

# **Social Determinants of Health (SDOH) Beta Data Files**

## **Data Source Documentation**

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# 1. Introduction

An integral part of delivering high-quality healthcare is understanding the social determinants of health (SDOH) of patients and of communities in which healthcare is provided. SDOH are defined by the World Health Organization as the conditions in which people are born, grow, live, work, and age.

SDOH, although experienced by individuals, exist at the community level. Healthcare systems that learn about the communities in which their patients live can adapt their services to meet the communities' specific needs. This, in turn, can help patients and community members overcome obstacles to achieving and maintaining good health.

Additional information about SDOH is available on the Agency for Healthcare Research and Quality (AHRQ) SDOH website (<https://www.ahrq.gov/sdoh/about.html>).

## Background

With funding from the Patient-Centered Outcomes Research Trust Fund, AHRQ has created multi-year SDOH beta data files curated from multiple federal and other data sources. Variables in the beta data files correspond to five key SDOH domains: social context, economic context, education, physical infrastructure, and healthcare context.

Two documentation files accompany the SDOH beta data files:

- “SDOH Data Source Documentation,” this document, contains information for researchers about the structure and contents of the beta data files as well as descriptions for each of the data sources used to populate the beta data files.
- “Variable Codebook,” an Excel file, provides descriptive statistics for each variable by year. The codebook contains readme and introduction tabs, plus 18 worksheets with variable information for each of the 10 county data files and eight ZIP Code tabulation area (ZCTA) data files. The year-specific worksheets provide summary statistics for each variable included in that data file.

The SDOH beta data files are a starting point to inform additional work AHRQ is undertaking to develop SDOH data. AHRQ is making these beta data files publicly available in the hope that these initial files provide standardized, easy-to-use data that facilitates research and analysis on SDOH. The data contained in the SDOH beta data files are drawn from multiple sources, and variables may have differing degrees of availability, patterns of missing data, and methodological considerations across sources, geographies, and years. Users should refer to the codebook and this document, as well as the original data sources, to help identify these patterns. If users have questions or suggestions or identify any issues with the data, please send feedback to [SDOH@AHRQ.HHS.GOV](mailto:SDOH@AHRQ.HHS.GOV).

## 2. SDOH Beta Data Files Documentation Overview

Details regarding the contents of the SDOH beta data files are contained in this report, as well as an accompanying SDOH Variable Codebook; the contents of both are described below.

### Data Source Documentation Report

This data source documentation report contains information for researchers about the structure and contents of the beta data files as well as descriptions for each of the data sources used to populate the data files. Each data source description follows a standard format with the following fields:

- Sponsor (e.g., Health Resources and Services Administration [HRSA] for the Area Health Resources Files [AHRF])
- Description (brief, general description of the data)
- Inclusion in the SDOH beta data files
  - Lists the SDOH domains to which the data source has contributed variables
  - Includes additional information about the data source relevant to the SDOH beta data files
- Resources (links to original data source documentation, data download sites, and other relevant information)
- SDOH variable definitions and specifications (in tabular format)
  - Variable name
  - Variable label
  - Source table, if multiple data tables were available from the original data source
  - Numerator (for derived variables)
  - Denominator (for derived variables) or original variable (when renamed for the SDOH beta data files)
- SDOH variable availability across years (in tabular format)
  - Variable name
  - Variable label
  - Data year availability for 2009–2018

### Variable Codebook

A variable codebook was developed as a companion to this data source documentation report to provide users with descriptive statistics for each variable by year. The codebook is available as an Excel spreadsheet, and contains a “Readme” tab and Introduction tab along with 18 worksheets describing the contents of each of the 10 county data files and 8 ZCTA data files. Each county-year and ZCTA-year worksheet contains the following:

- SDOH domain (see Table 1)
  - Two additional categories are included under the SDOH Domain field to indicate ID variables (e.g., state-county Federal Information Processing Standards [FIPS] codes, five-digit ZCTA) and geography (e.g., state name, county name, county adjacency variables, and urban/rural classifications).

- Although each data file is specific to a given year, a year variable is included as a convenience for users who wish to combine multiple files.
- Variable name
- Variable label
- Data source
- Descriptive statistics for continuous variables:
  - Number, mean, standard deviation, median, minimum, maximum, and number missing
- Descriptive statistics for categorical variables:
  - Category value, frequency, and percentage

Variables in the SDOH beta data files were selected to correspond to five key domains. Variables are further classified into topic areas within each of those five domains, as shown in table 1. Please note that only one topic area is assigned to each variable for ease of use, though users may use these classifications at their discretion, as SDOH variables are often interrelated and cross-cutting.

**Table 1. SDOH domains and topic areas represented in the SDOH beta data files**

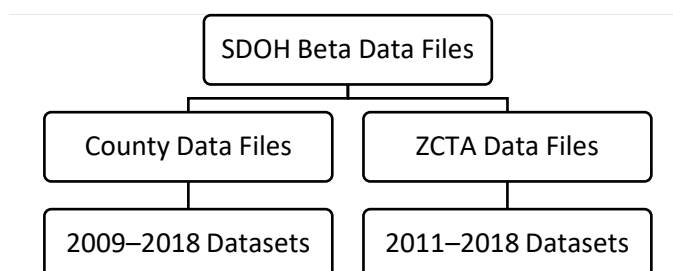
SDOH domains	SDOH topic areas
Social context	1. Demographics—population distribution 2. Age 3. Race/ethnicity 4. Social vulnerability index 5. Segregation 6. Living conditions
Economic context	7. Workforce/employment 8. Poverty 9. Income
Education	10. Education
Physical infrastructure	11. Environment 12. Crime 13. Housing 14. Food access 15. Transportation
Healthcare context	16. Access 17. Quality 18. Health insurance status 19. Health behaviors 20. Health status 21. Utilization 22. Healthcare system characteristics 23. Health status—mortality

### 3. Contents and Structure of the Beta Data Files

#### Overview

The AHRQ SDOH beta data files comprise two sets of annual data files, one set of county-level data files, and one set of data files at the ZCTA level. The county-level files contain 10 datasets covering the 10-year period from 2009 to 2018, and the ZCTA-level files contain eight datasets spanning 2011–2018. There are separate datasets for each data year. Figure 1 below shows the structure of the SDOH beta data files.

Figure 1. Structure of the SDOH beta data files



Each annual county dataset contains one record per county, and each annual ZCTA dataset contains one record per ZCTA. Users should be able to link these files to other datasets using the respective unique identifiers (five-digit state-county FIPS codes and five-digit ZCTA). Other geographic indicators are also included in the datasets, such as state names, county names, land area in square miles, and rural/urban classifications.

#### Contents of Beta Data Files

The data presented in the SDOH beta data files were derived from 17 publicly available data sources. Table 2 lists each of the data sources and whether they were used in creation of the county and/or ZCTA data files. More detailed information about each data source is included in the following sections of this report.

Table 2. Inclusion of data sources in county and ZCTA datasets

Data source	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
American Community Survey (ACS)	C	C	C, Z	C, Z	C, Z	C, Z	C, Z	C, Z	C, Z	C, Z
Area Health Resources Files (AHRF)	C	C	C	C	C	C	C	C	C	C
amfAR Opioid & Health Indicators Database (amfAR)	C	C	C	C	C	C	C	C	C	C
U.S. Census Bureau County Adjacency File (CAF)	C	C	C	C	C	C	C	C	C	C
U.S. Census County Business Patterns (CCBP)	C	C	C, Z	C, Z	C, Z	C, Z	C, Z	C, Z	C, Z	C, Z
U.S. Census Bureau, TIGERweb and COVID-19 Demographic and Economic Resources (Census)	C	C	C, Z	C, Z	C, Z	C, Z	C, Z	C, Z	C, Z	C, Z

Data source	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Centers for Disease Control and Prevention (CDC) Interactive Atlas of Heart Disease and Stroke (CDC Atlas)	C	C	C	C	C	C	C	C	C	C
CDC Wide-ranging ONline Data for Epidemiologic Research (CDC Wonder)	C	C	C	C	C	C	C	C	C	C
County Health Rankings (CHR)	C	C	C	C	C	C	C	C	C	C
Civil Rights Data Collection (CRDC)						C		C		
Medicare Advantage Penetration Files (MAP)	C	C	C	C	C	C	C	C	C	C
Economic Research Service (ERS)			Z	Z	Z	Z	Z	Z	Z	Z
National Environmental Public Health Tracking Network (NEPHTN)	C	C	C	C	C	C	C	C	C	C
National Center for Health Statistics (NCHS) Urban-Rural Classification Scheme	C	C	C	C	C	C	C	C	C	C
Nursing Home Compare (NHC)					C	C	C	C	C	C
Social Vulnerability Index (SVI)		C				C		C		C
U.S. Cancer Statistics (USCS)							C	C	C	

**Notes:** C = variables included in county-level data files; Z = variables included in ZCTA-level data files; TIGERweb = a web-based system that can be used to visualize data in the U.S. Census Bureau Topologically Integrated Geographic Encoding and Referencing (TIGER) database

Variables in the SDOH beta data files were created from these 17 data sources in one of two ways:

1. *Drawn directly from the original data source.* When the data were available from the data source as needed, we renamed the original variables for clarity and consistency across years, and to fit the naming conventions of the SDOH beta data files.
2. *Derived using data from the original data source.* For some data sources, it was necessary to calculate percentages or rates for inclusion in the beta data files. The numerators and denominators for the variables and their sources are shown following each data source description.

The following conventions were followed in constructing the beta data files to provide researchers with a consistent and easy-to-use resource:

- *Variable assignment to annual datasets.* Variables appear in the annual datasets that correspond with (1) the single year represented by the original data source (e.g., Nursing Home Compare data for facilities in 2016 appears in the 2016 county dataset), or (2) the last year in a period represented by the data (e.g., American Community Survey data aggregated over 2012 to 2016 is in the 2016 dataset).
- *Variable availability.* The availability of each variable changes across data years. Following each data source description in this report is a table showing the availability of each variable in the annual datasets.
- *Variable naming.* Except for the geographic ID variables, all variable names begin with a data source acronym followed by an underscore and a descriptive title.
- *Missing values.* The SDOH datasets use a blank to denote a missing value, almost exclusively. The one exception is the provider ratio variables from the County Health Rankings (CHR)



data, which have negative values for counties where the number of providers is zero. This is described further in the description of the CHR data.

## Geographic Considerations

### County FIPS Codes

Because the SDOH county data files span 10 years, it is important for users to consider geographic changes at the county level during this time. Many of the variables in the SDOH data files are based on multi-year averages, as is the case with ACS, cancer incidence, and mortality rates. As a result, counties in the original source may appear in data years before they were officially created or after they had been retired or changed, depending on how the original data source handled those counties.

When dealing with counties that have changed over time, users should take particular care to investigate how the original data handles these cases. The U.S. Census Bureau posts “Substantial Changes to Counties and County Equivalent Entities: 1970–Present” at <https://www.census.gov/programs-surveys/geography/technical-documentation/county-changes.1990.html>.

The SDOH county data files retain FIPS codes that had *any valid data from any source* in that data year. For counties that had name and FIPS code changes, but not changes to their geography, the county data files harmonize the source data to present only one record per year for that geography. For instance, Shannon County, South Dakota (FIPS 46113) changed its name to Oglala Lakota County (FIPS 46102) in 2015. The county data files contain FIPS 46113 from 2009 to 2015, and FIPS 46102 from 2016 to 2018. The original data sources, however, may have used one or the other of these FIPS codes in a given year.

Table 3 shows the counties that appear in only a subset of the county data files. Note, however, that counties included in each year of data may only have a subset of variables, depending as noted on how the original data source handled these counties.

**Table 3. County variation by year in the SDOH beta data files**

State-county FIPS code	State	County	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
02158 <sup>a</sup>	Alaska	Kusilvak Census Area							X	X	X	X
02270 <sup>a</sup>	Alaska	Wade Hampton Census Area	X	X	X	X	X	X				
46102 <sup>b</sup>	South Dakota	Oglala Lake County							X	X	X	X
46113 <sup>b</sup>	South Dakota	Shannon County	X	X	X	X	X	X				
51515 <sup>c</sup>	Virginia	Bedford City	X	X	X	X	X					

<sup>a</sup> Kusilvak Census Area, Alaska (02-158) changed name and code from Wade Hampton Census Area (02-270) effective July 1, 2015. <sup>b</sup> Shannon County, South Dakota (46-113) changed name and code to Oglala Lakota County (46-102) effective May 1, 2015. <sup>c</sup> Bedford City, Virginia, (51-515) was added to Bedford County effective July 1, 2013.

## ZCTA

The SDOH ZCTA beta data files are at the ZCTA-level, which are geographic areas comprising a series of block groups, designated by the census every 10 years. Though there is significant overlap, ZCTAs are different from ZIP Codes used by the U.S. Postal Service for the purposes of delivering mail. This can cause significant challenges when attempting to merge data with hospital characteristics or healthcare costs tied to specific facilities or patients' ZIP Codes. Data users seeking to do so should use caution and investigate crosswalks that link ZIP Codes to ZCTAs. For instance, HRSA's Uniform Data System (UDS) Mapper provides a ZIP-to-ZCTA crosswalk (<https://udsmapper.org/zip-code-to-zcta-crosswalk>) to allow HRSA grantees to see where their health centers will be displayed on the maps generated by the tool. We chose not to use this crosswalk because it was designed specifically in relation to health centers and has not been validated for other purposes.

As shown in table 2, data from ACS, CCBP, Census TIGERweb, and ERS are included in the ZCTA data files. The ACS and Census TIGERweb data represent ZCTAs based on the 2010 census blocks. The CCBP data, however, provided numbers of businesses by ZIP Code, and the ERS Rural-Urban Commuting Area (RUCA) codes are specific to ZIP Codes. The ZCTA datasets contain values for CCBP and RUCAs where the ZIP Code value matched the ZCTA value. Not all ZIP Codes have a corresponding ZCTA, and therefore there are ZIP Codes represented in both the original CCBP data and the RUCA data that do not appear in the SDOH ZCTA files. Furthermore, there are some ZCTAs that do not have a corresponding ZIP Code, resulting in missing data in the SDOH ZCTA files.

### Urban/Rural Designations

While the majority of variables in each annual dataset are specific to that data year (as described above), we also included urban/rural classification variables in *each* data file that were developed in specific years. Table 4 lists the urban/rural classification variables contained in the SDOH beta data files and their descriptions.

**Table 4. Description of urban/rural classifications in the SDOH beta data files**

Variable name	Original data source & year	Description
AHRF_USDA_RUCC_2013	AHRF, U.S. Department of Agriculture (USDA); 2013	<p><i>Metropolitan Counties</i></p> <p>1 - Counties in metro areas of 1 million population or more</p> <p>2 - Counties in metro areas of 250,000 to 1 million population</p> <p>3 - Counties in metro areas of fewer than 250,000 population</p> <p><i>Nonmetropolitan Counties</i></p> <p>4 - Urban population of 20,000 or more, adjacent to a metro area</p> <p>5 - Urban population of 20,000 or more, not adjacent to a metro area</p> <p>6 - Urban population of 2,500 to 19,999, adjacent to a metro area</p> <p>7 - Urban population of 2,500 to 19,999, not adjacent to a metro area</p> <p>8 - Completely rural or less than 2,500 urban population, adjacent to a metro area</p> <p>9 - Completely rural or less than 2,500 urban population, not adjacent to a metro area</p>
NCHS_URCS_2013 and NCHS_URCS_2006*	NCHS; 2013 and 2006	<p><i>Metropolitan Counties</i></p> <p>1 - Large Central Metropolitan</p> <p>2 - Large Fringe Metropolitan</p>

Variable name	Original data source & year	Description
		3 - Medium Metropolitan 4 - Small Metropolitan <i>Nonmetropolitan Counties</i> 5 - Micropolitan 6 - Noncore
ERS_RUCA1_2010 and ERS_RUCA2_2010†	ERS	1 - Metropolitan area core: primary flow within an urbanized area (UA) †1.1 - Secondary flow 30% to 50% to a larger UA 2 - Metropolitan area high commuting: primary flow 30% or more to a UA †2.1 - Secondary flow 30% to 50% to a larger UA 3 - Metropolitan area low commuting: primary flow 10% to 30% to a UA 4 - Micropolitan area core: primary flow within an urban cluster (UC) of 10,000 to 49,999 (large UC) †4.1 - Secondary flow 30% to 50% to a UA 5 - Micropolitan high commuting: primary flow 30% or more to a large UC †5.1 - Secondary flow 30% to 50% to a UA 6 - Micropolitan low commuting: primary flow 10% to 30% to a large UC 7 - Small town core: primary flow within an urban cluster of 2,500 to 9,999 (small UC) †7.1 - Secondary flow 30% to 50% to a UA †7.2 - Secondary flow 30% to 50% to a large UC 8 - Small town high commuting: primary flow 30% or more to a small UC †8.1 - Secondary flow 30% to 50% to a UA †8.2 - Secondary flow 30% to 50% to a large UC 9 - Small town low commuting: primary flow 10% to 30% to a small UC 10 - Rural areas: primary flow to a tract outside a UA or UC †10.1 - Secondary flow 30% to 50% to a UA †10.2 - Secondary flow 30% to 50% to a large UC †10.3 - Secondary flow 30% to 50% to a small UC

\*The NCHS variables differ with regard to the definition of small metropolitan areas, a topic described further in the NCHS data source description section of this document. †ERS\_RUCA2\_2010 is a more detailed classification that includes secondary RUCA codes.

## 4. American Community Survey (ACS)

### Sponsor

U.S. Department of Commerce, U.S. Census Bureau

### Description

The ACS is an ongoing survey that provides vital information on a yearly basis about our nation and its people. The ACS has an annual sample size of about 3.5 million addresses, with survey information collected nearly every day of the year. Data are pooled across a calendar year to produce estimates for that year. As a result, ACS estimates reflect data that have been collected over a period of time rather than for a single point in time, as in the decennial census, which is conducted every 10 years and provides population counts as of April 1 of the census year.

ACS data are available as 5-year aggregate files spanning 2005–2009 to 2014–2018 (as of August 12, 2020). Three-year files and 1-year files are available for the same timeframe, but estimates have larger margins of error than 5-year estimates, and decreased statistical reliability and availability for smaller geographic areas and small population groups (e.g., 1-year and 3-year estimates are only calculated for geographic areas with 20,000 or more residents).

Errata notes for ACS 5-year tables are published on the census website at <https://www.census.gov/programs-surveys/acs/technical-documentation/errata.html>. In particular, users may wish to review errata notes associated with errors in data collection in Rio Arriba County, NM. The errors impact the 2013-2017 ACS estimates and resulted in suppression of 2014-2018 ACS estimates for this county and 35 corresponding ZCTAs. Topics affected by the error include income and earnings, labor force and employment, migration, and poverty (see <https://www.census.gov/programs-surveys/acs/technical-documentation/errata/125.html>).

### Inclusion in the SDOH Beta Data Files

The SDOH county and ZCTA data files include ACS estimates from the 5-year files, due to the increased precision and availability of smaller geographic areas compared to 1- and 3-year estimates.

Variables from ACS cover the following SDOH domains:

- Economic context
- Education
- Healthcare context
- Physical infrastructure
- Social context

The SDOH beta data files county files contain ACS data from 2005–2009 to 2014–2018, with the end year of the 5-year estimates mapped to that specific SDOH data file year. The ZCTA data files contain ACS data from 2007–2011 to 2014–2018, and ZCTAs are based on 2010 census block groups for these estimates. All input data were drawn from the National Historical Geographic Information System (NHGIS; see the NHGIS data website link below). For each SDOH dataset, we selected variables from the 5-year data file whose range ended in that data year, e.g., the 2018 SDOH data files use variables from

the 2014–2018 5-year file, the 2017 SDOH data files use the 2013–2017 5-year file, etc. Specifically, we selected the geographic level of interest (county or ZCTA) to filter to the appropriate level and select variables.

Variables presented in the beta data files as percentages were calculated using numerators and denominators drawn from the NHGIS (see table 5). Some variables are drawn directly from NHGIS, but renamed for clarity and to fit the conventions of the SDOH beta data files (e.g., median household income, aggregate home value). Year availability for each variable is show in table 6.

Margins of error for point estimates are available from IPUMS NHGIS.

