.9	53.1	50.77–55.35
Non-Hispanic white, single race	25.0	27.6	29.0	30.4	32.9	35.1	35.1	33.59–36.61
Non-Hispanic black, single race	31.1	32.5	36.8	37.7	39.0	39.4	42.7	40.22–45.25
Non-Hispanic Asian, single race	27.0	27.7	31.6	33.4	34.4	35.2	38.1	34.79–41.59
Non-Hispanic other, single race	31.9	33.8	44.1	43.4	43.9	50.1	51.7	42.50–60.82
Non-Hispanic multiple race	36.1	39.3	36.7	40.2	45.3	46.2	45.7	40.11–51.45
<b>Age (years)</b>								
18–24	45.5	46.8	48.6	49.5	53.2	54.3	53.0	50.34–55.60
25–29	53.5	58.1	59.6	60.1	62.1	65.6	65.7	63.16–68.17
30–34	43.8	46.2	50.9	55.1	56.7	59.9	59.7	57.31–62.09
35–44	30.9	34.3	36.8	39.1	43.5	44.5	47.8	45.75–49.79
45–64	18.8	21.6	23.8	25.8	28.4	29.8	31.4	30.09–32.73
65 and over	7.7	7.9	8.5	10.5	11.6	12.6	13.6	12.42–14.81
<b>Sex</b>								
Male	29.0	31.4	33.7	35.2	38.0	39.7	40.4	39.00–41.73
Female	26.8	29.1	30.9	32.9	35.1	36.5	37.9	36.69–39.20
<b>Education</b>								
Some high school or less	29.2	32.1	34.7	36.4	42.4	41.7	41.8	39.73–43.97
High school graduate or GED <sup>2</sup>	27.6	30.8	32.7	33.9	35.9	37.2	38.8	37.15–40.43
Some post-high school, no degree	30.9	31.8	35.1	36.7	38.3	40.6	41.7	39.97–43.43
4-year college degree or higher	24.3	26.9	27.8	30.1	32.2	34.5	35.5	33.63–37.51
<b>Employment status last week</b>								
Working at a job or business	31.5	34.2	36.8	38.4	41.4	43.5	44.4	43.02–45.78
Keeping house	25.8	31.2	32.7	34.0	38.6	39.4	40.5	37.79–43.23
Going to school	38.6	35.3	40.8	41.9	46.0	48.1	46.3	42.23–51.49
Something else (incl. unemployed)	19.2	21.0	22.3	23.6	25.1	25.2	27.0	25.71–28.24
<b>Household structure</b>								
Adult living alone	36.8	38.0	41.3	43.0	43.9	46.4	46.6	44.65–48.54
Unrelated adults, no children	69.7	71.3	77.5	75.9	76.2	74.7	76.1	69.07–81.97
Related adults, no children	22.1	23.2	25.1	27.0	28.2	29.6	31.0	29.56–32.46
Adult(s) with children	29.4	33.6	35.4	37.2	42.2	43.6	44.8	43.12–46.40
<b>Household poverty status<sup>3</sup></b>								
Poor	42.8	46.8	51.4	51.8	54.3	54.7	56.2	53.47–58.96
Near-poor	35.2	38.1	39.6	42.3	45.9	47.5	46.1	43.65–48.50
Not-poor	24.1	27.7	28.9	30.7	33.2	35.3	36.6	35.02–38.16

See footnotes at end of table.

**Table 2. Percentage of adults living in wireless-only households, by selected demographic characteristics and calendar half-years: United States, July 2010–December 2013—Continued**