*Suggested citation for NHGIS data extracts:* Manson, S., Schroeder, J., Van Riper, D., & Ruggles, S. (2019). *IPUMS National Historical Geographic Information System* (Version 14.0) [Database]. IPUMS. <https://doi.org/10.18128/D050.V14.0>

## **Resources**

*For more information on the ACS:*

Main: <https://www.census.gov/programs-surveys/acs>

Data: [https://www2.census.gov/programs-surveys/acs/summary\\_file/2018/data/?#](https://www2.census.gov/programs-surveys/acs/summary_file/2018/data/?#)

*For more information on NHGIS:*

Main: <https://www.nhgis.org>

Data: <https://data2.nhgis.org/main>

**Table 5. Variable definitions and specifications, ACS**

Variable name	Variable label	Source table	Numerator	Denominator*
ACS_GINI_INDEX	Gini index of income inequality	B19083: Gini Index of Income Inequality	n/a	Gini Index
ACS_HH_SIZE	Average household size	B25010: Average Household Size of Occupied Housing Units by Tenure	n/a	Average Household Size of Occupied Housing Units; Total
ACS_MEDIAN_AGE	Median age	B01002: Median Age by Sex	n/a	Median age
ACS_MEDIAN_HH_INCOME	Median household income (in dollars, inflation-adjusted to file data year)	B19013: Median Household Income in the Past 12 Months (in [data year] Inflation-Adjusted Dollars)	n/a	Median household income in the past 12 months (in dollars, inflation-adjusted to file data year)
ACS_MEDIAN_HOME_VALUE	Median home value of owner-occupied housing units	B25077: Median Value (Dollars)	n/a	Median home value of owner-occupied housing units
ACS_MEDIAN_RENT	Median gross rent as a percentage of household income	B25071: Gross Rent as a Percentage of Household Income in the Past 12 Months (Dollars)	n/a	Median gross rent as a percentage of household income in the past 12 months
ACS_NONVA_MEDIAN_INCOME	Median income of civilian nonveteran population (in dollars, inflation-adjusted to file data year; ages 18 and over)	B21004: Median Income in the Past 12 Months (in [data year] Inflation-Adjusted Dollars) by Veteran Status by Sex for the Civilian Population 18 Years and Over with Income	n/a	Civilian population 18 years and over with income in past 12 months; nonveteran
ACS_PCT_10UNITS	Percentage of housing in structures with 10 or more units	B25024: Units in Structure	10 to 19 and 20 to 49 and 50 or more	Total housing units

Variable name	Variable label	Source table	Numerator	Denominator*
ACS_PCT_1FAM_HH_FOOD_STMP	Percentage of unmarried partner households that received food stamps/Supplemental Nutrition Assistance Program (SNAP) benefits	B22007: Receipt of Food Stamps/SNAP in the Past 12 Months by Family Type by Number of Workers in Family in the Past 12 Months	Household received Food Stamps/SNAP in the past 12 months: Other family (female or male Householder, no spouse present)	Household received Food Stamps/SNAP in the past 12 months: Other family (female or male householder, no spouse present) and Household did not receive Food Stamps/SNAP in the past 12 months: Other family (female or male householder, no spouse present)
ACS_PCT_1UP_OWNER_1ROOM	Percentage of owner-occupied housing units with more than one occupant per room	B25014: Tenure by Occupants per Room	Owner occupied: 1.01 to 1.50 occupants per room and Owner occupied: 1.51 to 2.00 occupants per room and Owner occupied: 2.01 or more occupants per room	Owner occupied
ACS_PCT_1UP_PERS_1ROOM	Percentage of housing units with more than one occupant per room	B25014: Tenure by Occupants per Room	Owner occupied: 1.01 to 1.50 occupants per room and Owner occupied: 1.51 to 2.00 occupants per room and Owner occupied: 2.01 or more occupants per room and Renter occupied: 1.01 to 1.50 occupants per room and Renter occupied: 1.51 to 2.00 occupants per room and Renter occupied: 2.01 or more occupants per room	Total occupied housing units
ACS_PCT_1UP_RENT_1ROOM	Percentage of renter-occupied housing units with more than one occupant per room	B25014: Tenure by Occupants per Room	Renter occupied: 1.01 to 1.50 occupants per room and Renter occupied: 1.51 to 2.00 occupants per room and Renter occupied: 2.01 or more occupants per room	Renter occupied
ACS_PCT_ADMIN	Percentage of employed working in public administration	C24030: Sex by Industry for the Civilian Employed Population 16 Years and Over	Male: Public administration and Female: Public administration	Total civilian employed population 16 years and over
ACS_PCT_AGE_0_17	Percentage of population age 0–17	B01001: Sex by Age	Male: 0-17 years and Female 0-17 years	Total population
ACS_PCT_AGE_0_4	Percentage of population age 0–4	B01001: Sex by Age	Male: Under 5 years and Female: Under 5 years	Total population

Variable name	Variable label	Source table	Numerator	Denominator*
ACS_PCT_AGE_10_14	Percentage of population age 10–14	B01001: Sex by Age	Male: 10-14 years and Female: 10-14 years	Total population
ACS_PCT_AGE_15_17	Percentage of population age 15–17	B01001: Sex by Age	Male: 15-17 years and Female 15-17 years	Total population
ACS_PCT_AGE_18_44	Percentage of population age 18–44	B01001: Sex by Age	Male: 18-44 years and Female: 18-44 years	Total population
ACS_PCT_AGE_45_64	Percentage of population age 45–64	B01001: Sex by Age	Male: 45-64 years and Female: 45-64 years	Total population
ACS_PCT_AGE_5_9	Percentage of population age 5–9	B01001: Sex by Age	Male: 5-9 years and Female: 5-9 years	Total population
ACS_PCT_AGE_65UP	Percentage of population age 65 and over	B01001: Sex by Age	Male: 65 and over and Female 65 and over	Total population
ACS_PCT_AGE_80UP	Percentage of population age 80 and over	B01001: Sex by Age	Male 80 and over and Female 80 and over	Total population
ACS_PCT_AIAN	Percentage of population reporting American Indian/Alaska Native race	B02001: Race	American Indian and Alaska Native alone	Total population
ACS_PCT_API_LANG	Percentage of population that speaks Asian and Pacific Island languages (ages 5 and over)	B16004: Age by Language Spoken at Home by Ability to Speak English for the Population 5 Years and Over	5 to 17 years: Speak Asian and Pacific Island languages and 18 to 64 years: Speak Asian and Pacific Island languages and 65 years and over: Speak Asian and Pacific Island languages	Total Population 5 years and over
ACS_PCT_ARMED_FORCES	Percentage of civilian population in armed forces (ages 16 years and over)	B23025: Employment Status for the Population 16 Years and Over	In labor force: Armed Forces	Total population 16 years and over
ACS_PCT_ART	Percentage of employed working in arts, entertainment, recreation, and accommodation and food services	C24030: Sex by Industry for the Civilian Employed Population 16 Years and Over	Male: Arts, entertainment, and recreation, and accommodation and food services and Female: Arts, entertainment, and recreation, and accommodation and food services	Total civilian employed population 16 years and over
ACS_PCT_ASIAN	Percentage of population reporting Asian race	B02001: Race	Asian alone	Total population
ACS_PCT_ASSOCIATE_DGR	Percentage of population with some college or	B15003: Educational Attainment for the	Some college, less than 1 year and Some college, 1 or more years, no degree and Associate's degree	Total population age 25 and over



Variable name	Variable label	Source table	Numerator	Denominator*
	associate's degree (ages 25 and over)	Population 25 Years and Over		
ACS_PCT_BACHELOR_DGR	Percentage of population with a bachelor's degree (ages 25 and over)	B15003: Educational Attainment for the Population 25 Years and Over	Bachelor's degree	Total population age 25 and over
ACS_PCT_BLACK	Percentage of population reporting Black race	B02001: Race	Black or African American alone	Total population
ACS_PCT_BROADBAND	Percentage of households with any type of broadband internet subscription	B28002: Presence and Types of Internet Subscriptions in Household	With an Internet subscription: Broadband of any type	Total households
ACS_PCT_CHILD_1FAM	Percentage of families with children that are single-parent families	B09002: Own Children Under 18 Years by Family Type and Age	In other families (female or male householder, no spouse present)	Own children under 18 years; total
ACS_PCT_CHILD_DISAB	Percentage of children under 18 with a disability	B18101: Sex by Age by Disability Status	Children under age eighteen with a disability	Children under age 18
ACS_PCT_COMMT_15MIN	Percentage of workers with < 15-minute commute time (ages 16 and over)	B08303: Travel Time to Work	Less than 5 minutes and 5 to 9 minutes and 10 to 14 minutes	Workers 16 years and over who did not work at home; Total
ACS_PCT_COMMT_29MIN	Percentage of workers with 15- to 29-minute commute time (ages 16 and over)	B08303: Travel Time to Work	15 to 19 minutes and 20 to 24 minutes and 25 to 29 minutes	Workers 16 years and over who did not work at home; Total
ACS_PCT_COMMT_59MIN	Percentage of workers with 30- to 59-minute commute time (ages 16 and over)	B08303: Travel Time to Work	30 to 34 minutes and 35 to 39 minutes and 40 to 44 minutes and 45 to 59 minutes	Workers 16 years and over who did not work at home; Total
ACS_PCT_COMMT_60MINUP	Percentage of workers with at least 60-minute commute time (ages 16 and over)	B08303: Travel Time to Work	60 to 89 minutes and 90 or more minutes	Workers 16 years and over who did not work at home; Total
ACS_PCT_CONSTRUCT	Percentage of employed working in construction	C24030: Sex by Industry for the Civilian Employed Population 16 Years and Over	Male: Construction and Female: Construction	Total civilian employed population 16 years and over

Variable name	Variable label	Source table	Numerator	Denominator*
ACS_PCT_CTZ_NONUS_BORN	Percentage of population consisting of U.S. citizens born abroad of American parents or naturalized	B05001: Nativity and Citizenship Status in the United States	U.S. citizen, born abroad of American parent(s) or U.S. citizen by naturalization	Total population in the United States
ACS_PCT_CTZ_US_BORN	Percentage of population consisting of U.S. citizens born in United States, Puerto Rico, or U.S. Islands	B05001: Nativity and Citizenship Status in the United States	U.S. citizen, born in the United States or U.S. citizen, born in Puerto Rico or U.S. Island Areas	Total population in the United States
ACS_PCT_DISABLE	Percentage of population with a disability	B18101: Sex by Age by Disability Status	Male: Under 5 years: With a disability and Male: 5 to 17 years: With a disability and Male: 18 to 34 years: With a disability and Male: 35 to 64 years: With a disability and Male: 65 to 74 years: With a disability	Total civilian noninstitutionalized population
ACS_PCT_DIVORCE_SEPARAT	Percentage of population divorced or separated (ages 15 and over)	B12001: Sex by Marital Status for the Population 15 Years and Over	Male: Now married: Married, spouse absent: Separated, Male: Divorced, Female: Now married: Married, spouse absent: Separated, Female: Divorced	Total
ACS_PCT_DRIVE_2WORK	Percentage of workers taking a car, truck, or van to work (ages 16 and over)	C08134 (2009): Means of Transportation to Work by Travel Time to Work; B08301 (2011): Means of Transportation to Work; B08134 (2011-2018): Means of Transportation to Work by Travel Time to Work	Car, truck, or van	Workers 16 years and over who did not work at home; Total
ACS_PCT_EDUC	Percentage of employed working in educational services, and healthcare and social assistance	C24030: Sex by Industry for the Civilian Employed Population 16 Years and Over	Male: Educational services, and healthcare and social assistance and Female: Educational services, and healthcare and social assistance	Total civilian employed population 16 years and over
ACS_PCT_ENGLISH	Percentage of population that only speaks English (ages 5 and over)	B16004: Age by Language Spoken at Home by Ability to Speak English for the	5 to 17 years: Speak only English and 18 to 64 years: Speak only English and 65 years and over: Speak only English	Total Population 5 years and over

Variable name	Variable label	Source table	Numerator	Denominator*
		Population 5 Years and Over		
ACS_PCT_ENGL_NOT_ALL	Percentage of population that does not speak English at all (ages 5 and over)	B16004: Age by Language Spoken at Home by Ability to Speak English for the Population 5 Years and Over	5 to 17 years: Speak Spanish: Speak English 'not at all' and 5 to 17 years: Speak other Indo-European languages: Speak English 'not at all' and 5 to 17 years: Speak Asian and Pacific Island languages: Speak English 'not at all' and 5 to 17 years: Speak other languages: Speak English 'not at all' and 18 to 64 years: Speak Spanish: Speak English 'not at all' and 18 to 64 years: Speak other Indo-European languages: Speak English 'not at all' and 18 to 64 years: Speak Asian and Pacific Island languages: Speak English 'not at all' and 18 to 64 years: Speak other languages: Speak English 'not at all' and 65 years and over: Speak Spanish: Speak English 'not at all' and 65 years and over: Speak other Indo-European languages: Speak English 'not at all' and 65 years and over: Speak Asian and Pacific Island languages: Speak English 'not at all' and 65 years and over: Speak other languages: Speak English 'not at all'	Total Population 5 years and over
ACS_PCT_ENGL_NOT_WELL	Percentage of population that does not speak English well (ages 5 and over)	B16004: Age by Language Spoken at Home by Ability to Speak English for the Population 5 Years and Over	5 to 17 years: Speak Spanish: Speak English 'not well' and 5 to 17 years: Speak other Indo-European languages: Speak English 'not well' and 5 to 17 years: Speak Asian and Pacific Island languages: Speak English 'not well' and 5 to 17 years: Speak other languages: Speak English 'not well' and 18 to 64 years: Speak Spanish: Speak English 'not well' and 18 to 64 years: Speak other Indo-European languages: Speak English 'not well' and 18 to 64 years: Speak Asian and Pacific Island languages: Speak English 'not well' and 18 to 64 years: Speak other languages: Speak English 'not well' and 65 years and over: Speak Spanish: Speak English 'not well' and 65 years and over: Speak other Indo-European languages: Speak English 'not well' and 65 years and over: Speak Asian and Pacific Island	Total Population 5 years and over

Variable name	Variable label	Source table	Numerator	Denominator*
			languages: Speak English 'not well' and 65 years and over: Speak other languages: Speak English 'not well'	
ACS_PCT_ENGL_VERY_WELL	Percentage of population that speaks English very well (ages 5 and over)	B16004: Age by Language Spoken at Home by Ability to Speak English for the Population 5 Years and Over	5 to 17 years: Speak Spanish: Speak English 'very well' and 5 to 17 years: Speak other Indo-European languages: Speak English 'very well' and 5 to 17 years: Speak Asian and Pacific Island languages: Speak English 'very well' and 5 to 17 years: Speak other languages: Speak English 'very well' and 18 to 64 years: Speak Spanish: Speak English 'very well' and 18 to 64 years: Speak other Indo-European languages: Speak English 'very well' and 18 to 64 years: Speak Asian and Pacific Island languages: Speak English 'very well' and 18 to 64 years: Speak other languages: Speak English 'very well' and 65 years and over: Speak Spanish: Speak English 'very well' and 65 years and over: Speak other Indo-European languages: Speak English 'very well' and 65 years and over: Speak Asian and Pacific Island languages: Speak English 'very well' and 65 years and over: Speak other languages: Speak English 'very well'	Total Population 5 years and over
ACS_PCT_ENGL_WELL	Percentage of population that speaks English well (ages 5 and over)	B16004: Age by Language Spoken at Home by Ability to Speak English for the Population 5 Years and Over	5 to 17 years: Speak Spanish: Speak English 'well' and 5 to 17 years: Speak other Indo-European languages: Speak English 'well' and 5 to 17 years: Speak Asian and Pacific Island languages: Speak English 'well' and 5 to 17 years: Speak other languages: Speak English 'well' and 18 to 64 years: Speak Spanish: Speak English 'well' and 18 to 64 years: Speak other Indo-European languages: Speak English 'well' and 18 to 64 years: Speak Asian and Pacific Island languages: Speak English 'well' and 18 to 64 years: Speak other languages: Speak English 'well' and 65 years and over: Speak Spanish: Speak English 'well' and 65 years and over: Speak other Indo-European languages: Speak English 'well' and 65 years and over: Speak Asian and Pacific Island	Total Population 5 years and over

Variable name	Variable label	Source table	Numerator	Denominator*
			languages: Speak English 'well' and 65 years and over: Speak other languages: Speak English 'well'	
ACS_PCT_FEMALE	Percentage of population that is female	B01001: Sex by Age	Female	Total population
ACS_PCT_FINANCE	Percentage of employed working in finance and insurance, real estate, and rental and leasing	C24030: Sex by Industry for the Civilian Employed Population 16 Years and Over	Male: Finance and insurance, and real estate, and rental and leasing and Female: Finance and insurance, and real estate, and rental and leasing	Total civilian employed population 16 years and over
ACS_PCT_FOOD_STAMP	Percentage of households that received food stamps/SNAP, past 12 months	B22010: Receipt of Food Stamps/SNAP in the Past 12 Months by Disability Status for Households	Household received food stamps/SNAP in the past 12 months	Total number of households
ACS_PCT_FOREIGN_BORN	Percentage of population that is foreign-born	B05001: Citizenship Status in the United States	U.S. citizen, born abroad of American parent(s) or U.S. citizen by naturalization or Not a U.S. Citizen	Total population
ACS_PCT_GRADUATE_DGR	Percentage of population with a master's or professional school degree or doctorate (ages 25 and over)	B15003: Educational Attainment for the Population 25 Years and Over	Master's degree or Professional school degree or Doctorate degree	Total population age 25 and over
ACS_PCT_GRANDKID_TOT	Percentage of children living with a grandparent householder (ages 17 and under)	B10002: Grandchildren Under 18 Years Living with a Grandparent Householder by Grandparent Responsibility and Presence of Parent	Total grandchildren under 18 living with grandparent householder	Calculated variable: ACS_PCT_AGE_0_17
ACS_PCT_GRANDP_NO_RESPS	Percentage of children living with grandparent householder whose grandparent is not responsible for them	B10002: Grandchildren Under 18 Years Living with a Grandparent Householder by Grandparent Responsibility and Presence of Parent	Grandparent householder not responsible for own grandchildren under 18 years	Grandchildren under 18 living with grandparent householder; total

Variable name	Variable label	Source table	Numerator	Denominator*
ACS_PCT_GRANDP_RESPS	Percentage of children living with grandparent householder whose grandparent is responsible for them: Parent present	B10002: Grandchildren Under 18 Years Living with a Grandparent Householder by Grandparent Responsibility and Presence of Parent	Grandparent householder responsible for own grandchildren under 18 years: Parent present	Grandchildren under 18 living with grandparent householder; total
ACS_PCT_GRANDP_RESPS_NO_P	Percentage of children living with grandparent householder whose grandparent is responsible for them: Parent not present	B10002: Grandchildren Under 18 Years Living with a Grandparent Householder by Grandparent Responsibility and Presence of Parent	Grandparent householder responsible for own grandchildren under 18 years: No parent present	Grandchildren under 18 living with grandparent householder; total
ACS_PCT_GRP_QRT	Percentage of persons in institutionalized group quarters	B26001: Group Quarters Population	Total population in group quarters	Total population
ACS_PCT_GULFWAR_1990	Percentage of the civilian veteran population that served during the Gulf War period from August 1990 to August 2001 (ages 18 and over)	B21002: Period of Military Service for Civilian Veterans 18 Years and Over	Gulf War (9/2001 or later) and Gulf War (8/1990 to 8/2001), no Vietnam Era and Gulf War (9/2001 or later), and Gulf War (8/1990 to 8/2001), and Vietnam Era and Gulf War (8/1990 to 8/2001), no Vietnam Era and Gulf War (8/1990 to 8/2001) and Vietnam Era	Civilian veterans 18 years and over; Total
ACS_PCT_GULFWAR_2001	Percentage of the civilian veteran population that served during the Gulf War period from September 2001 or later (ages 18 and over)	B21002: Period of Military Service for Civilian Veterans 18 Years and Over	Gulf War (9/2001 or later), no Gulf War (8/1990 to 8/2001), no Vietnam Era or Gulf War (9/2001 or later) and Gulf War (8/1990 to 8/2001), no Vietnam Era and Gulf War (9/2001 or later), and Gulf War (8/1990 to 8/2001), and Vietnam Era	Civilian veterans 18 years and over; Total
ACS_PCT_HH_1PERS	Percentage of households with only one occupant	B11016: Household Type by Household Size	Nonfamily households: 1-person household	Households; Total
ACS_PCT_HH_KID_1PRNT	Percentage of households with children with female or male householder, no spouse present	B11001: Household Type (Including Living Alone)	Family households: Other family (female or male householder, no spouse present)	Households; Total

Variable name	Variable label	Source table	Numerator	Denominator*
ACS_PCT_HH_NO_FUEL	Percentage of occupied housing units without fuel	B25117: Tenure by House Heating Fuel	Owner- and renter-occupied housing units without fuel	Total occupied housing units
ACS_PCT_HH_PUB_ASSIST	Percentage of households with public assistance income or food stamps/SNAP	B19058: Public Assistance Income or Food Stamps/SNAP in the Past 12 Months for Households	Households with Public Assistance Income or Food Stamps/SNAP	Total households
ACS_PCT_HISPAN	Percentage of population reporting Hispanic ethnicity	B03003: Hispanic or Latino Origin	Hispanic or Latino	Total population
ACS_PCT_HS_GRADUATE	Percentage of population with only high school diploma (ages 25 and over)	B15003: Educational Attainment for the Population 25 Years and Over	Regular high school diploma and GED or alternative credential	Total population age 25 and over
ACS_PCT_INC137	Percentage of population with income to poverty ratio of 1.00–1.37	B17026: Ratio of Income to Poverty Level of Families in the Past 12 Months	Under 1.00 of poverty threshold and 1.00 to 1.37 of poverty threshold	Total civilian noninstitutionalized population for whom poverty status is determined
ACS_PCT_INC400	Percentage of population with income to poverty ratio of 4.00 or higher	B17026: Ratio of Income to Poverty Level of Families in the Past 12 Months	4.00 of poverty threshold and over	Total civilian noninstitutionalized population for whom poverty status is determined
ACS_PCT_INFORM	Percentage of employed working in information services	C24030: Sex by Industry for the Civilian Employed Population 16 Years and Over	Male: Information and Female: Information	Total civilian employed population 16 years and over
ACS_PCT_INTERNET	Percentage of households with any internet connection	B28002: Presence and Types of Internet Subscriptions in Household	With an internet subscription	Total households
ACS_PCT_LIMIT_ENGLISH	Percentage of households with limited English speaking	C16002: Household Language by Household Limited	Spanish: Limited English speaking household and Other Indo-European languages: Limited English speaking household and Asian and Pacific Island	Total households

Variable name	Variable label	Source table	Numerator	Denominator*
		English Speaking Status	languages: Limited English speaking and Other languages: Limited English speaking household	
ACS_PCT_LT_HS	Percentage of population with less than high school education (ages 25 and over)	B15003: Educational Attainment for the Population 25 Years and Over	No schooling completed to 12th grade, no diploma (inclusive)	Total population age 25 and over
ACS_PCT_MANUFACT	Percentage of employed working in manufacturing	C24030: Sex by Industry for the Civilian Employed Population 16 Years and Over	Male: Manufacturing and Female: Manufacturing	Total civilian employed population 16 years and over
ACS_PCT_MEDICAID_ANY	Percentage of population with any Medicaid/means-tested public health insurance coverage	B27010: Types of Health Insurance Coverage by Age	Under 19 years: With one type of health insurance coverage: With Medicaid/means-tested public coverage only and Under 19 years: With two or more types of health insurance coverage: With Medicare and Medicaid/means-tested public coverage and 19 to 34 years: With one type of health insurance coverage: With Medicaid/means-tested public coverage only and 19 to 34 years: With two or more types of health insurance coverage: With Medicare and Medicaid/means-tested public coverage and 35 to 64 years: With one type of health insurance coverage: With Medicaid/means-tested public coverage only and 35 to 64 years: With two or more types of health insurance coverage: With Medicare and Medicaid/means-tested public coverage and 65 years and over: With two or more types of health insurance coverage: With Medicare and Medicaid/means-tested public coverage	Civilian noninstitutionalized population; total
ACS_PCT_MEDICAID_ANY64	Percentage of population with any Medicaid/means-tested public coverage (ages 64 and under)	B27010: Types of Health Insurance Coverage by Age	Under 19 years: With one type of health insurance coverage: With Medicaid/means-tested public coverage only and Under 19 years: With two or more types of health insurance coverage: With Medicare and Medicaid/means-tested public coverage and 19 to 34 years: With one type of health insurance coverage: With Medicaid/means-tested public coverage only and 19 to 34 years: With two or more	Under 19 years and 19 to 34 years and 35 to 64 years



Variable name	Variable label	Source table	Numerator	Denominator*
			types of health insurance coverage: With Medicare and Medicaid/means-tested public coverage and 35 to 64 years: With one type of health insurance coverage: With Medicaid/means-tested public coverage only and 35 to 64 years: With two or more types of health insurance coverage: With Medicare and Medicaid/means-tested public coverage	
ACS_PCT_MEDICARE_ONLY	Percentage of population with Medicare only	B27010: Types of Health Insurance Coverage by Age	Under 19 years: With one type of health insurance coverage: With Medicare coverage only and 19 to 34 years: With one type of health insurance coverage: With Medicare coverage only and 35 to 64 years: With one type of health insurance coverage: With Medicare coverage only and 65 years and over: With one type of health insurance coverage: With Medicare coverage only	Civilian noninstitutionalized population; total
ACS_PCT_MOBILE_HOME	Percentage of housing units that are mobile homes	B25024: Units in Structure	Mobile home	Total housing units
ACS_PCT_MULT_RACE	Percentage of population reporting multiple races	B02001: Race	Two or more races	Total population
ACS_PCT_NATURE	Percentage of employed working in agriculture, forestry, fishing and hunting, and mining (ages 16 and over)	C24030: Sex by Industry for the Civilian Employed Population 16 Years and Over	Male: Agriculture, forestry, fishing and hunting, and mining and Female: Agriculture, forestry, fishing and hunting, and mining	Total civilian employed population 16 years and over
ACS_PCT_NHPI	Percentage of population reporting Native Hawaiian/Pacific Islander race	B02001: Race	Native Hawaiian and Other Pacific Islander alone	Total population
ACS_PCT_NONCTN_1990	Percentage of population who are not U.S. citizens and entered U.S. before 1990	B05005: Period of Entry by Nativity and Citizenship Status in the United States	Entered before 1990, Foreign born, Not a U.S. citizen	Total population
ACS_PCT_NONCTN_2010	Percentage of population who are not U.S. citizens	B05005: Period of Entry by Nativity and	Entered 2010 or later, Foreign born, Not a U.S. citizen	Total population

Variable name	Variable label	Source table	Numerator	Denominator*
	and entered U.S. since 2010	Citizenship Status in the United States		
ACS_PCT_NONVA_DISABLE	Percentage of nonveterans with a disability (ages 18-64)	C21007: Age by Veteran Status by Poverty Status in the Past 12 Months by Disability Status for the Civilian	18 to 64 years: Nonveteran: Income in the past 12 months below poverty level: With a disability and 18 to 64 years: Nonveteran: Income in the past 12 months at or above poverty level: With a disability	Civilian population 18 years and over for whom poverty status is determined; 18 to 64 years: Nonveteran
ACS_PCT_NONVA_POOR	Percentage of civilian nonveterans with income below the poverty level in the past 12 months (ages 18-64)	C21007: Age by Veteran Status by Poverty Status in the Past 12 Months by Disability Status for the Civilian	18 to 64 years: Nonveteran: Income in the past 12 months below poverty level	Civilian population 18 years and over for whom poverty status is determined; 18 to 64 years: Nonveteran
ACS_PCT_NON_CITIZEN	Percentage of population who are not U.S. citizens	B05001: Nativity and Citizenship Status in the United States	Not a U.S. Citizen	Total population in the United States
ACS_PCT_NO_PC	Percentage of households without a computer	B28001: Types of Computers in Household	No Computer	Total households
ACS_PCT_NO_VEH	Percentage of housing units with no vehicle available	B25044: Tenure by Vehicles Available	Owner occupied: No vehicle available and AJ2WE010 - Renter occupied: No vehicle available	Total occupied housing units
ACS_PCT_OTHER	Percentage of employed working in other services, except public administration	C24030: Sex by Industry for the Civilian Employed Population 16 Years and Over	Male: Other services, except public administration and Female: Other services, except public administration	Total civilian employed population 16 years and over
ACS_PCT_OTHER_INS	Percentage of population with other health insurance coverage combinations	B27010: Types of Health Insurance Coverage by Age	Under 19 years: With two or more types of health insurance coverage: Other coverage combinations and 19 to 34 years: With two or more types of health insurance coverage: Other coverage combinations and 35 to 64 years: With two or more types of health insurance coverage: Other coverage combinations 65 years and over: With two or more types of health insurance coverage: Other coverage combinations	Civilian noninstitutionalized population; total

Variable name	Variable label	Source table	Numerator	Denominator*
ACS_PCT_OTH_EURP	Percentage of population who speak other Indo-European languages (ages 5 and over)	B16004: Age by Language Spoken at Home by Ability to Speak English for the Population 5 Years and Over	18 to 64 years: Speak other Indo-European languages and 65 years and over: Speak other Indo-European languages and 5 to 17 years: Speak other Indo-European languages	Total Population 5 years and over
ACS_PCT_OTH_LANG	Percentage of population who speak other languages (ages 5 and over)	B16004: Age by Language Spoken at Home by Ability to Speak English for the Population 5 Years and Over	5 to 17 years: Speak other languages and 18 to 64 years: Speak other languages and 65 years and over: Speak other languages	Total Population 5 years and over
ACS_PCT_OWNERD_HH	Percentage of occupied housing units: owner-occupied	B25003: Tenure	Owner occupied	Occupied housing units; Total
ACS_PCT_OWNERD_HH_CHILD	Percentage of owner-occupied housing units with children	B25012: Tenure by Families and Presence of Own Children	Owner-occupied housing units with children under age 18	Total owner-occupied housing units
ACS_PCT_PERSON_INC124	Percentage of population with income to poverty ratio: 1.00-1.24	C17002: Ratio of Income to Poverty Level in the Past 12 Months	1.00 to 1.24	Total Population for whom poverty status is determined
ACS_PCT_PERSON_INC199	Percentage of population with income to poverty ratio: 1.25-1.99	C17002: Ratio of Income to Poverty Level in the Past 12 Months	1.25 to 1.49 and 1.85 to 1.99	Total Population for whom poverty status is determined
ACS_PCT_PERSON_INC200	Percentage of population with income to poverty ratio: 2.00 or higher	C17002: Ratio of Income to Poverty Level in the Past 12 Months	2.00 and over	Total Population for whom poverty status is determined
ACS_PCT_PERSON_INC99	Percentage of population with income to poverty ratio: <1.00	C17002: Ratio of Income to Poverty Level in the Past 12 Months	Under .50 and .50 to .99	Total Population for whom poverty status is determined
ACS_PCT_POSTHS_ED	Percentage of population with any postsecondary	B15003: Educational Attainment for the	Some college to Doctorate degree (inclusive)	Total population age 25 and over

Variable name	Variable label	Source table	Numerator	Denominator*
	education (ages 25 and over)	Population 25 Years and Over		
ACS_PCT_PRIVATE_2	Percentage of population with employer-based and direct-purchase coverage	B27010: Types of Health Insurance Coverage by Age	Under 19 years: With two or more types of health insurance coverage: With employer-based and direct-purchase coverage and 19 to 34 years: With two or more types of health insurance coverage: With employer-based and direct-purchase coverage and 35 to 64 years: With two or more types of health insurance coverage: With employer-based and direct-purchase coverage and 65 years and over: With two or more types of health insurance coverage: With employer-based and direct-purchase coverage	Civilian noninstitutionalized population; total
ACS_PCT_PRIVATE_ANY	Percentage of population with any private health insurance coverage	B27010: Types of Health Insurance Coverage by Age	Sum of calculated variables: ACS_PCT_PRIVATE_ANY, ACS_PCT_PRIVATE_EMPL, ACS_PCT_PRIVATE_SELF, ACS_PCT_PRIVATE_2, ACS_PCT_PRIVATE_OTHER, ACS_PCT_PRIVATE_MDCR and ACS_PCT_self_MDCR	Civilian noninstitutionalized population; total
ACS_PCT_PRIVATE_ANY64	Percentage of population with any private health insurance coverage (ages 64 and under)	B27010: Types of Health Insurance Coverage by Age	Under 19 years: With two or more types of health insurance coverage: With employer-based and direct-purchase coverage and 19 to 34 years: With two or more types of health insurance coverage: With employer-based and direct-purchase coverage and 35 to 64 years: With two or more types of health insurance coverage: With employer-based and direct-purchase coverage and Under 19 years: With two or more types of health insurance coverage: Other private only combinations and 19 to 34 years: With two or more types of health insurance coverage: Other private only combinations and 35 to 64 years: With two or more types of health insurance coverage: Other private only combinations; Under 19 years: With two or more types of health insurance coverage: With employer-based and Medicare coverage and 19	Under 19 years and 19 to 34 years and 35 to 64 years

Variable name	Variable label	Source table	Numerator	Denominator*
			to 34 years: With two or more types of health insurance coverage: With employer-based and Medicare coverage and 35 to 64 years: With two or more types of health insurance coverage: With employer-based and Medicare coverage	
ACS_PCT_PRIVATE_EMPL	Percentage of population with employer-based health insurance	B27010: Types of Health Insurance Coverage by Age	Under 19 years: With one type of health insurance coverage: With employer-based health insurance only and 19 to 34 years: With one type of health insurance coverage: With employer-based health insurance only and 35 to 64 years: With one type of health insurance coverage: With employer-based health insurance only and 65 years and over: With one type of health insurance coverage: With employer-based health insurance only and Under 19 years: With two or more types of health insurance coverage: With employer-based and direct-purchase coverage and 19 to 34 years: With two or more types of health insurance coverage: With employer-based and direct-purchase coverage and 35 to 64 years: With two or more types of health insurance coverage: With employer-based and direct-purchase coverage and 65 years and over: With two or more types of health insurance coverage: With employer-based and direct-purchase coverage	Civilian noninstitutionalized population; total
ACS_PCT_PRIVATE_EMPL64	Percentage of population with employer-based health insurance only (ages 64 and under)	B27010: Types of Health Insurance Coverage by Age	Under 19 years: With one type of health insurance coverage: With employer-based health insurance only and 19 to 34 years: With one type of health insurance coverage: With employer-based health insurance only and 35 to 64 years: With one type of health insurance coverage: With employer-based health insurance only	Under 19 years and 19 to 34 years and 35 to 64 years
ACS_PCT_PRIVATE_MDCR	Percentage of population with employer-based and Medicare insurance coverage	B27010: Types of Health Insurance Coverage by Age	Under 19 years: With two or more types of health insurance coverage: With employer-based and Medicare coverage and 19 to 34 years: With two or more types of health insurance coverage: With employer-based and Medicare coverage and 35 to 64 years: With two or more types of health insurance coverage: With employer-based and Medicare	Civilian noninstitutionalized population; total

Variable name	Variable label	Source table	Numerator	Denominator*
			coverage and 65 years and over: With two or more types of health insurance coverage: With employer-based and Medicare coverage	
ACS_PCT_PRIVATE_MDCR64	Percentage of population with employer-based and Medicare coverage (ages 64 and under)	B27010: Types of Health Insurance Coverage by Age	Under 19 years: With two or more types of health insurance coverage: With employer-based and Medicare coverage and 19 to 34 years: With two or more types of health insurance coverage: With employer-based and Medicare coverage and 35 to 64 years: With two or more types of health insurance coverage: With employer-based and Medicare coverage	Under 19 years and 19 to 34 years and 35 to 64 years
ACS_PCT_PRIVATE_OTHER	Percentage of population with other private-only health insurance combinations	B27010: Types of Health Insurance Coverage by Age	Under 19 years: With two or more types of health insurance coverage: Other private-only combinations and 19 to 34 years: With two or more types of health insurance coverage: Other private-only combinations and 35 to 64 years: With two or more types of health insurance coverage: Other private-only combinations and 65 years and over: With two or more types of health insurance coverage: Other private-only combinations	Civilian noninstitutionalized population; total
ACS_PCT_PRIVATE_OTHER64	Percentage of population with other private-only health insurance combinations (ages 64 and under)	B27010: Types of Health Insurance Coverage by Age	Under 19 years: With two or more types of health insurance coverage: Other private-only combinations and 19 to 34 years: With two or more types of health insurance coverage: Other private-only combinations and 35 to 64 years: With two or more types of health insurance coverage: Other private-only combinations	Under 19 years and 19 to 34 years and 35 to 64 years
ACS_PCT_PRIVATE_SELF	Percentage of population with direct-purchase health insurance only	B27010: Types of Health Insurance Coverage by Age	Under 19 years: With one type of health insurance coverage: With direct-purchase health insurance only and 19 to 34 years: With one type of health insurance coverage: With direct-purchase health insurance only and 35 to 64 years: With one type of health insurance coverage: With direct-purchase health insurance only and 65 years and over: With one type of health insurance coverage: With direct-purchase health insurance only	Civilian noninstitutionalized population; total

Variable name	Variable label	Source table	Numerator	Denominator*
ACS_PCT_PRIVATE_SELF64	Percentage of population with direct coverage only (ages 64 and under)	B27010: Types of Health Insurance Coverage by Age	Under 19 years: With one type of health insurance coverage: With direct-purchase health insurance only and 19 to 34 years: With one type of health insurance coverage: With direct-purchase health insurance only and 35 to 64 years: With one type of health insurance coverage: With direct-purchase health insurance only	Under 19 years and 19 to 34 years and 35 to 64 years
ACS_PCT_PROFESS	Percentage of employed working in professional, scientific, management, administrative, and waste management services	C24030: Sex by Industry for the Civilian Employed Population 16 Years and Over	Male: Professional, scientific, and management, and administrative, and waste management services and Female: Professional, scientific, and management, and administrative, and waste management services	Total civilian employed population 16 years and over
ACS_PCT_PUBLIC_ONLY	Percentage of population with Medicare, Medicaid, TRICARE/military, U.S. Department of Veterans Affairs (VA) coverage only	B27010: Types of Health Insurance Coverage by Age	Sum of calculated variables: ACS_PCT_MEDICAID_ANY, ACS_PCT_MEDICARE_ONLY, ACS_PCT_TRICARE_VA, and ACS_PCT_PUBLIC_OTHER	Civilian noninstitutionalized population; total
ACS_PCT_PUBLIC_OTHER	Percentage of population with other public-only health insurance combinations (ages 64 and under)	B27010: Types of Health Insurance Coverage by Age	Under 19 years: With two or more types of health insurance coverage: Other public-only combinations and 19 to 34 years: With two or more types of health insurance coverage: Other public-only combinations and 35 to 64 years: With two or more types of health insurance coverage: Other public-only combinations and 65 years and over: With two or more types of health insurance coverage: Other public-only combinations	Civilian noninstitutionalized population; total
ACS_PCT_PUBL_TRANSIT	Percentage of workers taking public transportation, excluding taxicab (ages 16 and over)	C08134 (2009): Means of Transportation to Work by Travel Time to Work; B08301 (2011): Means of Transportation to Work; B08134 (2011-2018): Means of Transportation to Work by Travel Time to Work	Public transportation (excluding taxicab)	Workers 16 years and over who did not work at home; Total