Demographic characteristic	Calendar half-year						95% confidence interval <sup>1</sup>	
	Jul–Dec 2010	Jan–Jun 2011	Jul–Dec 2011	Jan–Jun 2012	Jul–Dec 2012	Jan–Jun 2013		Jul–Dec 2013
Geographic region <sup>4</sup>								
Northeast	17.2	18.8	20.6	23.1	23.6	27.1	24.9	21.89–28.15
Midwest	30.0	33.5	35.2	37.5	40.6	39.6	43.7	41.02–46.40
South	31.1	33.6	35.9	37.2	39.7	41.8	41.9	39.87–43.86
West	28.7	30.3	33.0	34.0	37.8	39.0	41.2	38.86–43.39
Metropolitan statistical area status								
Metropolitan	29.1	31.4	33.6	35.7	38.1	39.5	40.5	39.07–41.90
Not metropolitan	22.9	25.6	27.2	27.1	30.5	32.4	33.7	30.92–36.59
Home ownership status <sup>5</sup>								
Owned or being bought	17.7	20.6	21.2	23.2	25.4	27.2	28.5	27.22–29.76
Renting	50.3	52.5	56.0	58.2	59.7	61.5	61.7	60.15–63.30
Other arrangement	35.1	38.4	40.7	37.7	49.1	42.6	49.3	42.80–55.90
Number of wireless-only adults in survey sample (unweighted)	9,228	11,872	12,350	13,724	15,589	14,512	16,436	...

... Category not applicable.

<sup>1</sup>Refers to July–December 2013.

<sup>2</sup>GED is General Educational Development high school equivalency diploma.

<sup>3</sup>Based on household income and household size using the U.S. Census Bureau's poverty thresholds. "Poor" persons are defined as those below the poverty threshold. "Near-poor" persons have incomes of 100% to less than 200% of the poverty threshold. "Not-poor" persons have incomes of 200% of the poverty threshold or greater. Early Release estimates stratified by poverty status are based on reported income only and may differ from similar estimates produced later that are based on both reported and imputed income. NCHS imputes income when income is unknown, but the imputed income file is not available until a few months after the annual release of National Health Interview Survey microdata. For households with multiple families, household income and household size were calculated as the sum of the multiple measures of family income and family size.

<sup>4</sup>In the geographic classification of the U.S. population, states are grouped into the following four regions used by the U.S. Census Bureau: *Northeast* includes Maine, Vermont, New Hampshire, Massachusetts, Connecticut, Rhode Island, New York, New Jersey, and Pennsylvania; *Midwest* includes Ohio, Illinois, Indiana, Michigan, Wisconsin, Minnesota, Iowa, Missouri, North Dakota, South Dakota, Kansas, and Nebraska; *South* includes Delaware, Maryland, District of Columbia, West Virginia, Virginia, Kentucky, Tennessee, North Carolina, South Carolina, Georgia, Florida, Alabama, Mississippi, Louisiana, Oklahoma, Arkansas, and Texas; and *West* includes Washington, Oregon, California, Nevada, New Mexico, Arizona, Idaho, Utah, Colorado, Montana, Wyoming, Alaska, and Hawaii.

<sup>5</sup>For households with multiple families, home ownership status was determined by considering the reported home ownership status for each family. If any family reported owning the home, then the household-level variable was classified as "Owned or being bought" for all persons living in the household. If one family reported renting the home and another family reported "other arrangement," then the household-level variable was classified as "Other arrangement" for all persons living in the household.

NOTE: Data are based on household interviews of a sample of the civilian noninstitutionalized population.

DATA SOURCE: CDC/NCHS, National Health Interview Survey, July 2010–December 2013.

**Table 3. Percent distributions of selected demographic characteristics for adults living in wireless-only households, by date of interview: United States, July 2010–December 2013**