Variable name	Variable label	Source table	Numerator	Denominator*
ACS_PCT_PUB_COMMT_15MIN	Percentage of workers age 16 and over with less than 15-minute commute time by public transportation	B08134: Means of Transportation to Work by Travel Time to Work	Less than 10 minutes; and 10–14 minutes	Public transportation (excluding taxicab)
ACS_PCT_PUB_COMMT_29MIN	Percentage of workers age 16 and over with 15-to 29-minute commute time by public transportation	B08134: Means of Transportation to Work by Travel Time to Work	15–19 minutes, 20–24 minutes, and 25–29 minutes	Public transportation (excluding taxicab)
ACS_PCT_PUB_COMMT_59MIN	Percentage of workers age 16 and over with 30-to 59-minute commute time by public transportation	B08134: Means of Transportation to Work by Travel Time to Work	30–34 minutes, 35–44 minutes, and 45–59 minutes	Public transportation (excluding taxicab)
ACS_PCT_PUB_COMMT_60MINUP	Percentage of workers age 16 and over with at least 60-minute commute time by public transportation	B08134: Means of Transportation to Work by Travel Time to Work	60 or more minutes	Public transportation (excluding taxicab)
ACS_PCT_RENTED_HH	Percentage of occupied housing units: rented	B25003: Tenure	Renter occupied	Occupied housing units; Total
ACS_PCT_RENTER_65UP	Percentage of rental units occupied by householders aged 65 and older	B25007: Tenure by Age of Householder	Renter occupied: Householder 65 to 74 years and Renter occupied: Householder 75 to 84 years and Renter occupied: Householder 85 years and over	Renter occupied
ACS_PCT_RENTER_HH_CHILD	Percentage of renter-occupied housing units with children	B25012: Tenure by Families and Presence of Own Children	Renter-occupied housing units with children under age 18	Total renter-occupied housing units
ACS_PCT_RENT_COST_30PCT	Percentage of rental units with rent equal to 30 percent or more of household income	B25070: Gross Rent as a Percentage of Household Income in the Past 12 Months	30.0 to 34.9 percent to 50.0 percent or more (inclusive)	Renter-occupied housing units; Total minus Not computed
ACS_PCT_RETAIL	Percentage of employed working in retail trade	C24030: Sex by Industry for the Civilian Employed Population 16 Years and Over	Male: Retail trade and Female: Retail trade	Total civilian employed population 16 years and over



Variable name	Variable label	Source table	Numerator	Denominator*
ACS_PCT_SELF_MDCR	Percentage of population with direct-purchase and Medicare health insurance (ages 35 and over)	B27010: Types of Health Insurance Coverage by Age	35 to 64 years: With two or more types of health insurance coverage: With direct-purchase and Medicare coverage and 65 years and over: With two or more types of health insurance coverage: With direct-purchase and Medicare coverage	Civilian noninstitutionalized population; total
ACS_PCT_SMARTPHONE	Percentage of households with a smartphone with no other type of computing device	B28001: Types of Computers in Household	Has one or more types of computing devices: Smartphone: Smartphone with no other type of computing device	Total households
ACS_PCT_SPANISH	Percentage of population that speaks Spanish (ages 5 and over)	B16004: Age by Language Spoken at Home by Ability to Speak English for the Population 5 Years and Over	5 to 17 years: Speak Spanish and 18 to 64 years: Speak Spanish and 65 years and over: Speak Spanish	Total Population 5 years and over
ACS_PCT_TAXICAB_2WORK	Percentage of workers taking taxicab, motorcycle, bicycle, or other means to work (ages 16 and over)	B08301 (2011): Means of Transportation to Work; B08134 (2011-2018): Means of Transportation to Work by Travel Time to Work	Taxicab, motorcycle, bicycle, or other means	Workers 16 years and over who did not work at home; Total
ACS_PCT_TRANSPORT	Percentage of employed working in transportation and warehousing, and in utilities	C24030: Sex by Industry for the Civilian Employed Population 16 Years and Over	Male: Transportation and warehousing, and utilities and Female: Transportation and warehousing, and utilities	Total civilian employed population 16 years and over
ACS_PCT_TRICARE_VA	Percentage of population with TRICARE/military or VA health insurance coverage only	B27010: Types of Health Insurance Coverage by Age	Under 19 years: With one type of health insurance coverage: With TRICARE/military health coverage only and Under 19 years: With one type of health insurance coverage: With VA Health Care only and 19 to 34 years: With one type of health insurance coverage: With TRICARE/military health coverage only and 19 to 34 years: With one type of health insurance coverage: With VA Health Care only and 35 to 64 years: With one type of health insurance coverage: With TRICARE/military health coverage only and 35 to 64 years: With one type of health	Civilian noninstitutionalized population; total

Variable name	Variable label	Source table	Numerator	Denominator*
			insurance coverage: With VA Health Care only and 65 years and over: With one type of health insurance coverage: With TRICARE/military health coverage only and 65 years and over: With one type of health insurance coverage: With VA Health Care only	
ACS_PCT_TRICARE_VA64	Percentage of population with TRICARE/military or VA coverage only (ages 64 and under)	B27010: Types of Health Insurance Coverage by Age	Under 19 years: With one type of health insurance coverage: With TRICARE/military health coverage only and 19 to 34 years: With one type of health insurance coverage: With TRICARE/military health coverage only and 35 to 64 years: With one type of health insurance coverage: With TRICARE/military health coverage only and Under 19 years: With one type of health insurance coverage: With VA Health Care only and 19 to 34 years: With one type of health insurance coverage: With VA Health Care only and 35 to 64 years: With one type of health insurance coverage: With VA Health Care only	Under 19 years and 19 to 34 years and 35 to 64 years
ACS_PCT_UNEMPLOY	Percentage of population that was unemployed (ages 16 years and over)	B23025: Employment Status for the Population 16 Years and Over	In labor force: Civilian labor force: Unemployed	Total population 16 years and over
ACS_PCT_UNINSURED	Percentage of population with no health insurance coverage	B27010: Types of Health Insurance Coverage by Age	Under 19 years: No health insurance coverage and 19 to 34 years: No health insurance coverage and 35 to 64 years: No health insurance coverage and 65 years and over: No health insurance coverage	Civilian noninstitutionalized population; total
ACS_PCT_UNINSURED64	Percentage of population with no health insurance (ages 64 and under)	B27010: Types of Health Insurance Coverage by Age	Under 19 years: No health insurance coverage and 19 to 34 years: No health insurance coverage and 35 to 64 years: No health insurance coverage	Under 19 years and 19 to 34 years and 35 to 64 years
ACS_PCT_VA	Percentage of the civilian population consisting of veterans (ages 18 and over)	B21001: Sex by Age by Veteran Status for the Civilian Population 18 Years and Over	Civilian population 18 years and over; Veteran	Civilian population 18 years and over; Total
ACS_PCT_VACANT_HH	Percentage of housing units vacant	B25002: Occupancy Status	Vacant	Total Housing units
ACS_PCT_VA_BACHELOR	Percentage of civilian veterans that have a	B21003: Veteran Status by Educational	Veteran: Bachelor's degree or higher	Civilian population 25 years and over; Veteran

Variable name	Variable label	Source table	Numerator	Denominator*
	bachelor's degree or higher (ages 25 and over)	Attainment for the Civilian Population 25 Years and Over		
ACS_PCT_VA_COLLEGE	Percentage of civilian veterans that have some college education or an associate's degree (ages 25 and over)	B21003: Veteran Status by Educational Attainment for the Civilian Population 25 Years and Over	Veteran: Some college or associate's degree	Civilian population 25 years and over; Veteran
ACS_PCT_VA_DISABLE	Percentage of civilian veterans with a disability (ages 18–64)	C21007: Age by Veteran Status by Poverty Status in the Past 12 Months by Disability Status for the Civilian Population 18 to 64 Years	18 to 64 years: Veteran: Income in the past 12 months below poverty level: With a disability and 18 to 64 years: Veteran: Income in the past 12 months at or above poverty level: With a disability	Civilian population 18 years and over for whom poverty status is determined; 18 to 64 years: Veteran
ACS_PCT_VA_LABOR_FORCE	Percentage of civilian veterans in labor force (ages 18–64)	B21005: Age by Veteran Status by Employment Status for the Civilian Population 18 to 64 Years	18 to 34 years: Veteran: In labor force and 35 to 54 years: Veteran: In labor force and 55 to 64 years: Veteran: In labor force	18 to 34 years: Veteran and 35 to 54 years: Veteran and 55 to 64 years: Veteran
ACS_PCT_VA_POOR	Percentage of civilian veterans with income below the poverty level in past 12 months (ages 18–64)	C21007: Age by Veteran Status by Poverty Status in the Past 12 Months by Disability Status for the Civilian Population 18 to 64 Years	18 to 64 years: Veteran: Income in the past 12 months below poverty level	Civilian population 18 years and over for whom poverty status is determined; 18 to 64 years: Veteran
ACS_PCT_VA_UNEMPL	Percentage of civilian veterans that are unemployed (ages 18–64)	B21005: Age by Veteran Status by Employment Status for the Civilian Population 18 to 64 Years	18 to 34 years: Veteran: In labor force: Unemployed and 35 to 54 years: Veteran: In labor force: Unemployed and 55 to 64 years: Veteran: In labor force: Unemployed	18 to 34 years: Veteran: In labor force and 35 to 54 years: Veteran: In labor force and 55 to 64 years: Veteran: In labor force
ACS_PCT_WALK_2WORK	Percentage of workers walking to work (ages 16 and over)	B08301 (2011): Means of Transportation to Work; B08134 (2011-2018): Means of	Walked	Workers 16 years and over who did not work at home; Total

Variable name	Variable label	Source table	Numerator	Denominator*
		Transportation to Work by Travel Time to Work		
ACS_PCT_WHITE	Percentage of population reporting White race	B02001: Race	White alone	Total population
ACS_PCT_WHOLESALE	Percentage of employed working in wholesale trade	C24030: Sex by Industry for the Civilian Employed Population 16 Years and Over	Male: Wholesale trade and Female: Wholesale trade	Total civilian employed population 16 years and over
ACS_PCT_WORK_NO_CAR	Percentage of workers 16 years and over in households with no vehicle available	B08141: Means of Transportation to Work by Vehicles Available	Workers 16 years and over in households with no vehicle	Workers 16 years and over in households
ACS_PER_CAPITA_INCOME	Per capita income (in dollars, inflation-adjusted to data file year)	B19301: Per Capita Income in the Past 12 Months (in [data year] Inflation-Adjusted Dollars)	n/a	Per capita income in the past 12 months (in [data year] inflation-adjusted dollars)
ACS_TOTAL_HOUSEHOLD	Total number of households	B11001: Household Type (Including Living Alone)	n/a	Households; Total
ACS_TOTAL_POP_WT	Total weighted population	B01003: Total population, weighted	n/a	Total population
ACS_VA_MEDIAN_INCOME	Median income of civilian veterans (in dollars, inflation-adjusted to file data year; ages 18 and over)	B21004: Median Income in the Past 12 Months (in [data year] Inflation-Adjusted Dollars) by Veteran Status by Sex for the Civilian Population 18 Years and Over with Income	n/a	Civilian population 18 years and over with income in past 12 months; Veteran

\* When variables are derived directly from the source data, the denominator column will describe the original variable, and the numerator will be "n/a". N/A = not applicable.

**Table 6. Variable availability across years, ACS**

Variable name	Variable label	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
ACS_GINI_INDEX	Gini index of income inequality	X	X	X	X	X	X	X	X	X	X
ACS_HH_SIZE	Average household size	X	X	X	X	X	X	X	X	X	X
ACS_MEDIAN_AGE	Median age	X	X	X	X	X	X	X	X	X	X
ACS_MEDIAN_HH_INCOME	Median household income (in dollars, inflation-adjusted to file data year)	X	X	X	X	X	X	X	X	X	X
ACS_MEDIAN_HOME_VALUE	Median home value of owner-occupied housing units	X	X	X	X	X	X	X	X	X	X
ACS_MEDIAN_RENT	Median gross rent as a percentage of household income	X	X	X	X	X	X	X	X	X	X
ACS_NONVA_MEDIAN_INCOME	Median income of civilian nonveteran population (in dollars, inflation-adjusted to file data year; ages 18 and over)	X	X	X	X	X	X	X	X	X	X
ACS_PCT_10UNITS	Percentage of housing in structures with 10 or more units	X	X	X	X	X	X	X	X	X	X
ACS_PCT_1FAM_HH_FOOD_STMP	Percentage of unmarried partner households that received food stamps/Supplemental Nutrition Assistance Program (SNAP) benefits	X	X	X	X	X	X	X	X	X	X
ACS_PCT_1UP_OWNER_1ROOM	Percentage of owner-occupied housing units with more than one occupant per room	X	X	X	X	X	X	X	X	X	X
ACS_PCT_1UP_PERS_1ROOM	Percentage of housing units with more than one occupant per room	X	X	X	X	X	X	X	X	X	X
ACS_PCT_1UP_RENT_1ROOM	Percentage of renter-occupied housing units with more than one occupant per room	X	X	X	X	X	X	X	X	X	X
ACS_PCT_ADMIN	Percentage of employed working in public administration	X	X	X	X	X	X	X	X	X	X
ACS_PCT_AGE_0_17	Percentage of population age 0–17	X	X	X	X	X	X	X	X	X	X
ACS_PCT_AGE_0_4	Percentage of population age 0–4	X	X	X	X	X	X	X	X	X	X
ACS_PCT_AGE_10_14	Percentage of population age 10–14	X	X	X	X	X	X	X	X	X	X
ACS_PCT_AGE_15_17	Percentage of population age 15–17	X	X	X	X	X	X	X	X	X	X
ACS_PCT_AGE_18_44	Percentage of population age 18–44	X	X	X	X	X	X	X	X	X	X
ACS_PCT_AGE_45_64	Percentage of population age 45–64	X	X	X	X	X	X	X	X	X	X
ACS_PCT_AGE_5_9	Percentage of population age 5–9	X	X	X	X	X	X	X	X	X	X

Variable name	Variable label	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
ACS_PCT_AGE_65UP	Percentage of population age 65 and over	X	X	X	X	X	X	X	X	X	X
ACS_PCT_AGE_80UP	Percentage of population age 80 and over	X	X	X	X	X	X	X	X	X	X
ACS_PCT_AIAN	Percentage of population reporting American Indian/Alaska Native race	X	X	X	X	X	X	X	X	X	X
ACS_PCT_API_LANG	Percentage of population that speaks Asian and Pacific Island languages (ages 5 and over)	X	X	X	X	X	X	X	X	X	X
ACS_PCT_ARMED_FORCES	Percentage of civilian population in armed forces (ages 16 years and over)	X	X	X	X	X	X	X	X	X	X
ACS_PCT_ART	Percentage of employed working in arts, entertainment, recreation, and accommodation and food services	X	X	X	X	X	X	X	X	X	X
ACS_PCT_ASIAN	Percentage of population reporting Asian race	X	X	X	X	X	X	X	X	X	X
ACS_PCT_ASSOCIATE_DGR	Percentage of population with some college or associate's degree (ages 25 and over)	X	X	X	X	X	X	X	X	X	X
ACS_PCT_BACHELOR_DGR	Percentage of population with a bachelor's degree (ages 25 and over)	X	X	X	X	X	X	X	X	X	X
ACS_PCT_BLACK	Percentage of population reporting Black race	X	X	X	X	X	X	X	X	X	X
ACS_PCT_BROADBAND	Percentage of households with any type of broadband internet subscription									X	X
ACS_PCT_CHILD_1FAM	Percentage of families with children that are single-parent families	X	X	X	X	X	X	X	X	X	X
ACS_PCT_CHILD_DISAB	Percentage of children under 18 with a disability				X	X	X	X	X	X	X
ACS_PCT_COMMT_15MIN	Percentage of workers with < 15-minute commute time (ages 16 and over)	X	X	X	X	X	X	X	X	X	X
ACS_PCT_COMMT_29MIN	Percentage of workers with 15- to 29-minute commute time (ages 16 and over)	X	X	X	X	X	X	X	X	X	X
ACS_PCT_COMMT_59MIN	Percentage of workers with 30- to 59-minute commute time (ages 16 and over)	X	X	X	X	X	X	X	X	X	X
ACS_PCT_COMMT_60MINUP	Percentage of workers with at least 60-minute commute time (ages 16 and over)	X	X	X	X	X	X	X	X	X	X

Variable name	Variable label	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
ACS_PCT_CONSTRUCT	Percentage of employed working in construction	X	X	X	X	X	X	X	X	X	X
ACS_PCT_CTZ_NONUS_BORN	Percentage of population consisting of U.S. citizens born abroad of American parents or naturalized	X	X	X	X	X	X	X	X	X	X
ACS_PCT_CTZ_US_BORN	Percentage of population consisting of U.S. citizens born in United States, Puerto Rico, or U.S. Islands	X	X	X	X	X	X	X	X	X	X
ACS_PCT_DISABLE	Percentage of population with a disability				X	X	X	X	X	X	X
ACS_PCT_DIVORCE_SEPARAT	Percentage of population divorced or separated (ages 15 and over)	X	X	X	X	X	X	X	X	X	X
ACS_PCT_DRIVE_2WORK	Percentage of workers taking a car, truck, or van to work (ages 16 and over)	X	X	X	X	X	X	X	X	X	X
ACS_PCT_EDUC	Percentage of employed working in educational services, and healthcare and social assistance	X	X	X	X	X	X	X	X	X	X
ACS_PCT_ENGLISH	Percentage of population that only speaks English (ages 5 and over)	X	X	X	X	X	X	X	X	X	X
ACS_PCT_ENGL_NOT_ALL	Percentage of population that does not speak English at all (ages 5 and over)	X	X	X	X	X	X	X	X	X	X
ACS_PCT_ENGL_NOT_WELL	Percentage of population that does not speak English well (ages 5 and over)	X	X	X	X	X	X	X	X	X	X
ACS_PCT_ENGL_VERY_WELL	Percentage of population that speaks English very well (ages 5 and over)	X	X	X	X	X	X	X	X	X	X
ACS_PCT_ENGL_WELL	Percentage of population that speaks English well (ages 5 and over)	X	X	X	X	X	X	X	X	X	X
ACS_PCT_FEMALE	Percentage of population that is female	X	X	X	X	X	X	X	X	X	X
ACS_PCT_FINANCE	Percentage of employed working in finance and insurance, real estate, and rental and leasing	X	X	X	X	X	X	X	X	X	X
ACS_PCT_FOOD_STAMP	Percentage of households that received food stamps/SNAP, past 12 months	X	X	X	X	X	X	X	X	X	X
ACS_PCT_FOREIGN_BORN	Percentage of population that is foreign-born	X	X	X	X	X	X	X	X	X	X
ACS_PCT_GRADUATE_DGR	Percentage of population with a master's or professional school	X	X	X	X	X	X	X	X	X	X

Variable name	Variable label	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
	degree or doctorate (ages 25 and over)										
ACS_PCT_GRANDKID_TOT	Percentage of children living with a grandparent householder (ages 17 and under)	X	X	X	X	X	X	X	X	X	X
ACS_PCT_GRANDP_NO_RESPS	Percentage of children living with grandparent householder whose grandparent is not responsible for them	X	X	X	X	X	X	X	X	X	X
ACS_PCT_GRANDP_RESPS	Percentage of children living with grandparent householder whose grandparent is responsible for them: Parent present	X	X	X	X	X	X	X	X	X	X
ACS_PCT_GRANDP_RESPS_NO_P	Percentage of children living with grandparent householder whose grandparent is responsible for them: Parent not present	X	X	X	X	X	X	X	X	X	X
ACS_PCT_GRP_QRT	Percentage of persons in institutionalized group quarters	X	X	X	X	X	X	X	X	X	X
ACS_PCT_GULFWAR_1990	Percentage of the civilian veteran population that served during the Gulf War period from August 1990 to August 2001 (ages 18 and over)	X	X	X	X	X	X	X	X	X	X
ACS_PCT_GULFWAR_2001	Percentage of the civilian veteran population that served during the Gulf War period from September 2001 or later (ages 18 and over)	X	X	X	X	X	X	X	X	X	X
ACS_PCT_HH_1PERS	Percentage of households with only one occupant	X	X	X	X	X	X	X	X	X	X
ACS_PCT_HH_NO_FUEL	Percentage of occupied housing units without fuel	X	X	X	X	X	X	X	X	X	X
ACS_PCT_HH_PUB_ASSIST	Percentage of households with public assistance income or food stamps/SNAP	X	X	X	X	X	X	X	X	X	X
ACS_PCT_HISPAN	Percentage of population reporting Hispanic ethnicity	X	X	X	X	X	X	X	X	X	X
ACS_PCT_HS_GRADUATE	Percentage of population with only high school diploma (ages 25 and over)	X	X	X	X	X	X	X	X	X	X
ACS_PCT_INC137	Percentage of population with income to poverty ratio of 1.00–1.37				X	X	X	X	X	X	X
ACS_PCT_INC400	Percentage of population with income to poverty ratio of 4.00 or higher				X	X	X	X	X	X	X
ACS_PCT_INFORM	Percentage of employed working in information services	X	X	X	X	X	X	X	X	X	X



Variable name	Variable label	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
ACS_PCT_INTERNET	Percentage of households with any internet connection									X	X
ACS_PCT_LIMIT_ENGLISH	Percentage of households with limited English speaking		X	X	X	X	X	X	X	X	X
ACS_PCT_LT_HS	Percentage of population with less than high school education (ages 25 and over)	X	X	X	X	X	X	X	X	X	X
ACS_PCT_MANUFACT	Percentage of employed working in manufacturing	X	X	X	X	X	X	X	X	X	X
ACS_PCT_MEDICAID_ANY	Percentage of population with any Medicaid/means-tested public health insurance coverage					X	X	X	X	X	X
ACS_PCT_MEDICAID_ANY64	Percentage of population with any Medicaid/means-tested public coverage (ages 64 and under)					X	X	X	X	X	X
ACS_PCT_MEDICARE_ONLY	Percentage of population with Medicare only					X	X	X	X	X	X
ACS_PCT_MOBILE_HOME	Percentage of housing units that are mobile homes	X	X	X	X	X	X	X	X	X	X
ACS_PCT_MULT_RACE	Percentage of population reporting multiple races	X	X	X	X	X	X	X	X	X	X
ACS_PCT_NATURE	Percentage of employed working in agriculture, forestry, fishing and hunting, and mining (ages 16 and over)	X	X	X	X	X	X	X	X	X	X
ACS_PCT_NHPI	Percentage of population reporting Native Hawaiian/Pacific Islander race	X	X	X	X	X	X	X	X	X	X
ACS_PCT_NONCTN_1990	Percentage of population who are not U.S. citizens and entered U.S. before 1990	X	X	X	X	X	X	X	X	X	X
ACS_PCT_NONCTN_2010	Percentage of population who are not U.S. citizens and entered U.S. since 2010				X	X	X	X	X	X	X
ACS_PCT_NONVA_DISABLE	Percentage of nonveterans with a disability (ages 18-64)				X	X	X	X	X	X	X
ACS_PCT_NONVA_POOR	Percentage of civilian nonveterans with income below the poverty level in the past 12 months (ages 18-64)				X	X	X	X	X	X	X
ACS_PCT_NON_CITIZEN	Percentage of population who are not U.S. citizens	X	X	X	X	X	X	X	X	X	X
ACS_PCT_NO_PC	Percentage of households without a computer									X	X
ACS_PCT_NO_VEH	Percentage of housing units with no vehicle available	X	X	X	X	X	X	X	X	X	X

Variable name	Variable label	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
ACS_PCT_OTHER	Percentage of employed working in other services, except public administration	X	X	X	X	X	X	X	X	X	X
ACS_PCT_OTHER_INS	Percentage of population with other health insurance coverage combinations					X	X	X	X	X	X
ACS_PCT_OTH_EURP	Percentage of population who speak other Indo-European languages (ages 5 and over)	X	X	X	X	X	X	X	X	X	X
ACS_PCT_OTH_LANG	Percentage of population who speak other languages (ages 5 and over)	X	X	X	X	X	X	X	X	X	X
ACS_PCT_OWNED_HH	Percentage of occupied housing units: owner-occupied	X	X	X	X	X	X	X	X	X	X
ACS_PCT_OWNER_HH_CHILD	Percentage of owner-occupied housing units with children	X	X	X	X	X	X	X	X	X	X
ACS_PCT_PERSON_INC124	Percentage of population with income to poverty ratio: 1.00-1.24	X	X	X	X	X	X	X	X	X	X
ACS_PCT_PERSON_INC199	Percentage of population with income to poverty ratio: 1.25-1.99	X	X	X	X	X	X	X	X	X	X
ACS_PCT_PERSON_INC200	Percentage of population with income to poverty ratio: 2.00 or higher	X	X	X	X	X	X	X	X	X	X
ACS_PCT_PERSON_INC99	Percentage of population with income to poverty ratio: <1.00	X	X	X	X	X	X	X	X	X	X
ACS_PCT_POSTHS_ED	Percentage of population with any postsecondary education (ages 25 and over)	X	X	X	X	X	X	X	X	X	X
ACS_PCT_PRIVATE_2	Percentage of population with employer-based and direct-purchase coverage					X	X	X	X	X	X
ACS_PCT_PRIVATE_ANY	Percentage of population with any private health insurance coverage					X	X	X	X	X	X
ACS_PCT_PRIVATE_ANY64	Percentage of population with any private health insurance coverage (ages 64 and under)					X	X	X	X	X	X
ACS_PCT_PRIVATE_EMPL	Percentage of population with employer-based health insurance					X	X	X	X	X	X
ACS_PCT_PRIVATE_EMPL64	Percentage of population with employer-based health insurance only (ages 64 and under)					X	X	X	X	X	X
ACS_PCT_PRIVATE_MDCR	Percentage of population with employer-based and Medicare insurance coverage					X	X	X	X	X	X

Variable name	Variable label	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
ACS_PCT_PRIVATE_OTHER	Percentage of population with other private-only health insurance combinations					X	X	X	X	X	X
ACS_PCT_PRIVATE_SELF	Percentage of population with direct-purchase health insurance only					X	X	X	X	X	X
ACS_PCT_PRIVATE_SELF64	Percentage of population with direct coverage only (ages 64 and under)					X	X	X	X	X	X
ACS_PCT_PROFESS	Percentage of employed working in professional, scientific, management, administrative, and waste management services	X	X	X	X	X	X	X	X	X	X
ACS_PCT_PUBLIC_ONLY	Percentage of population with Medicare, Medicaid, TRICARE/military, U.S. Department of Veterans Affairs (VA) coverage only					X	X	X	X	X	X
ACS_PCT_PUBLIC_OTHER	Percentage of population with other public-only health insurance combinations (ages 64 and under)					X	X	X	X	X	X
ACS_PCT_PUBL_TRANSIT	Percentage of workers taking public transportation, excluding taxicab (ages 16 and over)	X	X	X	X	X	X	X	X	X	X
ACS_PCT_PUB_COMMT_15MIN	Percentage of workers age 16 and over with less than 15-minute commute time by public transportation	X	X	X	X	X	X	X	X	X	X
ACS_PCT_PUB_COMMT_29MIN	Percentage of workers age 16 and over with 15-to 29-minute commute time by public transportation	X	X	X	X	X	X	X	X	X	X
ACS_PCT_PUB_COMMT_59MIN	Percentage of workers age 16 and over with 30- to 59-minute commute time by public transportation	X	X	X	X	X	X	X	X	X	X
ACS_PCT_PUB_COMMT_60MINUP	Percentage of workers age 16 and over with at least 60-minute commute time by public transportation	X	X	X	X	X	X	X	X	X	X
ACS_PCT_RENTED_HH	Percentage of occupied housing units: rented	X	X	X	X	X	X	X	X	X	X
ACS_PCT_RENTER_65UP	Percentage of rental units occupied by householders aged 65 and older	X	X	X	X	X	X	X	X	X	X
ACS_PCT_RENT_COST_30PCT	Percentage of rental units with rent equal to 30 percent or more of household income	X	X	X	X	X	X	X	X	X	X

Variable name	Variable label	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
ACS_PCT_RENTER_HH_CHILD	Percentage of renter-occupied housing units with children	X	X	X	X	X	X	X	X	X	X
ACS_PCT_RETAIL	Percentage of employed working in retail trade	X	X	X	X	X	X	X	X	X	X
ACS_PCT_SELF_MDCR	Percentage of population with direct-purchase and Medicare health insurance (ages 35 and over)					X	X	X	X	X	X
ACS_PCT_SMARTPHONE	Percentage of households with a smartphone with no other type of computing device									X	X
ACS_PCT_SPANISH	Percentage of population that speaks Spanish (ages 5 and over)	X	X	X	X	X	X	X	X	X	X
ACS_PCT_TAXICAB_2WORK	Percentage of workers taking taxicab, motorcycle, bicycle, or other means to work (ages 16 and over)		X	X	X	X	X	X	X	X	X
ACS_PCT_TRANSPORT	Percentage of employed working in transportation and warehousing, and in utilities	X	X	X	X	X	X	X	X	X	X
ACS_PCT_TRICARE_VA	Percentage of population with TRICARE/military or VA health insurance coverage only					X	X	X	X	X	X
ACS_PCT_TRICARE_VA64	Percentage of population with TRICARE/military or VA coverage only (ages 64 and under)					X	X	X	X	X	X
ACS_PCT_UNEMPLOY	Percentage of population that was unemployed (ages 16 years and over)	X	X	X	X	X	X	X	X	X	X
ACS_PCT_UNINSURED	Percentage of population with no health insurance coverage					X	X	X	X	X	X
ACS_PCT_UNINSURED64	Percentage of population with no health insurance (ages 64 and under)					X	X	X	X	X	X
ACS_PCT_VA	Percentage of the civilian population consisting of veterans (ages 18 and over)	X	X	X	X	X	X	X	X	X	X
ACS_PCT_VACANT_HH	Percentage of housing units vacant	X	X	X	X	X	X	X	X	X	X
ACS_PCT_VA_BACHELOR	Percentage of civilian veterans that have a bachelor's degree or higher (ages 25 and over)	X	X	X	X	X	X	X	X	X	X
ACS_PCT_VA_COLLEGE	Percentage of civilian veterans that have some college education or an associate's degree (ages 25 and over)	X	X	X	X	X	X	X	X	X	X

Variable name	Variable label	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
ACS_PCT_VA_DISABLE	Percentage of civilian veterans with a disability (ages 18–64)				X	X	X	X	X	X	X
ACS_PCT_VA_LABOR_FORCE	Percentage of civilian veterans in labor force (ages 18–64)	X	X	X	X	X	X	X	X	X	X
ACS_PCT_VA_POOR	Percentage of civilian veterans with income below the poverty level in past 12 months (ages 18–64)				X	X	X	X	X	X	X
ACS_PCT_VA_UNEMPL	Percentage of civilian veterans that are unemployed (ages 18–64)	X	X	X	X	X	X	X	X	X	X
ACS_PCT_WALK_2WORK	Percentage of workers walking to work (ages 16 and over)		X	X	X	X	X	X	X	X	X
ACS_PCT_WHITE	Percentage of population reporting White race	X	X	X	X	X	X	X	X	X	X
ACS_PCT_WHOLESALE	Percentage of employed working in wholesale trade	X	X	X	X	X	X	X	X	X	X
ACS_PCT_WORK_NO_CAR	Percentage of workers 16 years and over in households with no vehicle available		X	X	X	X	X	X	X	X	X
ACS_PER_CAPITA_INCOME	Per capita income (in dollars, inflation-adjusted to data file year)	X	X	X	X	X	X	X	X	X	X
ACS_TOTAL_HOUSEHOLD	Total number of households	X	X	X	X	X	X	X	X	X	X
ACS_TOTAL_POP_WT	Total weighted population	X	X	X	X	X	X	X	X	X	X
ACS_VA_MEDIAN_INCOME	Median income of civilian veterans (in dollars, inflation-adjusted to file data year; ages 18 and over)	X	X	X	X	X	X	X	X	X	X

## 5. Area Health Resources Files (AHRF)

### Sponsor

U.S. Department of Health and Human Services, Health Resources and Services Administration (HRSA)

### Description

The AHRF is a compendium of data from more than 50 databases and other sources on healthcare professions, health facilities, population characteristics, economics, health professions training, hospital utilization, and hospital expenditures. The AHRF provides current as well as historic data for more than 6,000 variables for each of the nation's counties, as well as state and national data.

The basic file contains a variety of geographic descriptors and codes that enable aggregation of county-level data into other geographic groupings and linking to other files. The AHRF can be used as a stand-alone database to evaluate geographic distribution of health services, professions, and facilities, and to provide contextual information in combination with other datasets.

AMA is the source for the raw physician data; statistics, tables or tabulations were prepared by the Health Resources & Services Administration/National Center for Health Workforce Analysis using AMA Masterfile data.

### Inclusion in the SDOH Beta Data Files

The SDOH county data files contain AHRF data from 2009 to 2018, covering the following SDOH domains:

- Education
- Healthcare context
- Physical infrastructure

Variables were drawn directly from the AHRF and renamed from the original fields for clarity and consistency with other SDOH beta data file variables (table 7). Year availability for each variable is shown in table 8. For counties that changed names and FIPS codes, but not land area, the county data files harmonize AHRF data to include only one record per geography per year (see also Section 3, Table 3). Since AHRF does not harmonize data in this way, it was necessary to recode variable values as follows:

- For 2013 and 2014, data points for:
  - Kusilvak Census Area, Alaska (02158) were re-assigned to Wade Hampton Census Area, Alaska (02270)
  - Shannon County, South Dakota (46102) were re-assigned to Oglala Lakota County, South Dakota (46113)
- For 2015, data points for:
  - Wade Hampton Census Area, Alaska (02270) were re-assigned to Kusilvak Census Area, Alaska (02158)
  - Oglala Lakota County, South Dakota (46113) were re-assigned to Shannon County, South Dakota (46102)

AHRF data include Health Professional Shortage Area (HPSA) variables indicating healthcare provider shortages in primary care, dental health, or mental health. These shortages may be based on geography, population groups, or facilities. HPSA scores are calculated based on discipline-specific methodology. The three scoring criteria common across all disciplines are population-to-provider ratio, percentage of population below 100 percent of the federal poverty level, and travel time to the nearest source of care outside the HPSA designation area. HPSA scoring methodology differentiated by discipline is available on the HRSA website (<https://bhw.hrsa.gov/shortage-designation/hpsa-criteria>).

Also included from the AHRF in SDOH county-level files are the 2013 USDA Rural-Urban Continuum Codes, or RUCC (AHRF\_USDA\_RUCC\_2013). This variable has nine values as follows:

- Metropolitan counties
  1. Counties in metro areas of 1 million population or more
  2. Counties in metro areas of 250,000 to 1 million population
  3. Counties in metro areas of fewer than 250,000 population
- Nonmetropolitan counties
  4. Urban population of 20,000 or more, adjacent to a metro area
  5. Urban population of 20,000 or more, not adjacent to a metro area
  6. Urban population of 2,500 to 19,999, adjacent to a metro area
  7. Urban population of 2,500 to 19,999, not adjacent to a metro area
  8. Completely rural or less than 2,500 urban population, adjacent to a metro area
  9. Completely rural or less than 2,500 urban population, not adjacent to a metro area

Cf. The NCHS 2006 and 2013 Urban-Rural Classification Schemes described below in the NCHS entry.

*Suggested citation:* Health Resources and Services Administration. (2019, July 31). *Area Health Resources Files* [Database]. U.S. Department of Health and Human Services, Health Resources and Services Administration, Bureau of Health Workforce. <https://data.hrsa.gov/topics/health-workforce/ahrf>

## Resources

Main: <https://data.hrsa.gov/topics/health-workforce/ahrf>

Data: <https://data.hrsa.gov/data/download>

USDA RUCC: <https://www.ers.usda.gov/data-products/rural-urban-continuum-codes>

**Table 7. Variable definitions and specifications, AHRF**

Variable name	Variable label	Source	Original variable
AHRF_AIRBORNE_STG_ISO_HOSPS	Total number of short-term general hospitals with airborne infection isolation rooms	AHA Survey Database	F13928- Number of Hospitals W/Airborne Infection Isolation Room, Short Term General Hospitals
AHRF_AIRBORNE_STG_ISO_ROOMS	Total number of airborne infection isolation rooms in short-term general hospitals	AHA Survey Database	F13929 - # Airborne Infection Isolation Rooms Short Term General Hospitals

Variable name	Variable label	Source	Original variable
AHRF_AIRBORNE_STNGLT_ISO_ROOMS	Total number of airborne infection isolation rooms in short-term, non-general, and long-term hospitals	AHA Survey Database	F13937 - Number of Airborne Infection Isolation Rooms, Short Term Non-General and Long-Term Hospitals
AHRF_CARDIACIC_BEDS	Total number of short-term general hospital cardiac intensive care beds	AHA Survey Database	F09133- Cardiac Intensive Care, Beds Set Up, Short Term General Hospitals
AHRF_CARDIACIC_HOSP	Total number of short-term general hospitals with cardiac intensive care	AHA Survey Database	F12566- Number of Hospital W/Cardiac Intensive Care, Short Term General Hospitals
AHRF_CARDIOVAS_DIS	Total number of cardiovascular disease specialists	AMA Physician Master File	F04631 - Cardiovascular Disease, Total
AHRF_COLON_SRG	Total number of colorectal surgeons	AMA Physician Master File	F04715 - Colon/Rectal Surgeon, Total
AHRF_COMM_HLTH_CNTR	Number of community health centers, grantees only	HRSA Data Warehouse	F15253 - # Community Health Centers Grantees Only
AHRF_DAYS_AIR_QLT	Number of days air quality is measured	EPA Air Quality Index Report	F15264 - # Days Air Quality is Measured
AHRF_DERMATOLOGY	Total number of dermatology specialists	AMA Physician Master File	F04636 - Dermatology, Total
AHRF_ER_MED	Total number of non-federal emergency medicine physicians	AMA Physician Master File	F09826 - Emergency Medicine, Total Non-Fed
AHRF_ER_VST_ST_G_HOSP	Number of emergency department visits in short-term general hospitals	AHA Survey Database	F09572 - Emergency Department Visits Short Term General Hospitals
AHRF_FED_HLTH_CNT	Number of Federally Qualified Health Centers	CMS Provider of Services	F13320 - # Fed Qualified Health Centers
AHRF_GASTROENTRLG	Total number of gastroenterology specialists	AMA Physician Master File	F04641 - Gastroenterology, Total
AHRF_GENRL_SURG	Total number of general surgeons	AMA Physician Master File	F04680 - General Surgeon, Total
AHRF_GEN_INTERNAL_MED	Total number of non-federal general internal medicine physicians	AMA Physician Master File	F11208 - General Internal Med, Total Non-Fed
AHRF_HOSP_AMMS	Total number of hospital admissions	AHA Survey Database	F08909 - Hospital Admissions
AHRF_HOSP_BED	Total number of hospital beds	AHA Survey Database	F08921 - Hospital Beds
AHRF_HOSP_BEDS_LT	Total number of beds in long-term hospital	AHA Survey Database	F08924- Long Term Hospital Beds
AHRF_HPSA_DENTIST	HPSA code—shortage of dentists	HRSA Data Warehouse	F09792- HPSA Code-Dentists 5/19
AHRF_HPSA_MENTAL	HPSA code—shortage of mental healthcare providers	HRSA Data Warehouse	F1249- HPSA Code - Mental Health 05/19



Variable name	Variable label	Source	Original variable
AHRF_HPSA_PRIM	HPSA code—shortage of primary care physicians	HRSA Data Warehouse	F09787- HPSA Code - Primary Care 05/19
AHRF_IP_DAY_NH_HOSP	Total number of hospital inpatient days including nursing homes	AHA Survey Database	F09545 - Inpatient Days Including Nursing Home; Total Hospitals
AHRF_IP_DAY_STNG_LT	Total number of inpatient days in short-term, non-general, and long-term hospitals	AHA Survey Database	F09547 - Inpatient Days in short-term, non-general, and long-term hospitals
AHRF_IP_DAY_ST_G_HOSP	Total number of inpatient days in short-term general hospitals	AHA Survey Database	F09546 - Inpatient Days in Short-Term General Hospitals
AHRF_LOW_EDUC_USDA	Low Education Typology Code (USDA ERS)	USDA, ERS based on ACS 2008-2012 5-year average.	F13975-15 - Low Education Typology Code
AHRF_LT_HOSP	Total number of long-term hospitals	AHA Survey Database	F08871 - # Long Term Hospitals
AHRF_MCR_BN_READM	Medicare beneficiary acute hospital readmission rate, fee for service	Medicare Geographic Variation - Public Use File	F15306 - Medicare Beneficiaries Acute Hospital Readmission Fee for Service
AHRF_MCR_IP_DAY_ST_G	Total Medicare inpatient days, short-term general hospitals	AHA Survey Database	F09577 - Total Medicare Inpatient Days Short Term General Hospitals
AHRF_MD_CD_INP_DAY_STGH	Total Medicaid inpatient days, short-term general hospitals	AHA Survey Database	F09706- Total Medicaid Inpatient Days, Short Term General Hospitals
AHRF_MDCR_FFS_ACT_COST	Total actual Medicare costs, fee for service	Medicare Geographic Variation - Public Use File	F15294- Total Actual Medicare Costs, (.01) Fee for Service
AHRF_MDCR_FFS_STD_COST	Total standardized Medicare costs, fee for service	Medicare Geographic Variation - Public Use File	F15295 - Total Standardized Medicare Costs, (.01) Fee for Service
AHRF_MEDSURGIC_BEDS	Total number of short-term general hospital intensive care beds	AHA Survey Database	F09139, Medical/Surgeon Intensive Care, Beds Set Up, Short Term General Hospitals
AHRF_MEDSURGIC_HOSP	Total number of short-term general hospitals with medical surgical intensive care	AHA Survey Database	F12565- Number of Hospitals W/Medical/Surgeon Intensive Care, Short Term General Hospitals
AHRF_MED_SPEC	Total number of medical specialists	AMA Physician Master File	F04618 - Medical Specialists Total, Total
AHRF_MENTL_HLTH_CNT	Total number of community mental health centers	CMS Provider of Services	F13221 - # Community Mental Health Centers