Demographic characteristic	Calendar half-year						95% confidence interval <sup>1</sup>	
	Jul–Dec 2010	Jan–Jun 2011	Jul–Dec 2011	Jan–Jun 2012	Jul–Dec 2012	Jan–Jun 2013		
<b>Race/ethnicity</b>								
Hispanic or Latino, any race(s)	19.5	19.0	19.1	20.3	20.6	19.7	20.5	18.82–22.34
Non-Hispanic white, single race	61.0	61.8	61.0	59.6	59.7	61.0	59.2	57.35–61.09
Non-Hispanic black, single race	13.0	12.5	13.1	12.7	12.3	12.0	12.6	11.53–13.76
Non-Hispanic Asian, single race	4.5	4.3	4.7	5.1	4.9	5.0	5.2	4.67–5.83
Non-Hispanic other, single race	0.7	0.8	0.9	0.8	0.8	0.9	1.0	0.70–1.35
Non-Hispanic multiple race	1.3	1.6	1.3	1.5	1.6	1.5	1.4	1.23–1.69
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	...
<b>Age (years)</b>								
18–24	21.1	20.0	19.4	18.9	18.9	18.4	17.4	16.30–18.65
25–29	17.7	17.6	17.0	15.5	14.8	15.2	14.8	13.92–15.66
30–34	13.7	13.3	14.0	14.0	13.4	13.5	13.3	12.59–13.99
35–44	19.3	19.5	19.2	19.5	20.0	19.7	20.4	19.45–21.34
45–64	23.6	25.0	25.8	26.7	27.1	27.2	27.8	26.72–28.81
65 and over	4.7	4.5	4.6	5.5	5.7	6.0	6.4	5.78–7.05
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	...
<b>Sex</b>								
Male	50.3	50.4	50.7	49.8	50.1	50.3	49.7	49.04–50.38
Female	49.7	49.6	49.3	50.2	49.9	49.7	50.3	49.62–50.96
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	...
<b>Education</b>								
Some high school or less	15.4	15.6	15.2	15.2	16.1	15.0	14.5	13.58–15.44
High school graduate or GED <sup>2</sup>	28.1	27.8	28.2	27.1	27.4	26.7	26.9	25.83–27.98
Some post-high school, no degree	32.7	32.2	32.7	33.3	31.8	32.6	32.4	31.14–33.71
4-year college degree or higher	23.9	24.3	23.9	24.5	24.6	25.8	26.2	24.82–27.65
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	...
<b>Employment status last week</b>								
Working at a job or business	68.8	68.5	69.0	69.3	68.9	69.7	70.1	69.02–71.12
Keeping house	5.5	5.9	5.6	5.3	5.8	5.9	5.7	5.21–6.13
Going to school	4.7	4.2	4.0	4.3	4.0	4.4	3.6	3.10–4.28
Something else (incl. unemployed)	20.0	20.3	20.6	20.2	20.5	19.2	19.8	18.92–20.81
Unknown, not reported	1.1	1.0	0.7	0.9	0.9	0.7	0.8	0.58–1.02
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	...
<b>Household structure</b>								
Adult living alone	20.0	18.7	19.8	18.9	18.6	18.8	18.6	17.56–19.65
Unrelated adults, no children	4.0	4.3	4.0	3.8	3.1	3.2	2.9	2.24–3.69
Related adults, no children	36.0	35.3	35.8	36.9	35.7	35.8	36.9	35.60–38.28
Adult(s) with children	40.0	41.7	40.5	40.4	42.6	42.2	41.6	40.11–43.13
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	...

See footnotes at end of table.



**Table 3. Percent distribution of selected demographic characteristics for adults living in wireless-only households, by date of interview: United States, July 2010–December 2013—Continued**

Demographic characteristic	Calendar half-year						95% confidence interval <sup>1</sup>	
	Jul–Dec 2010	Jan–Jun 2011	Jul–Dec 2011	Jan–Jun 2012	Jul–Dec 2012	Jan–Jun 2013		Jul–Dec 2013
<b>Household poverty status<sup>3</sup></b>								
Poor	17.4	15.6	15.9	15.0	15.4	13.9	14.1	13.00–15.27
Near-poor	18.6	17.7	18.2	17.7	18.0	17.8	16.6	15.66–17.58
Not-poor	52.3	47.8	46.2	47.1	46.1	48.5	47.8	46.14–49.48
Unknown, not reported	11.7	18.8	19.8	20.2	20.6	19.7	21.5	20.16–22.90
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	...
<b>Geographic region<sup>4</sup></b>								
Northeast	11.0	11.1	11.7	12.4	11.7	12.6	11.3	9.63–13.15
Midwest	24.7	24.9	25.2	24.5	24.8	23.1	25.1	22.91–27.35
South	40.2	40.5	39.9	40.4	40.1	40.8	39.9	37.59–42.19
West	24.1	23.5	23.3	22.8	23.4	23.6	23.8	21.93–25.78
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	...
<b>Metropolitan statistical area status</b>								
Metropolitan	82.7	82.8	82.3	83.9	82.6	82.8	82.6	80.34–84.58
Not metropolitan	17.3	17.2	17.7	16.1	17.4	17.2	17.4	15.42–19.66
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	...
<b>Home ownership status<sup>5</sup></b>								
Owned or being bought	43.3	47.0	44.2	46.5	46.6	48.0	48.5	46.65–50.27
Renting	54.2	49.9	53.3	51.2	50.9	49.6	49.1	47.28–50.99
Other arrangement	2.5	3.0	2.5	2.3	2.6	2.4	2.4	1.94–2.97
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	...
Number of wireless-only adults in survey sample (unweighted)	9,228	11,872	12,350	13,724	15,589	14,512	16,436	...