<b>Variable name</b>	<b>Variable label</b>	<b>Source</b>	<b>Original variable</b>
AHRF_NEONATALIC_BEDS	Total number of short-term general hospital neonatal intensive care beds	AHA Survey Database	F09145- Neonatal Intensive Care, Beds Set Up, Short Term General Hospitals
AHRF_NEONATALIC_HOSP	Total number of short-term general hospitals with neonatal intensive care	AHA Survey Database	F12567- Number of Hospital W/Neonatal Intensive Care, Short Term General Hospitals
AHRF_NEUROLGCAL_SURG	Total number of neurological surgeons	AMA Physician Master File	F04685 - Neurological Surgeon, Total
AHRF_NH_BED_STNGH	Number of nursing home beds, short-term non-general hospitals	AHA Survey Database	F14051- Nursing Home Beds, Short Term Non-General Hospitals
AHRF_NURSE_PRACT	Total number of nurse practitioners with National Provider Index (NPI)	CMS NPI File	F14642 - Nurse Practitioners w/NPI
AHRF_N_STGH_EXP	Number of facilities reporting expenses	AHA Survey Database	F09593- Number of Facilities Reporting Expenses, Short Term General Hospitals
AHRF_N_STGH_EXP_1000	Total expenses (in \$1000s) from facilities reporting expenses	AHA Survey Database	F09592- # Surgical Operations, Total, Veterans Hospitals
AHRF_N_STGH_PAYRLL	Number of facilities reporting payroll expenses	AHA Survey Database	F09607 - # Facilities Reporting Payroll Expenses, Short Term General Hospitals
AHRF_N_STGH_PAYRLL_1000	Total payroll expenses (in \$1000s) from facilities reporting payroll expenses	AHA Survey Database	F09609- Total Rep Payroll Expense(1000's), In Thousands, Short Term General Hospitals
AHRF_OB_GYN	Total number of obstetrics and gynecology, generalist, and primary care hospital residents	AHA Survey Database	F11743 - Ob-Gyn, Gen, PC, Hospital Residents (Fed)
AHRF_OPTHALMOLGY	Total number of ophthalmology specialists	AMA Physician Master File	F04695 - Ophthalmology, Total
AHRF_OPRT_ROOM	Total number of operating rooms in short-term general hospitals	AHA Survey Database	F13318 - # Operating Rooms Short Term General Hospitals
AHRF_OP_VST_LT_G_ER_OP	Total number of outpatient visits in long-term hospital emergency departments	AHA Survey Database	F09568 - Outpatient Visits in Long Term Hospitals Emergency Department + Other Outpatient Visits
AHRF_OP_VST_ST_G_ER_OP	Total number of outpatient visits in short-term general hospital emergency department and other outpatient visits	AHA Survey Database	F09566 - Outpatient Visits in Short Term Gen Hospital Emergency Department + Other Outpatient Visits

Variable name	Variable label	Source	Original variable
AHRF_OP_VST_ST_OTHR	Total number of outpatient visits in other short-term general hospitals	AHA Survey Database	F09575 - Outpatient Visits - Other Short Term General Hospitals
AHRF_OTHER_SPEC	Total number of other specialists	AMA Physician Master File	F04730 - Other Specialists, Total, Total
AHRF_OTOLARYNGOLGY	Total number of otolaryngology specialists	AMA Physician Master File	F04705 - Otolaryngology, Total
AHRF_OUTPAT_VST_STNGH	Outpatient visits in short-term non-general hospital emergency department and other outpatient visits	AHA Survey Database	F09567 - Outpatient Visits in Short Term Non-General Hospitals, Emergency Departments + Other OP Visits
AHRF_PCT_GOOD_AQ	Percentage of days with good air quality	EPA Air Quality Index Report	F15266 - % Good Air Quality Days
AHRF_PEDIATRICS	Total number of non-federal pediatric and general physicians	AMA Physician Master File	F11704 - Pediatrics, General, Total Non-Fed
AHRF_PHYSICIAN_ASSIST	Total number of physician assistants with National Provider Index (NPI)	CMS NPI File	F14641 - Physician Assistants w/NPI
AHRF_PHYS_PRIMARY	Total number of non-federal primary care physicians	AMA Physician Master File	F14675 - Physicians, Primary Care, Patient Care Non-Fed
AHRF_PLASTIC_SURG	Total number of plastic surgeons	AMA Physician Master File	F04710 - Plastic Surgeon, Total
AHRF_PULMONARY_DIS	Total number of pulmonary disease specialists	AMA Physician Master File	F04666 - Pulmonary Disease, Total
AHRF_RATE_MCR_BN_READM	Medicare beneficiary hospital readmission rate, fee for service	Medicare Geographic Variation - Public Use File	F15307 - Medicare Beneficiary Hospital Readmission Rate Fee for Service
AHRF_RURAL_H_CLINIC	Number of rural health clinics	CMS Provider of Services	F13218- # Rural Health Clinics, Certified Medicare Providers
AHRF_RURL_REFRRLL_CNT	Total number of rural referral centers	AHA Survey Database	F14033 - # Rural Referral Centers Total Hospitals
AHRF_STNG_LT_HOSP_ADMS	Total number of short-term, non-general, and long-term hospital admissions	AHA Survey Database	F08911 - Short-term, Non-general and Long-term Hospital, Hospitals Admissions
AHRF_ST_COMM_HOSP	Total number of short-term community hospitals	AHA Survey Database	F08872 - # Short Term Community Hospitals
AHRF_ST_COMM_HOSP_ADMS	Total number of short-term community hospital admissions	AHA Survey Database	F08912 - Short Term Community Hospital Admissions
AHRF_ST_G_HOSP	Total number of short-term general hospitals	AHA Survey Database	F08869 - # Short Term General Hospitals
AHRF_ST_G_HOSP_ADMS	Total number of short-term general hospital admissions	AHA Survey Database	F08910 - Short Term Gen Hospital Admissions

Variable name	Variable label	Source	Original variable
AHRF_ST_G_HOSP_BED	Total number of short-term general hospital beds	AHA Survey Database	F08922 - Short Term General Hospitals Beds
AHRF_ST_N_G_HOSP	Total number of short-term non-general hospitals	AHA Survey Database	F08870 - # Short Term Non-General Hospitals
AHRF_SURG_OPRN_IP	Total number of inpatient surgical operations in short-term general hospitals	AHA Survey Database	F09583 - # Surgical Operations, Inpatient Short Term General Hospitals
AHRF_SURG_OPRN_OP	Total number of outpatient surgical operations in short-term general hospitals	AHA Survey Database	F09707 - # Surgical Operations, Outpatient Short Term General Hospitals
AHRF_SURG_SPECS	Total number of surgical specialists	AMA Physician Master File	F04671 - Surgeon Specialists Total, Total
AHRF_THORACIC_SURG	Total number of thoracic surgeons	AMA Physician Master File	F04720 - Thoracic Surgeon, Total
AHRF_TOTAL_MDS	Total number of non-federal MDs	AMA Physician Master File	F04602 - Total M.D.'s, Total Non-Fed
AHRF_TOT_HOSPS	Total number of hospitals	AHA Survey Database	F08868 - Total Number Hospitals
AHRF_TXC_SITE_CNTRL	Number of designated toxic sites under control	EPA	F14988 - # Designated Toxic Site Under Control
AHRF_TXC_SITE_NO_CNTRL	Number of designated toxic sites not under control	EPA	F14989 - # Designated Toxic Site Not Under Control
AHRF_USDA_RUCC_2013	2013 Rural-Urban Continuum Code (USDA ERS)	Economic Research Service (ERS), USDA.	F00020-13 - Rural-Urban Continuum Code
REGION	Census region name	DHPA HSA ACCESS System	F04448 - Census Region Name

**Table 8. Variable availability across years, AHRF**

Variable name	Variable label	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
AHRF_AIRBORNE_STG_ISO_HOSPS	Total number of short-term general hospitals with airborne infection isolation rooms		X	X	X	X	X		X	X	
AHRF_AIRBORNE_STG_ISO_ROOMS	Total number of airborne infection isolation rooms in short-term general hospitals		X	X	X	X	X	X	X	X	
AHRF_AIRBORNE_STNGLT_ISO_ROOMS	Total number of airborne infection isolation rooms in short-term, non-general, and long-term hospitals		X	X	X	X	X	X	X	X	
AHRF_CARDIAC_BEDS	Total number of short-term general hospital cardiac intensive care beds		X	X	X	X	X		X	X	

Variable name	Variable label	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
AHRF_CARDIACIC_HOSP	Total number of short-term general hospitals with cardiac intensive care		X	X	X	X	X		X	X	
AHRF_CARDIOVAS_DIS	Total number of cardiovascular disease specialists		X	X	X	X	X	X	X	X	
AHRF_COLON_SRG	Total number of colorectal surgeons		X	X	X	X	X	X	X	X	
AHRF_COMM_HLTH_CNTR	Number of community health centers, grantees only					X	X	X	X	X	X
AHRF_DAYS_AIR_QLT	Number of days air quality is measured			X	X	X	X	X	X	X	X
AHRF_DERMATOLOGY	Total number of dermatology specialists		X	X	X	X	X	X	X	X	
AHRF_ER_MED	Total number of non-federal emergency medicine physicians		X	X	X	X	X	X	X	X	
AHRF_ER_VST_ST_G_HOSP	Number of emergency department visits in short-term general hospitals	X	X	X	X	X	X	X	X	X	
AHRF_FED_HLTH_CNT	Number of Federally Qualified Health Centers	X	X	X	X	X	X	X	X	X	X
AHRF_GASTROENTRLG	Total number of gastroenterology specialists		X	X	X	X	X	X	X	X	
AHRF_GENRL_SURG	Total number of general surgeons		X	X	X	X	X	X	X	X	
AHRF_GEN_INTERNAL_MED	Total number of non-federal general internal medicine physicians		X	X	X	X	X	X	X	X	
AHRF_HOSP_AMMS	Total number of hospital admissions	X	X	X	X	X	X	X	X	X	
AHRF_HOSP_BED	Total number of hospital beds	X	X	X	X	X	X	X	X	X	
AHRF_HOSP_BEDS_LT	Total number of beds in long-term hospital	X	X	X	X	X	X	X	X	X	
AHRF_HPSA_DENTIST	HPSA code—shortage of dentists	X	X	X	X	X		X	X	X	X
AHRF_HPSA_MENTAL	HPSA code—shortage of mental healthcare providers	X	X	X	X	X		X	X	X	X
AHRF_HPSA_PRIM	HPSA code—shortage of primary care physicians	X	X	X	X	X		X	X	X	X
AHRF_IP_DAY_NH_HOSP	Total number of hospital inpatient days including nursing homes	X	X	X	X	X	X	X	X	X	
AHRF_IP_DAY_STNG_LT	Total number of inpatient days in short-term, non-general, and long-term hospitals	X	X	X	X	X	X	X	X	X	
AHRF_IP_DAY_ST_G_HOSP	Total number of inpatient days in short-term general hospitals	X	X	X	X	X	X	X	X	X	
AHRF_LOW_EDUC_USDA	Low Education Typology Code (USDA ERS)							X			
AHRF_LT_HOSP	Total number of long-term hospitals	X	X	X	X	X	X	X	X	X	
AHRF_MCR_BN_READM	Medicare beneficiary acute hospital readmission rate, fee for service	X	X	X	X	X	X	X	X	X	
AHRF_MCR_IP_DAY_ST_G	Total Medicare inpatient days, short-term general hospitals		X	X	X	X	X	X	X	X	
AHRF_MDCD_INP_DAY_STGH	Total Medicaid inpatient days, short-term general hospitals		X	X	X	X	X	X	X	X	

Variable name	Variable label	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
AHRF_MDCR_FFS_ACT_COST	Total actual Medicare costs, fee for service	X	X	X	X	X	X	X	X	X	
AHRF_MDCR_FFS_STD_COST	Total standardized Medicare costs, fee for service	X	X	X	X	X	X	X	X	X	
AHRF_MEDSURGIC_BEDS	Total number of short-term general hospital intensive care beds		X	X	X	X	X		X	X	
AHRF_MEDSURGIC_HOSP	Total number of short-term general hospitals with medical surgical intensive care		X	X	X	X	X		X	X	
AHRF_MED_SPEC	Total number of medical specialists		X	X	X	X	X	X	X	X	
AHRF_MENTL_HLTH_CNT	Total number of community mental health centers	X	X	X	X	X	X	X	X	X	X
AHRF_NEONATALIC_BEDS	Total number of short-term general hospital neonatal intensive care beds		X	X	X	X	X		X	X	
AHRF_NEONATALIC_HOSP	Total number of short-term general hospitals with neonatal intensive care		X	X	X	X	X		X	X	
AHRF_NEUROLGCAL_SURG	Total number of neurological surgeons		X	X	X	X	X	X	X	X	
AHRF_NH_BED_STNGH	Number of nursing home beds, short-term non-general hospitals	X	X	X	X	X	X	X	X	X	
AHRF_NURSE_PRACT	Total number of nurse practitioners with National Provider Index (NPI)		X	X	X	X	X	X	X	X	X
AHRF_N_STGH_EXP	Number of facilities reporting expenses		X	X	X	X	X	X	X	X	
AHRF_N_STGH_EXP_1000	Total expenses (in \$1000s) from facilities reporting expenses		X	X	X	X	X	X	X	X	
AHRF_N_STGH_PAYRLL	Number of facilities reporting payroll expenses		X	X	X	X	X	X	X	X	
AHRF_N_STGH_PAYRLL_1000	Total payroll expenses (in \$1000s) from facilities reporting payroll expenses		X	X	X	X	X	X	X	X	
AHRF_OB_GYN	Total number of obstetrics and gynecology, generalist, and primary care hospital residents		X	X	X	X	X	X	X	X	
AHRF_OPTHALMOLGY	Total number of ophthalmology specialists		X	X	X	X	X	X	X	X	
AHRF_OPRT_ROOM	Total number of operating rooms in short-term general hospitals		X	X	X	X	X	X	X	X	
AHRF_OP_VST_LT_G_ER_OP	Total number of outpatient visits in long-term hospital emergency departments	X	X	X	X	X	X	X	X	X	
AHRF_OP_VST_ST_G_ER_OP	Total number of outpatient visits in short-term general hospital emergency department and other outpatient visits	X	X	X	X	X	X	X	X	X	
AHRF_OP_VST_ST_OTHR	Total number of outpatient visits in other short-term general hospitals		X	X	X	X	X	X	X	X	
AHRF_OTHER_SPEC	Total number of other specialists		X	X	X	X	X	X	X	X	

Variable name	Variable label	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
AHRF_OTOLARYNGOLGY	Total number of otolaryngology specialists		X	X	X	X	X	X	X	X	
AHRF_OUTPAT_VST_STNGH	Outpatient visits in short-term non-general hospital emergency department and other outpatient visits	X	X	X	X	X	X	X	X	X	
AHRF_PCT_GOOD_AQ	Percentage of days with good air quality			X	X	X	X	X	X	X	X
AHRF_PEDIATRICS	Total number of non-federal pediatric and general physicians		X	X	X	X	X	X	X	X	
AHRF_PHYSICIAN_ASSIST	Total number of physician assistants with National Provider Index (NPI)		X	X	X	X	X	X	X	X	X
AHRF_PHYS_PRIMARY	Total number of non-federal primary care physicians		X	X	X	X	X	X	X	X	
AHRF_PLASTIC_SURG	Total number of plastic surgeons		X	X	X	X	X	X	X	X	
AHRF_PULMONARY_DIS	Total number of pulmonary disease specialists		X	X	X	X	X	X	X	X	
AHRF_RATE_MCR_BN_READM	Medicare beneficiary hospital readmission rate, fee for service	X	X	X	X	X	X	X	X	X	
AHRF_RURAL_H_CLINIC	Number of rural health clinics	X	X	X	X	X	X	X	X	X	X
AHRF_RURL_REFRRL_CNT	Total number of rural referral centers		X	X	X	X	X		X	X	
AHRF_STNG_LT_HOSP_ADMS	Total number of short-term, non-general, and long-term hospital admissions	X	X	X	X	X	X	X	X	X	
AHRF_ST_COMM_HOSP	Total number of short-term community hospitals		X	X	X	X	X	X	X	X	
AHRF_ST_COMM_HOSP_ADM S	Total number of short-term community hospital admissions		X	X	X	X	X	X	X	X	
AHRF_ST_G_HOSP	Total number of short-term general hospitals	X	X	X	X	X	X	X	X	X	
AHRF_ST_G_HOSP_ADMS	Total number of short-term general hospital admissions	X	X	X	X	X	X	X	X	X	
AHRF_ST_G_HOSP_BED	Total number of short-term general hospital beds	X	X	X	X	X	X	X	X	X	
AHRF_ST_N_G_HOSP	Total number of short-term non-general hospitals	X	X	X	X	X	X	X	X	X	
AHRF_SURG_OPRN_IP	Total number of inpatient surgical operations in short-term general hospitals		X	X	X	X	X	X	X	X	
AHRF_SURG_OPRN_OP	Total number of outpatient surgical operations in short-term general hospitals		X	X	X	X	X	X	X	X	
AHRF_SURG_SPECS	Total number of surgical specialists		X	X	X	X	X	X	X	X	
AHRF_THORACIC_SURG	Total number of thoracic surgeons		X	X	X	X	X	X	X	X	
AHRF_TOTAL_MDS	Total number of non-federal MDs		X	X	X	X	X	X	X	X	
AHRF_TOT_HOSPS	Total number of hospitals	X	X	X	X	X	X	X	X	X	
AHRF_TXC_SITE_CNTRL	Number of designated toxic sites under control				X	X		X		X	X

<b>Variable name</b>	<b>Variable label</b>	<b>2009</b>	<b>2010</b>	<b>2011</b>	<b>2012</b>	<b>2013</b>	<b>2014</b>	<b>2015</b>	<b>2016</b>	<b>2017</b>	<b>2018</b>
AHRF_TXC_SITE_NO_CNTRL	Number of designated toxic sites not under control				X	X		X		X	X
AHRF_USDA_RUCC_2013	2013 Rural-Urban Continuum Code (USDA ERS)	X	X	X	X	X	X	X	X	X	X
REGION	Census region name	X	X	X	X	X	X	X	X	X	X



## 6. amfAR Opioid & Health Indicators Database

### Sponsor

amfAR, The Foundation for AIDS Research

### Description

The Opioid & Health Indicators Database provides statistics on new human immunodeficiency virus (HIV) and hepatitis C infections, opioid use and overdose death rates, and the availability of services like drug treatment programs and syringe exchange services. amfAR has published data annually from 2003 to 2019 to support advocates and policymakers in making informed decisions concerning the opioid epidemic, HIV, and hepatitis C in their communities. It provides a variety of statistics, ranging from local to national estimates, using data from sources such as the North American Syringe Exchange Network, the Substance Abuse and Mental Health Services Administration, and the Centers for Disease Control and Prevention.

### Inclusion in the SDOH Beta Data Files

AMFAR data spanning 2009–2018 are included in the county SDOH beta data files, covering the SDOH domain of healthcare context.

Variables were drawn directly from the Opioid & Health Indicators Database and renamed for clarity and to fit the naming conventions in the SDOH beta data files (table 9). Variable availability by year is shown in table 10. For counties that changed names and FIPS codes, but not land area, the county data files harmonize AMFAR data to include only one record per geography per year (see also Section 3, Table 3). As such, it was necessary to recode AMFAR variables to different FIPS codes as follows:

- For 2010 through 2014, data points for:
  - Shannon County, South Dakota (46102) were re-assigned to Oglala Lakota County, South Dakota (46113)
- For 2014, data points for:
  - Kusilvak Census Area, Alaska (02158) were re-assigned to Wade Hampton Census Area, Alaska (02270)

*User Note:* The AMFAR source data included the number of facilities offering all three medically assisted treatments for opioid dependence; however, all counties had values of 0 for these variables from 2009–2012 and are therefore excluded from the SDOH county data files. To qualify as providing all three MAT services, facilities must have declared that methadone, buprenorphine, and naltrexone are included in their programs.

*Suggested citation:* The Foundation for AIDS Research. *Opioid & Health Indicators Database*. <https://opioid.amfar.org/about/download>. Accessed on June 12, 2020.

### Resources

Main: <https://opioid.amfar.org>

Data: <https://opioid.amfar.org/about/download>

**Table 9. Variable definitions and specifications, amfAR**

<b>Variable name</b>	<b>Variable label</b>	<b>Original variable</b>
AMFAR_AMATFAC	Number of substance abuse treatment facilities with all three medication-assisted treatment (MAT) services	AMAT_FAC - Number of substance abuse treatment facilities with all 3 Med Assist Treatment (MAT)
AMFAR_DISTMAT	Average distance (miles) to treatment facilities with at least one form of MAT	DIST_MAT - Average distance (miles) to treatment facilities with at least one MAT
AMFAR_DISTSSP	Average miles to a syringe services program	DIST_SSP - Average miles to a syringe services program
AMFAR_DRUGDEATHS	Number of drug-related deaths	DRUGDEATHS - Number of Drug-related Deaths
AMFAR_DRUGDEP	Percentage of people reporting drug dependence (ages 12 and over)	DRUGDEP - Percent People 12+ Reporting Drug Dependence
AMFAR_HCVTFAC	Number of substance abuse facilities offering hepatitis C screening	HCVT_FAC - Number of substance abuse facilities, hepatitis C screening
AMFAR_HICVTFAC	Number of substance abuse facilities offering both HIV test and hepatitis C screening	HICVT_FAC - Number of substance abuse facilities, both HIV test and hep C screen
AMFAR_HIVDIAGNOSED	Number of people living with diagnosed HIV	HIV_DIAGNOSED - Number of people living with diagnosed HIV
AMFAR_HIVTFAC	Number of substance abuse facilities offering HIV testing	HIVT_FAC - Number of substance abuse facilities, HIV testing
AMFAR_MEDAMATFAC	Number of substance abuse treatment facilities offering all three MAT services that accept Medicaid	MED_AMAT_FAC - Number of substance abuse treatment facilities with all 3 Med Assist Treatment (MAT) - accept Medicaid
AMFAR_MEDHCVTFAC	Number of substance abuse facilities offering hepatitis C screening and accept Medicaid	MED_HCVT_FAC - Number of substance abuse facilities, hepatitis C screening - accept Medicaid
AMFAR_MEDHICVTFAC	Number of substance abuse facilities offering both HIV test and hepatitis C screening and accept Medicaid	MED_HICVT_FAC - Number of substance abuse facilities, both HIV test and hepatitis C screen - accept Medicaid
AMFAR_MEDHIVTFAC	Number of substance abuse facilities offering HIV testing and accept Medicaid	MED_HIVT_FAC - Number of substance abuse facilities, HIV testing - accept Medicaid
AMFAR_MEDMHFAC	Number of facilities that provide mental health services and accept Medicaid	MED_MH_FAC - Number of facilities that provide mental health services - accept Medicaid
AMFAR_MHFAC	Number of facilities that provide mental health services	MH_FAC Number of facilities that provide mental health services
AMFAR_MMEPERCAP	Opioids prescribed per capita, in morphine mg equivalents (MME)	MME_PERCAP - Opioids prescribed per capita, in morphine mg equivalents (MME)
AMFAR_NONMEDPAIN	Percentage of people reporting non-medical use of pain relievers (ages 12 and over)	NONMEDPAIN - Percent People 12+ Reporting Non-medical Use of Pain Relievers
AMFAR_OPIOIDRXRATE	Number of opioid prescriptions per 100 persons	OPIOID_RXRATE - Number of opioid prescriptions per 100 Persons

**Table 10. Variable availability across years, amfAR**

Variable name	Variable label	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
AMFAR_AMATFAC	Number of substance abuse treatment facilities with all three medication-assisted treatment (MAT) services					X	X	X	X	X	X
AMFAR_DISTMAT	Average distance (miles) to treatment facilities with at least one form of MAT									X	
AMFAR_DISTSSP	Average miles to a syringe services program										X
AMFAR_DRUGDEATHS	Number of drug-related deaths		X	X	X	X	X	X	X	X	
AMFAR_DRUGDEP	Percentage of people reporting drug dependence (ages 12 and over)						X				
AMFAR_HCVTFAC	Number of substance abuse facilities offering hepatitis C screening								X	X	X
AMFAR_HICVTFAC	Number of substance abuse facilities offering both HIV test and hepatitis C screening								X	X	X
AMFAR_HIVDIAGNOSED	Number of people living with diagnosed HIV	X	X	X	X	X	X	X	X	X	X
AMFAR_HIVTFAC	Number of substance abuse facilities offering HIV testing								X	X	X
AMFAR_MEDAMATFAC	Number of substance abuse treatment facilities offering all three MAT services that accept Medicaid					X	X	X	X	X	X
AMFAR_MEDHCVTFAC	Number of substance abuse facilities offering hepatitis C screening and accept Medicaid								X	X	X
AMFAR_MEDHICVTFAC	Number of substance abuse facilities offering both HIV test and hepatitis C screening and accept Medicaid								X	X	X
AMFAR_MEDHIVTFAC	Number of substance abuse facilities offering HIV testing and accept Medicaid								X	X	X
AMFAR_MEDMHFAC	Number of facilities that provide mental health services and accept Medicaid						X	X	X	X	X
AMFAR_MHFAC	Number of facilities that provide mental health services						X	X	X	X	X
AMFAR_MMEPERCAP	Opioids prescribed per capita, in morphine mg equivalents (MME)		X					X			
AMFAR_NONMEDPAIN	Percentage of people reporting non-medical use of pain relievers (ages 12 and over)						X				
AMFAR_OPIOIDRXRATE	Number of opioid prescriptions per 100 persons	X	X	X	X	X	X	X	X	X	

## 7. U.S. Census Bureau County Adjacency File (CAF)

### Sponsor

U.S. Department of Commerce, U.S. Census Bureau

### Description

The Census Bureau's CAF contains a record for each county or county equivalent in 2010 and indicates each neighboring county. The file includes counties for all 50 states, the District of Columbia, Puerto Rico, and the Island Areas (American Samoa, the Commonwealth of the Northern Mariana Islands, Guam, and the U.S. Virgin Islands). The CAF can be used by researchers to identify counties in close geographic proximity to one another, which may be useful in analyses that involve characteristics that may not be specific to a single county, such as air quality or pollution.

### Inclusion in the SDOH Beta Data Files

The SDOH county beta data files contains one record per county, and fields indicating the county name and FIPS code for each adjacent county, including the reference county. Variables were renamed from the source data (table 11) and are included in each data file (table 12). For counties that changed names and FIPS codes, but not land area, the county data files harmonize CAF data to include only one record per geography per year (see also Section 3, Table 3). As such, it was necessary to re-assign county adjacency as follows:

- For 2015 through 2018, county adjacency for:
  - Wade Hampton Census Area, Alaska (02270) were re-assigned to Kusilvak Census Area, Alaska (02158)
  - Oglala Lakota County, South Dakota (46113) were re-assigned to Shannon County, South Dakota (46102)

The maximum number of adjacent counties is 14. Therefore the SDOH county-level files contain 14 variables, each indicating one county adjacent to the reference county (CAF\_ADJ\_COUNTY\_1 through CAF\_ADJ\_COUNTY\_14). The SDOH beta data file variable values were created by extracting only the five-digit state plus county FIPS code from the original variable (which included the county name).

The value for this set of variables is an adjacent county FIPS code or missing. If a county has, for example, four adjacent counties, then CAF\_ADJ\_COUNTY\_1- CAF\_ADJ\_COUNTY\_4 will contain one five-digit FIPS code value for each of the four adjacent county variables, and CAF\_ADJ\_COUNTY\_5-CAF\_ADJ\_COUNTY\_14 will have missing values.

*Suggested citation:* United States Census Bureau. (n.d.). *County Adjacency File* [Data file]. <https://www.census.gov/geographies/reference-files/2010/geo/county-adjacency.html>

### Resources

Main: <https://www.census.gov/geographies/reference-files/2010/geo/county-adjacency.html>

Data: [https://www2.census.gov/geo/docs/reference/county\\_adjacency.txt](https://www2.census.gov/geo/docs/reference/county_adjacency.txt)

**Table 11. Variable definitions and specifications, CAF**

Variable name	Variable label	Original variable
CAF_ADJ_COUNTY_1	Adjacent county FIPS code 1	CAS2010_ADJ_COUNTY_1 [Adjacent county FIPS code]
CAF_ADJ_COUNTY_2	Adjacent county FIPS code 2	CAS2010_ADJ_COUNTY_2
CAF_ADJ_COUNTY_3	Adjacent county FIPS code 3	CAS2010_ADJ_COUNTY_3
CAF_ADJ_COUNTY_4	Adjacent county FIPS code 4	CAS2010_ADJ_COUNTY_4
CAF_ADJ_COUNTY_5	Adjacent county FIPS code 5	CAS2010_ADJ_COUNTY_5
CAF_ADJ_COUNTY_6	Adjacent county FIPS code 6	CAS2010_ADJ_COUNTY_6
CAF_ADJ_COUNTY_7	Adjacent county FIPS code 7	CAS2010_ADJ_COUNTY_7
CAF_ADJ_COUNTY_8	Adjacent county FIPS code 8	CAS2010_ADJ_COUNTY_8
CAF_ADJ_COUNTY_9	Adjacent county FIPS code 9	CAS2010_ADJ_COUNTY_9
CAF_ADJ_COUNTY_10	Adjacent county FIPS code 10	CAS2010_ADJ_COUNTY_10
CAF_ADJ_COUNTY_11	Adjacent county FIPS code 11	CAS2010_ADJ_COUNTY_11
CAF_ADJ_COUNTY_12	Adjacent county FIPS code 12	CAS2010_ADJ_COUNTY_12
CAF_ADJ_COUNTY_13	Adjacent county FIPS code 13	CAS2010_ADJ_COUNTY_13
CAF_ADJ_COUNTY_14	Adjacent county FIPS code 14	CAS2010_ADJ_COUNTY_14

**Table 12. Variable availability across years, CAF**

Variable name	Variable label	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
CAF_ADJ_COUNTY_1	Adjacent county FIPS code 1	X	X	X	X	X	X	X	X	X	X
CAF_ADJ_COUNTY_2	Adjacent county FIPS code 2	X	X	X	X	X	X	X	X	X	X
CAF_ADJ_COUNTY_3	Adjacent county FIPS code 3	X	X	X	X	X	X	X	X	X	X
CAF_ADJ_COUNTY_4	Adjacent county FIPS code 4	X	X	X	X	X	X	X	X	X	X
CAF_ADJ_COUNTY_5	Adjacent county FIPS code 5	X	X	X	X	X	X	X	X	X	X
CAF_ADJ_COUNTY_6	Adjacent county FIPS code 6	X	X	X	X	X	X	X	X	X	X
CAF_ADJ_COUNTY_7	Adjacent county FIPS code 7	X	X	X	X	X	X	X	X	X	X
CAF_ADJ_COUNTY_8	Adjacent county FIPS code 8	X	X	X	X	X	X	X	X	X	X
CAF_ADJ_COUNTY_9	Adjacent county FIPS code 9	X	X	X	X	X	X	X	X	X	X
CAF_ADJ_COUNTY_10	Adjacent county FIPS code 10	X	X	X	X	X	X	X	X	X	X
CAF_ADJ_COUNTY_11	Adjacent county FIPS code 11	X	X	X	X	X	X	X	X	X	X
CAF_ADJ_COUNTY_12	Adjacent county FIPS code 12	X	X	X	X	X	X	X	X	X	X
CAF_ADJ_COUNTY_13	Adjacent county FIPS code 13	X	X	X	X	X	X	X	X	X	X
CAF_ADJ_COUNTY_14	Adjacent county FIPS code 14	X	X	X	X	X	X	X	X	X	X

## 8. U.S. Census County Business Patterns (CCBP)

### Sponsor

U.S. Department of Commerce, U.S. Census Bureau

### Description

CCBP is an annual data series that provides statistics on U.S. businesses with paid employees at subnational geographic levels by industry. CCBP contains data with detailed information on the number of establishments, employment during the week of March 12, and first quarter and annual payroll at multiple geographic levels, including the national, state, county metropolitan area, ZIP Code, and congressional district levels. CCBP also includes data for Puerto Rico and the Island Areas at the state and county equivalent levels.

CCBP basic data items are from the Business Register, a database of all known single- and multi-establishment employer companies maintained and updated by the Census Bureau. Establishments can be identified across nearly 1,200 industries defined by the current 2017 North American Industry Classification System (NAICS). The NAICS code establishment descriptions can be found at <https://www.naics.com/naics-code-description>.

The CCBP series was published annually at the county- and ZIP Code-level from 1986 to 2017 (as of August 2020); CCBP has been published annually by county since 1964.

### Inclusion in the SDOH Beta Data Files

The SDOH county and ZCTA data files contain rates of business establishments per population for certain industries, covering the SDOH domain of physical infrastructure.

To calculate the SDOH variables related to food access (e.g., restaurants, fast food, grocery and convenience stores), we employed the same methodology as the USDA Food Environment Atlas (<https://www.ers.usda.gov/data-products/food-environment-atlas/documentation>). We identified the relevant establishments by NAICS code and then calculated a rate by dividing the number of establishments by the total population for each geographic area. For the remaining (non-food access) categories, we explored NAICS codes to identify those most relevant to other aspects of physical infrastructure and health, and employed the same rate calculations (table 13).

Because the CCBP data are specific to United States Postal Service ZIP Codes, there is not an exact match to the Census Bureau's ZCTAs, which are created every 10 years. The ZCTA datasets contain values for CCBP where the ZIP Code value matched the ZCTA value. Not all ZIP Codes have a corresponding ZCTA, and therefore there are ZIP Codes represented in the CCBP data that do not appear in the SDOH ZCTA data files. Furthermore, there are some ZCTAs that do not have a corresponding ZIP Code, resulting in missing CCBP variables in the SDOH ZCTA files. CCBP variables were calculated for each year of the SDOH data files (table 14).

*User Notes:*

Please consider the following information regarding interpretation of missing values and changes in suppression as of 2017.

- 1) CCBP data include the numbers of establishments for each industry (NAICS) operating in a geographic area. If a county or ZIP Code does not have any establishments reported for a given NAICS code, there is no record for that geography-NAICS combination in the data file.
- 2) In 2017, Census began suppressing data in cases in which there are fewer than three establishments in a given geographic area.
  - a. For comparison, in 2012, 59 percent of ZIP Codes with any grocery stores had two or fewer establishments. These would be excluded from the 2017 and 2018 data files; CCBP does not include a suppression flag that would allow users to distinguish between fewer than three and zero.
- 3) As such, users should take the following into consideration when using CCBP rates from the SDOH beta data files:
  - a. The SDOH beta data files reports zero and unreported rates as *missing* for all data years. For 2016 and earlier years, a missing rate is comparable to zero establishments reported for that geography; however, for 2017 and later, it is not possible to distinguish between zero, one, or two establishments.
  - b. Rates prior to 2017 are not comparable to later years for all geographies, and users will see more counties and ZCTAs with missing data in the SDOH datasets for 2017 and later.

*Suggested citation:* United States Census Bureau. *County Business Patterns* [Data series]. U.S. Department of Commerce, Bureau of the Census, Data User Services Division.  
<https://www.census.gov/programs-surveys/cbp/data/tables.html>

## Resources

Main: <https://www.census.gov/programs-surveys/cbp.html>

Data: <https://www.census.gov/programs-surveys/cbp/data/tables.html>

Population estimates by county were drawn from:

- Years 2008–2009: <https://www2.census.gov/programs-surveys/popest/datasets/2000-2009/counties/totals>
- Years 2010–2018: <https://www.census.gov/data/tables/time-series/demo/popest/2010s-counties-total.html>

Population estimates for ZCTAs were drawn from source table B01003 (Total Population Weighted) from the NHGIS:

Main: <https://www.nhgis.org>

Data: <https://data2.nhgis.org/main>

**Table 13. Variable definitions and specifications, CCBP**

Variable name	Variable label	Numerator	Denominator
CCBP_RATE_BWLSTORES_PER_1000	Beer, wine and liquor stores per 1,000 people	EST (Estimate) - Total number of establishments, where NAICS - Industry Code is 445310 [Beer, Wine, and Liquor Stores]	COUNTY - Resident Population; ZCTA - Total population, weighted
CCBP_RATE_CFHEORS_PER_1000	Emergency and other relief services for victims of domestic or international disasters per 1,000 people	EST - Total number of establishments, where NAICS - Industry Code is 624230 [Emergency and Other Relief Services]	COUNTY - Resident Population; ZCTA - Total population, weighted
CCBP_RATE_CFS_PER_1000	Community food services (targeting low-income or elderly) per 1,000 people	EST - Total number of establishments, where NAICS - Industry Code is 624210 [Community Food Services]	COUNTY - Resident Population; ZCTA - Total population, weighted
CCBP_RATE_CHS_PER_1000	Community housing services (targeting low-income or elderly) per 1,000 people	EST - Total number of establishments, where NAICS - Industry Code is 624229 [Other Community Housing Services]	COUNTY - Resident Population; ZCTA - Total population, weighted
CCBP_RATE_CS_PER_1000	Convenience stores per 1,000 people	EST - Total establishments, where NAICS - Industry Codes are 445120 [Convenience Stores] and 447110 [Gasoline Stations with Convenience Stores]	COUNTY - Resident Population; ZCTA - Total population, weighted
CCBP_RATE_FCRSC_PER_1000	Fitness centers and recreational sports centers per 1,000 people	EST - Total number of establishments, where NAICS - Industry Code is 713940 [Fitness and Recreational Sports Centers]	COUNTY - Resident Population; ZCTA - Total population, weighted
CCBP_RATE_FF_PER_1000	Limited service restaurants (fast food establishments) per 1,000 people	EST - Total number of establishments, where NAICS - Industry Code is 722211 (2011 and earlier) or 722513 (2012 to present) [Limited-Service Restaurants]	COUNTY - Resident Population; ZCTA - Total population, weighted
CCBP_RATE_FSR_PER_1000	Full service restaurants per 1,000 people	EST - Total number of business establishments, where NAICS - Industry Code is 722110 (2011 and earlier) or 722511 (2012 to present) [Full-Service Restaurants]	COUNTY - Resident Population; ZCTA - Total population, weighted
CCBP_RATE_GAMBLING_PER_1000	Gambling establishments per 1,000 people	EST - Total number of establishments, where NAICS - Industry Code is 713290 [Other Gambling Industries]	COUNTY - Resident Population; ZCTA - Total population, weighted



Variable name	Variable label	Numerator	Denominator
CCBP_RATE_SFS_PER_1000	Specialized food stores per 1,000 people	EST - Total number of establishments, where NAICS - Industry Codes are 445210 [Meat Markets], 445220 [Fish and Seafood Markets], 445230 [Fruit and Vegetable Markets], 445291 [Baked Goods Stores], 445292 [Confectionery and Nut Stores], and 445299 [All Other Specialty Food Stores]	COUNTY - Resident Population; ZCTA - Total population, weighted
CCBP_RATE_SHELTERS_PER_1000	Temporary shelters per 1,000 people	EST - Total number of establishments, where NAICS - Industry Code is 624221 [Temporary Shelters]	COUNTY - Resident Population; ZCTA - Total population, weighted
CCBP_RATE_SOGS_PER_1000	Supermarkets and other grocery (except convenience) stores per 1,000 people	EST - Total number of establishments, where NAICS - Industry Code is 445110 [Supermarkets and Other Grocery (except Convenience) Stores]	COUNTY - Resident Population; ZCTA - Total population, weighted

**Table 14. Variable availability across years, CCBP\***

Variable name	Variable label	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
CCBP_RATE_BWLSTORES_PER_1000	Beer, wine and liquor stores per 1,000 people	X	X	X	X	X	X	X	X	X	X
CCBP_RATE_CFHEORS_PER_1000	Emergency and other relief services for victims of domestic or international disasters per 1,000 people	X	X	X	X	X	X	X	X	X	X
CCBP_RATE_CFS_PER_1000	Community food services (targeting low-income or elderly) per 1,000 people	X	X	X	X	X	X	X	X	X	X
CCBP_RATE_CHS_PER_1000	Community housing services (targeting low-income or elderly) per 1,000 people	X	X	X	X	X	X	X	X	X	X
CCBP_RATE_CS_PER_1000	Convenience stores per 1,000 people	X	X	X	X	X	X	X	X	X	X
CCBP_RATE_FCRSC_PER_1000	Fitness centers and recreational sports centers per 1,000 people	X	X	X	X	X	X	X	X	X	X
CCBP_RATE_FF_PER_1000	Limited service restaurants (fast food establishments) per 1,000 people	X	X	X	X	X	X	X	X	X	X
CCBP_RATE_FSR_PER_1000	Full service restaurants per 1,000 people	X	X	X	X	X	X	X	X	X	X
CCBP_RATE_GAMBLING_PER_1000	Gambling establishments per 1,000 people	X	X	X	X	X	X	X	X	X	X
CCBP_RATE_SFS_PER_1000	Specialized food stores per 1,000 people	X	X	X	X	X	X	X	X	X	X

Variable name	Variable label	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
CCBP_RATE_SHELTERS_PER_1000	Temporary shelters per 1,000 people	X	X	X	X	X	X	X	X	X	X
CCBP_RATE_SOXS_PER_1000	Supermarkets and other grocery (except convenience) stores per 1,000 people	X	X	X	X	X	X	X	X	X	X

\* ZCTA data files 2011–2018.