... Category not applicable.

<sup>1</sup>Refers to July–December 2013.

<sup>2</sup>GED is General Educational Development high school equivalency diploma.

<sup>3</sup>Based on household income and household size using the U.S. Census Bureau's poverty thresholds. "Poor" persons are defined as those below the poverty threshold. "Near-poor" persons have incomes of 100% to less than 200% of the poverty threshold. "Not-poor" persons have incomes of 200% of the poverty threshold or greater. Early Release estimates stratified by poverty status are based on reported income only and may differ from similar estimates produced later that are based on both reported and imputed income. NCHS imputes income when income is unknown, but the imputed income file is not available until a few months after the annual release of National Health Interview Survey microdata. For households with multiple families, household income and household size were calculated as the sum of the multiple measures of family income and family size.

<sup>4</sup>In the geographic classification of the U.S. population, states are grouped into the following four regions used by the U.S. Census Bureau: *Northeast* includes Maine, Vermont, New Hampshire, Massachusetts, Connecticut, Rhode Island, New York, New Jersey, and Pennsylvania; *Midwest* includes Ohio, Illinois, Indiana, Michigan, Wisconsin, Minnesota, Iowa, Missouri, North Dakota, South Dakota, Kansas, and Nebraska; *South* includes Delaware, Maryland, District of Columbia, West Virginia, Virginia, Kentucky, Tennessee, North Carolina, South Carolina, Georgia, Florida, Alabama, Mississippi, Louisiana, Oklahoma, Arkansas, and Texas; and *West* includes Washington, Oregon, California, Nevada, New Mexico, Arizona, Idaho, Utah, Colorado, Montana, Wyoming, Alaska, and Hawaii.

<sup>5</sup>For households with multiple families, home ownership status was determined by considering the reported home ownership status for each family. If any family reported owning the home, then the household-level variable was classified as "Owned or being bought" for all persons living in the household. If one family reported renting the home and another family reported "other arrangement," then the household-level variable was classified as "Other arrangement" for all persons living in the household.

NOTE: Data are based on household interviews of a sample of the civilian noninstitutionalized population.

DATA SOURCE: CDC/NCHS, National Health Interview Survey, July 2010–December 2013.

**Table 4. Prevalence rates (and 95% confidence intervals) for selected measures of health-related behaviors, health status, health care service use, and health care access for adults aged 18 and over, by household telephone status: United States, July–December 2013**

Measure	Household telephone status		
	Landline <sup>1</sup>	Wireless-only	Phoneless
<b>Health-related behaviors</b>			
Five or more alcoholic drinks in 1 day at least once in past year <sup>2</sup>	17.2 (16.09–18.45)	29.0 (27.30–30.69)	27.4 (21.68–33.99)
Current smoker <sup>3</sup>	15.2 (14.27–16.26)	22.4 (20.96–23.84)	21.4 (17.38–26.07)
Engaged in regular leisure-time physical activity <sup>4</sup>	36.4 (34.99–37.85)	40.9 (39.36–42.53)	32.2 (26.85–38.12)
<b>Health status</b>			
Health status described as excellent or very good <sup>5</sup>	57.4 (55.95–58.90)	63.8 (62.31–65.33)	57.9 (52.00–63.59)
Experienced serious psychological distress in past 30 days <sup>6</sup>	3.5 (2.96–4.07)	4.4 (3.80–5.08)	6.8 (4.37–10.49)
Obese (adults aged 20 and over) <sup>7</sup>	29.9 (28.41–31.50)	29.0 (27.50–30.48)	29.0 (23.56–35.16)
Asthma episode in past year <sup>8</sup>	3.3 (2.83–3.82)	3.5 (3.03–4.12)	3.4 (2.00–5.69)
Ever diagnosed with diabetes <sup>9</sup>	11.7 (10.86–12.52)	6.2 (5.50–6.91)	7.9 (5.10–11.89)
<b>Health care service use</b>			
Received influenza vaccine during past year <sup>10</sup>	46.5 (44.92–48.14)	31.8 (30.36–33.27)	26.2 (20.75–32.57)
Ever been tested for HIV <sup>11</sup>	32.3 (30.84–33.77)	45.1 (43.41–46.90)	40.4 (34.38–46.62)
<b>Health care access</b>			
Has a usual place to go for medical care <sup>12</sup>	90.2 (89.20–91.07)	74.9 (73.46–76.29)	75.0 (69.79–79.64)
Failed to obtain needed medical care in past year due to financial barriers <sup>13</sup>	5.4 (4.76–6.04)	10.9 (10.04–11.92)	10.7 (7.74–14.65)
Currently uninsured (adults aged 18–64) <sup>14</sup>	14.7 (13.36–16.10)	25.2 (23.54–27.00)	27.2 (22.09–32.90)
Number of adults in survey sample (unweighted)	9,648	7,875	444

<sup>1</sup>Includes households that also have wireless telephone service.

<sup>2</sup>A year is defined as the 12 months prior to interview. The analyses excluded adults with unknown alcohol consumption (about 1.1%).

<sup>3</sup>A person who had smoked more than 100 cigarettes in his or her lifetime and now smokes every day or some days. The analyses excluded adults with unknown smoking status (about 0.8%).

<sup>4</sup>Regular leisure-time physical activity is defined as engaging in light-moderate leisure-time physical activity for greater than or equal to 30 minutes at a frequency greater than or equal to five times per week, or engaging in vigorous leisure-time physical activity for greater than or equal to 20 minutes at a frequency greater than or equal to three times per week. Persons who were known to have not met the frequency recommendations are classified as “not regular,” regardless of duration. The analyses excluded adults with unknown physical activity participation (about 2.2%).

<sup>5</sup>Health status data were obtained by asking respondents to assess their own health and that of family members living in the same household as excellent, very good, good, fair, or poor. The analyses excluded persons with unknown health status (about 0.1%).

<sup>6</sup>Six psychological distress questions are included in the National Health Interview Survey. These questions ask how often during the past 30 days a respondent experienced certain symptoms of psychological distress (feeling so sad that nothing could cheer you up, nervous, restless or fidgety, hopeless, worthless, that everything was an effort). The response codes (0–4) of the six items for each person were weighted equally and summed. A value of 13 or more for this scale indicates that at least one symptom was experienced “most of the time” or “all of the time” and is used here to define serious psychological distress.

<sup>7</sup>Obesity is defined as a body mass index (BMI) of 30 kg/m<sup>2</sup> or more. The measure is based on self-reported height and weight. The analyses excluded adults with unknown height or weight (about 4.4%). Estimates of obesity are presented for adults aged 20 and over because the Healthy People 2020 objectives (<http://www.healthypeople.gov>) for healthy weight among adults define adults as persons aged 20 and over.

<sup>8</sup>Information on an episode of asthma or an asthma attack during the past year is self-reported by adults aged 18 and over. A year is defined as the 12 months prior to interview. The analyses excluded persons with unknown asthma episode status (about 0.1%).

<sup>9</sup>Prevalence of diagnosed diabetes is based on self-report of ever having been diagnosed with diabetes by a doctor or other health professional. Persons reporting “borderline” diabetes status and women reporting diabetes only during pregnancy were not coded as having diabetes in the analyses. The analyses excluded adults with unknown diabetes status (about 0.1%).

<sup>10</sup>Receipt of flu shots and receipt of nasal spray flu vaccinations were included in the calculation of flu vaccination estimates. Responses to these two flu vaccination questions do not indicate when the subject received the flu vaccination during the 12 months preceding the interview. In addition, estimates are subject to recall error, which will vary depending on when the question is asked because the receipt of a flu vaccination is seasonal. The analyses excluded adults with unknown flu vaccination status (about 2.5%).

<sup>11</sup>Individuals who received human immunodeficiency virus (HIV) testing solely as a result of blood donation were considered not to have been tested for HIV. The analyses excluded adults with unknown HIV test status (about 3.9%).

<sup>12</sup>Does not include a hospital emergency room. The analyses excluded persons with an unknown usual place to go for medical care (about 1.0%).

<sup>13</sup>A year is defined as the 12 months prior to interview. The analyses excluded persons with unknown responses to the question on failure to obtain needed medical care due to cost (about 0.1%).

<sup>14</sup>A person was defined as uninsured if he or she did not have any private health insurance, Medicare, Medicaid, Children's Health Insurance Program (CHIP), state-sponsored or other government-sponsored health plan, or military plan at the time of interview. A person was also defined as uninsured if he or she had only Indian Health Service coverage or had only a private plan that paid for one type of service such as accidents or dental care. The data on health insurance status were edited using an automated system based on logic checks and keyword searches. The analyses excluded adults with unknown health insurance status (about 1.0%).

NOTE: Data are based on household interviews of a sample of the civilian noninstitutionalized population.

DATA SOURCE: CDC/NCHS, National Health Interview Survey, July–December 2013.

Table 5. Percentage of adults living in wireless-mostly households, by selected demographic characteristics and calendar half-years: United States, July 2010–December 2013

Demographic characteristic	Calendar half-year							95% confidence interval <sup>1</sup>
	Jul–Dec 2010	Jan–Jun 2011	Jul–Dec 2011	Jan–Jun 2012	Jul–Dec 2012	Jan–Jun 2013	Jul–Dec 2013	
Total	17.4	18.2	17.8	17.6	18.0	17.7	18.3	17.51–19.09
Race/ethnicity								
Hispanic or Latino, any race(s)	17.2	16.3	17.0	16.1	17.4	16.4	16.6	15.29–17.95
Non-Hispanic white, single race	17.2	18.4	17.9	17.6	17.7	17.4	18.6	17.61–19.59
Non-Hispanic black, single race	16.2	18.4	17.1	17.6	18.6	19.0	18.2	16.17–20.48
Non-Hispanic Asian, single race	22.5	21.0	20.3	21.5	22.2	20.9	20.4	17.46–23.74
Non-Hispanic other, single race	23.8	17.6	15.6	15.1	12.5	22.7	14.1	9.08–21.27
Non-Hispanic multiple race	20.7	16.1	21.7	18.7	18.0	18.0	16.9	13.29–21.29
Age (years)								
18–24	18.7	20.1	18.9	20.1	18.2	18.6	20.0	18.32–21.74
25–29	16.8	16.3	15.8	15.0	17.0	14.8	14.5	12.95–16.27
30–44	21.6	21.9	21.2	20.7	21.2	20.7	20.0	18.78–21.22
45–64	18.9	19.8	19.9	19.3	20.3	19.8	21.6	20.50–22.82
65 and over	7.1	8.9	8.9	8.9	9.1	10.3	10.3	9.28–11.32
Sex								
Male	17.8	18.5	18.3	17.9	18.3	17.8	18.6	17.80–19.47
Female	17.1	17.9	17.3	17.3	17.7	17.6	18.0	17.15–18.81
Education								
Some high school or less	12.1	12.9	11.7	11.9	11.6	12.8	12.4	11.20–13.74
High school graduate or GED <sup>2</sup>	15.3	16.6	15.7	15.5	16.3	16.0	16.5	15.42–17.68
Some post-high school, no degree	18.9	20.0	19.4	19.1	19.3	18.6	18.9	17.74–20.08
4-year college degree or higher	21.3	21.1	21.4	21.0	21.5	20.7	22.3	21.13–23.47
Employment status last week								
Working at a job or business	20.5	21.6	20.9	20.6	21.1	20.2	21.4	20.41–22.37
Keeping house	16.7	14.9	16.6	15.5	17.5	19.0	16.9	15.02–18.90
Going to school	24.4	23.5	20.0	23.7	18.2	22.2	21.1	17.94–24.58
Something else (incl. unemployed)	10.2	11.3	11.4	10.8	11.6	11.7	11.4	10.56–12.28
Household structure								
Adult living alone	9.5	10.2	10.1	10.2	9.8	9.5	9.4	8.51–10.28
Unrelated adults, no children	13.4	*15.6	10.3	13.0	12.3	12.9	11.2	7.59–16.31
Related adults, no children	15.8	17.2	16.9	16.2	17.4	17.0	18.1	16.97–19.37
Adult(s) with children	22.7	22.8	22.5	22.4	22.4	22.2	22.6	21.33–23.93
Household poverty status <sup>3</sup>								
Poor	10.2	10.5	8.8	10.8	8.6	10.8	9.1	7.79–10.58
Near-poor	13.8	13.3	13.5	11.1	12.7	12.0	12.0	10.75–13.41
Not-poor	20.4	21.6	21.9	21.5	21.8	21.4	22.1	21.05–23.29

See footnotes at end of table.

**Table 5. Percentage of adults living in wireless-mostly households, by selected demographic characteristics and calendar half-years: United States, July 2010–December 2013—Continued**

Demographic characteristic	Calendar half-year						95% confidence interval <sup>1</sup>	
	Jul–Dec 2010	Jan–Jun 2011	Jul–Dec 2011	Jan–Jun 2012	Jul–Dec 2012	Jan–Jun 2013		
<b>Geographic region<sup>4</sup></b>								
Northeast	18.5	19.5	17.9	18.9	20.0	18.2	20.1	18.42–21.90
Midwest	16.3	17.7	16.6	15.5	15.3	16.7	16.2	14.77–17.80
South	17.2	18.0	17.7	17.3	17.7	17.0	18.0	16.78–19.35
West	18.0	18.1	19.1	18.9	19.3	19.4	19.3	17.50–21.26
<b>Metropolitan statistical area status</b>								
Metropolitan	17.8	18.4	18.2	17.9	18.5	17.9	18.7	17.84–19.57
Not metropolitan	16.1	17.3	16.4	16.4	15.8	17.0	16.7	14.94–18.56
<b>Home ownership status<sup>5</sup></b>								
Owned or being bought	19.4	20.0	19.9	19.9	20.1	20.0	21.0	19.95–22.17
Renting	13.0	13.9	13.5	12.7	13.0	12.8	12.4	11.41–13.49
Other arrangement	15.6	20.0	11.7	13.8	17.3	17.0	14.8	10.86–19.85
Number of adults in survey sample who live in landline households with wireless telephones (unweighted)	18,357	21,626	20,184	21,100	21,194	19,106	22,879	...

\* Estimate has a relative standard error greater than 30% and does not meet standards for reliability or precision.

... Category not applicable.

<sup>1</sup>Refers to July–December 2013.

<sup>2</sup>GED is General Educational Development high school equivalency diploma.

<sup>3</sup>Based on household income and household size using the U.S. Census Bureau's poverty thresholds. "Poor" persons are defined as those below the poverty threshold. "Near-poor" persons have incomes of 100% to less than 200% of the poverty threshold. "Not-poor" persons have incomes of 200% of the poverty threshold or greater. Early Release estimates stratified by poverty status are based on reported income only and may differ from similar estimates produced later that are based on both reported and imputed income. NCHS imputes income when income is unknown, but the imputed income file is not available until a few months after the annual release of National Health Interview Survey microdata. For households with multiple families, household income and household size were calculated as the sum of the multiple measures of family income and family size.

<sup>4</sup>In the geographic classification of the U.S. population, states are grouped into the following four regions used by the U.S. Census Bureau: *Northeast* includes Maine, Vermont, New Hampshire, Massachusetts, Connecticut, Rhode Island, New York, New Jersey, and Pennsylvania; *Midwest* includes Ohio, Illinois, Indiana, Michigan, Wisconsin, Minnesota, Iowa, Missouri, North Dakota, South Dakota, Kansas, and Nebraska; *South* includes Delaware, Maryland, District of Columbia, West Virginia, Virginia, Kentucky, Tennessee, North Carolina, South Carolina, Georgia, Florida, Alabama, Mississippi, Louisiana, Oklahoma, Arkansas, and Texas; and *West* includes Washington, Oregon, California, Nevada, New Mexico, Arizona, Idaho, Utah, Colorado, Montana, Wyoming, Alaska, and Hawaii.

<sup>5</sup>For households with multiple families, home ownership status was determined by considering the reported home ownership status for each family. If any family reported owning the home, then the household-level variable was classified as "Owned or being bought" for all persons living in the household. If one family reported renting the home and another family reported "other arrangement," then the household-level variable was classified as "Other arrangement" for all persons living in the household.

NOTE: Data are based on household interviews of a sample of the civilian noninstitutionalized population.

DATA SOURCE: CDC/NCHS, National Health Interview Survey, July 2010–December 2013.