## 9. U.S. Census Bureau TIGERweb and COVID-19 Demographic and Economic Resources

### Sponsor

U.S. Department of Commerce, U.S. Census Bureau

### Description

Two sources from the U.S. Census Bureau were used for populating the land area for counties and ZCTAs and for including limited population density data: TIGERweb and the COVID-19 Demographic and Economic Resources website.

The **U.S. Census Bureau's TIGERweb** is a web-based system that allows users to visualize data in the Topologically Integrated Geographic Encoding and Referencing database (TIGER). The database contains legally defined geographic areas, including census regions and divisions, metropolitan and micropolitan statistical areas, public use microdata areas, urban areas, counties, and ZCTA tables.

The **U.S. Census Bureau's COVID-19 Demographic and Economic Resources website** is an easily accessible resource for county-specific data relevant to COVID-19 policy and research, including land area and 2014–2018 population estimates from the ACS.

### Inclusion in the SDOH Beta Data Files

The ZCTA land area and population density variables were drawn from the TIGERweb Decennial Nation-Based ZIP Code Tabulation Areas. Land area was converted from square kilometers to square miles, and divided by the decennial population to calculate the population per square mile for each ZCTA. Each of the eight ZCTA data files contains the land area in square miles and 2010 population density; users can use ACS population estimates (ACS\_TOTAL\_POP\_WT) available in each file to calculate annual population density estimates if desired.

County land area and the 2014–2018 county population used for calculating population density were drawn from the COVID-19 website. Land area was converted from square kilometers to square miles and divided by the 2014–2018 ACS population estimate to calculate the population per square mile for each county. For counties that changed names and FIPS codes, but not land area, the county data files harmonizes data to include only one record per geography per year (see also Section 3, Table 3). As such, it was necessary to re-assign land area and 2018 population density as follows:

- For 2009 through 2014, values for:
  - Kusilvak Census Area, Alaska (02158) were re-assigned to Wade Hampton Census Area, Alaska (02270)
  - Shannon County, South Dakota (46102) were re-assigned to Oglala Lakota County, South Dakota (46113)

For other counties that existed prior to 2018 or not included in the 2018 data, we used land area reported in the TIGERweb State-based Data Files – Counties and applied the same calculation to convert to square miles.

The counties for which land area was drawn from TIGERweb include:

- Bedford City (51515)
- Guam (66010)
- St. Croix Island, Virgin Islands (78010)
- St. John Island, Virgin Islands (78020)
- St. Thomas Island, Virgin Islands (78030)

The variable names and their sources are shown in table 15; land area and population density were included in each year’s data file (table 16).

*Suggested citation:* United States Census Bureau. *TIGERweb Decennial Nation-Based Data Files*. U.S. Department of Commerce, Bureau of the Census. [https://tigerweb.geo.census.gov/tigerwebmain/TIGERweb\\_nation\\_based\\_files.html](https://tigerweb.geo.census.gov/tigerwebmain/TIGERweb_nation_based_files.html)

*Suggested citation:* United States Census Bureau (2020). Demographic and Economic Resources COVID-19 HUB. <https://covid19.census.gov>. Accessed on October 7, 2020.

## Resources

### TIGERweb

Main: [https://tigerweb.geo.census.gov/tigerwebmain/TIGERweb2010\\_nation\\_based\\_files.html](https://tigerweb.geo.census.gov/tigerwebmain/TIGERweb2010_nation_based_files.html)

Data: [https://tigerweb.geo.census.gov/tigerwebmain/Files/tab10/tigerweb\\_tab10\\_zcta5\\_2010\\_us.html](https://tigerweb.geo.census.gov/tigerwebmain/Files/tab10/tigerweb_tab10_zcta5_2010_us.html)

### COVID-19 Demographic and Economic Resources

Main: <https://covid19.census.gov>

Data: [https://covid19.census.gov/datasets/21843f238cbb46b08615fc53e19e0daf\\_1/data?geometry=-166.940%2C28.795%2C167.571%2C67.148&selectedAttribute=B01001\\_calc\\_PopDensity](https://covid19.census.gov/datasets/21843f238cbb46b08615fc53e19e0daf_1/data?geometry=-166.940%2C28.795%2C167.571%2C67.148&selectedAttribute=B01001_calc_PopDensity)

**Table 15. Variable definitions and specifications, Census TIGERweb and COVID-19 site**

Variable name	Variable label	Source table	Numerator	Denominator*
CEN_AREALAND_SQM	Land area in square miles	TIGERweb Decennial Nation-Based ZIP Code Tabulation Areas Census 2010	n/a	[ALAND (County) and AREALAND (ZCTA) - Land area in Kilometers] * 0.0000003861
CEN_POPDENSITY_2010	Population density in 2010 (ZCTA only)	TIGERweb Decennial Nation-Based ZIP Code Tabulation Areas Census 2010	POP100 – Decennial population	Calculated CEN_AREALAND_SQM
CEN_POPDENSITY_2018	Population density in 2018 (county only)	Census Bureau, COVID-19 Demographic and Economic Resources	POPULATION - 2013-2018 average population	Calculated CEN_AREALAND_SQM

\* When variables are derived directly from the source data, the denominator column will describe the original variable, and the numerator will be “n/a”. N/A = not applicable.

**Table 16. Variable availability across years, Census TIGERweb and COVID-19 site**

Variable name	Variable label	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
CEN_AREALAND_SQM	Land area in square miles	X	X	X	X	X	X	X	X	X	X
CEN_POPDENSITY_2010	Population density in 2010 (ZCTA only)			X	X	X	X	X	X	X	X
CEN_POPDENSITY_2018	Population density in 2018 (county only)	X	X	X	X	X	X	X	X	X	X

\* ZCTA data files were created only for 2011–2018.

## 10. Centers for Disease Control and Prevention Interactive Atlas of Heart Disease and Stroke (CDC Atlas)

### Sponsor

U.S. Department of Health and Human Services

### Description

The CDC Atlas is an interactive mapping tool that presents a variety of data at the state and county level related to heart disease and stroke. The Atlas includes data on mortality, hospitalizations, medication use, and healthcare costs, though the years of data availability vary greatly. Data on deaths from heart disease are drawn from the National Vital Statistics System and are available as 2-year estimates spanning 2009–2018.

### Inclusion in the SDOH Beta Data Files

The SDOH beta data files annual county data files contain one variable from CDC Atlas that addresses the SDOH domain of healthcare context.

The variable presented in the SDOH beta data files was extracted directly from the CDS Atlas, but renamed for clarity and to fit the conventions of the SDOH beta data files (table 17). Variable availability by year is shown in table 18.

*Suggested citation:* Centers for Disease Control and Prevention. (n.d.). *Interactive Atlas of Heart Disease and Stroke*. <http://nccd.cdc.gov/DHDSPAtlas>

### Resources

Main: <https://www.cdc.gov/dhdsp/maps/atlas/index.htm>

Data: <https://nccd.cdc.gov/DHDSPAtlas/?state=County>; <https://www.cdc.gov/dhdsp/maps/atlas/data-sources.html>

Statistical methods used for generating the heart disease and stroke data are available at <https://www.cdc.gov/dhdsp/maps/atlas/statistical-methods.html>.

**Table 17. Variable definitions and specifications, CDC Atlas**

Variable name	Variable label	Original variable
CDC_HEART_DISEASE_DEATH	Total cardiovascular disease death rate per 100,000 population	VALUE - Total cardiovascular disease death rate per 100,000 population

**Table 18. Variable availability across years, CDC Atlas**

Variable name	Variable label	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
CDC_HEART_DISEASE_DEATH	Total cardiovascular disease death rate per 100,000 population	X	X	X	X	X	X	X	X	X	X

## 11. Centers for Disease Control and Prevention Wide-ranging ONLINE Data for Epidemiologic Research (CDC WONDER)

### Sponsor

U.S. Department of Health and Human Services

### Description

CDC WONDER is an online repository providing access to data on topics such as health, environment, population, birth, and mortality through a publicly available, ad hoc query system. CDC WONDER contains data spanning 1999–2018 and allows users to query data for a variety of geographies (e.g., region, state, county) and to produce aggregated estimates over a period of years to produce more reliable statistics.

### Inclusion in the SDOH Beta Data Files

The SDOH beta data files contain county-level data for 2009–2018 from CDC WONDER, addressing the SDOH domain of healthcare context.

Data were extracted using the Multiple Cause of Death, 1999–2018 query tool. Variables presented in the SDOH beta data files are drawn directly from CDC WONDER; however, they have been renamed for clarity and to fit the conventions of the SDOH beta data files (table 19). Variable availability by year is shown in table 20.

*Suggested citation:* Centers for Disease Control and Prevention, National Center for Health Statistics. Multiple Cause of Death, 1999–2018, in CDC WONDER Online Database. (2020). Data are from the Multiple Cause of Death Files, 1999–2018, as compiled from data provided by the 57 vital statistics jurisdictions through the Vital Statistics Cooperative Program. <http://wonder.cdc.gov/mcd-icd10.html>

### Resources

Main: <https://wonder.cdc.gov>

Data: <https://wonder.cdc.gov/mcd-icd10.html>

Scientific data documentation: [https://wonder.cdc.gov/wonder/sci\\_data/sci\\_data.asp](https://wonder.cdc.gov/wonder/sci_data/sci_data.asp)

**Table 19. Variable definitions and specifications, CDC WONDER**

Variable name	Variable label	Numerator	Denominator
CDC_OPIOID_DEATH	Drug overdose deaths involving any opioid per 100,000 resident population per year	Drug overdose deaths involving any opioid as identified by Multiple Cause of Death – International Classification of Diseases, Tenth Revision (ICD-10) Codes: T40.0 (Opium); T40.1 (Heroin); T40.2 (Other opioids); T40.3 (Methadone); T40.4 (Other synthetic narcotics); and T40.6 (Other and unspecified narcotics)	U. S. resident population based on most recent available Census (2000, 2010)

**Table 20. Variable availability across years, CDC WONDER**

<b>Variable name</b>	<b>Variable label</b>	<b>2009</b>	<b>2010</b>	<b>2011</b>	<b>2012</b>	<b>2013</b>	<b>2014</b>	<b>2015</b>	<b>2016</b>	<b>2017</b>	<b>2018</b>
CDC_OPIOID_DEATH	Drug overdose deaths involving any opioid per 100,000 resident population per year	X	X	X	X	X	X	X	X	X	X



## 12. County Health Rankings (CHR)

### Sponsor

Robert Wood Johnson Foundation

### Description

Since 2010, the University of Wisconsin Population Health Institute and the Robert Wood Johnson Foundation have produced the County Health Rankings (CHR) for U.S. counties.

The variables included in the SDOH data files provide information for how individuals in one county compare to individuals in other counties on a range of factors that determine health—unemployment, education, community safety, diet, and exercise.

The CHR includes measures providing information on health outcomes such as mortality, as well as health factors of particular relevance to SDOH, e.g., economic factors and the physical environment, among other areas. Data for county-level variables are drawn from numerous national data sources. For most measures included in the CHR there are five associated variables: measure value (e.g., point estimate); numerator; denominator; lower bound of 95 percent confidence interval (CI); and upper bound of 95 percent CI. The SDOH data files include the measure value; CIs are available in the original data source files.

### Inclusion in the SDOH Beta Data Files

The SDOH county beta data files contain 24 variables derived from the CHR, covering the following SDOH domains:

- Healthcare context
- Physical infrastructure
- Social context

The CHR is published annually; however, variables are not representative of the CHR year (instead reflecting the most current data year available), and variable availability differs across years. The SDOH county beta data files use the variable-specific data year, which does not typically correspond to the CHR publication year. For example, the 2020 CHR contained estimates from the 2017 Behavioral Risk Factor Surveillance System for five variables: current smokers, binge or heavy alcohol use, health status, and physically and mentally unhealthy days. These variables are included in the 2017 county beta data file.

Variables were drawn directly from CHR and renamed for clarity and to fit the naming conventions in the SDOH beta data files (table 21). Variable availability by year is shown in table 22. For counties that changed names and FIPS codes, but not land area, the county data files harmonize CHR data to include only one record per geography per year (see also Section 3, Table 3). As such, it was necessary to recode some CHR variables to different FIPS codes as follows:

- For the 2014 data file,

- Physical inactivity and obesity variables for Kusilvak Census Area, Alaska (02158) were re-assigned to Wade Hampton Census Area, Alaska (02270)
- Physical inactivity, obesity, and violent crime rate variables for Shannon County, South Dakota (46102) were re-assigned to Oglala Lakota County, South Dakota (46113)
- For 2015 data file, the number and rate of mental health providers for
  - Wade Hampton Census Area, Alaska (02270) were re-assigned to Kusilvak Census Area, Alaska (02158)
  - Oglala Lakota County, South Dakota (46113) were re-assigned to Shannon County, South Dakota (46102)

*User notes:* We strongly encourage users of CHR variables to read the original Measures & Data Sources documentation (<https://www.countyhealthrankings.org/explore-health-rankings/measures-data-sources>), in particular as it relates to missing values. Below are two important examples of how missing values have been handled in the datasets:

- (1) **Healthcare provider variable** values are a ratio of the number of providers to the population. If a county has no reported providers for a particular variable and met a minimum population threshold, then the value was suppressed (e.g., counties with population greater than 2,000 and zero primary care physicians were assigned a missing value). Missing appears as a negative value corresponding to the population: if the ratio is per 1,000 population, CHR reports the value as – 1,000). We have maintained the original variable’s missing values in these cases.
- (2) **Residential segregation variables** are an index of dissimilarity which measures the evenness with which Black and White residents, and non-White and White residents, are distributed across census tracts within each county. Residential segregation values are not calculated for counties with fewer than 100 of the minority population (Black and non-White, respectively). As a result, about 35 percent of counties are missing values for this variable.

Health provider rates were calculated in CHR using the number of providers and the total county population. The SDOH county data files contain variables for the numbers of providers, rate of providers, and a single county population variable for that data year. Users may note that the CHR rates for mental health providers cannot be replicated using the number of providers and the population in a given year. When CHR published the mental health provider rates, the county population for the prior year was used in the calculation because Census’ vintage population estimates lag the number of mental health providers by a year.

*Suggestion citation:* Robert Wood Johnson Foundation, & University of Wisconsin Population Health Institute. (2020). *County Health Rankings & Roadmaps*. <https://www.countyhealthrankings.org>

## Resources

Main: <https://www.countyhealthrankings.org>

Data: <https://www.countyhealthrankings.org/explore-health-rankings/rankings-data-documentation>

**Table 21. Variable definitions and specifications, CHR**

Variable name	Variable label	Source	Original variable
CHR_ADULT_OBESITY	Percentage of the adult population (age 20 and older) that is obese	2009-2015 CDC Diabetes Interactive Atlas; 2016 U.S. Diabetes Surveillance System	V011_RAWVALUE - Percentage of the adult population (age 20 and older) that reports a body mass index (BMI) greater than or equal to 30 kg/m2
CHR_ALCOHOL_DRIV_DEATH	Percentage of driving deaths involving alcohol	Fatality Analysis Reporting System, 5-year estimates	V134_RAWVALUE - Percentage of driving deaths with alcohol involvement
CHR_DENTISTS_NUM	Number of dentists (numerator)	2010 & 2012 HRSA Area Resource File; 2013-2018 Area Health Resource File/National Provider Identification file	V088_NUMERATOR - Dentists numerator
CHR_DENTIST_RATE	Number of dentists per 100,000 population	2010 & 2012 HRSA Area Resource File; 2013-2018 Area Health Resource File/National Provider Identification file	V088_RAWVALUE - Number of dentists per 100,000 population
CHR_DIABETES_PREV	Percentage of adults aged 20 and above with diagnosed diabetes	2009-2013, 2015 CDC Diabetes Interactive Atlas; 2016 U.S. Diabetes Surveillance System	V060_RAWVALUE - Percentage of adults aged 20 and above with diagnosed diabetes
CHR_DRUG_OVERDOSE_DEATH	Number of drug poisoning deaths per 100,000 population	2010, 2012 CDC WONDER mortality data, 6-year estimates; 2014-2017 CDC WONDER mortality data, 3-year estimates; 2018 National Center for Health Statistics -Mortality Files, 3-year estimates	V138_RAWVALUE - Number of drug poisoning deaths per 100,000 population
CHR_EXCESS_DRINK	Percentage of adults reporting binge or heavy drinking	Behavioral Risk Factor Surveillance System	V049_RAWVALUE - Percentage of adults reporting binge or heavy drinking
CHR_FIREARM_DEATH	Deaths due to firearms per 100,000 population	2015-2017 CDC WONDER mortality data, 5-year estimates; 2018 National Center for Health Statistics -Mortality Files, 5-year estimates	V148_RAWVALUE - Number of deaths due to firearms per 100,000 population
CHR_HOMICIDES	Deaths due to homicide per 100,000 population	2010, 2018 National Center for Health Statistics -Mortality Files, 6-year estimates; 2012-2013, 2015-2017 CDC WONDER mortality data, 6-year estimates	V015_RAWVALUE - Number of deaths due to homicide per 100,000 population
CHR_MENTAL_DISTRESSES	Percentage of adults reporting 14 or more days of poor mental health per month	Behavioral Risk Factor Surveillance System	V145_RAWVALUE - Percentage of adults reporting 14 or more days of poor mental health per month

Variable name	Variable label	Source	Original variable
CHR_MENTAL_DR_NUM	Number of mental health care providers (numerator)	CMS, National Provider Identification file	V062_NUMERATOR - Mental health care providers numerator
CHR_MENTAL_DR_RATE	Number of mental health care providers per 100,000 population	CMS, National Provider Identification file	V062_RAWVALUE - Number of mental health care providers per 100,000 population
CHR_PHYSICAL_DISTRESS	Percentage of adults reporting 14 or more days of poor physical health per month	Behavioral Risk Factor Surveillance System	V144_RAWVALUE - Percentage of adults reporting 14 or more days of poor physical health per month
CHR_PHYS_INACTIVITY	Percentage of adults age 20 and over reporting no leisure-time physical activity	2009-2015 CDC Diabetes Interactive Atlas; 2016 U.S. Diabetes Surveillance System	V070_RAWVALUE - Percentage of adults age 20 and over reporting no leisure-time physical activity
CHR_POOR_HEALTH	Percentage of adults reporting fair or poor health (age-adjusted)	Behavioral Risk Factor Surveillance System	V002_RAWVALUE - Percentage of adults reporting fair or poor health (age-adjusted)
CHR_POP_DENOMINATOR	County population (Denominator for provider rates)	Vintage Census population estimates	V004_DENOMINATOR - Primary care physicians denominator (2009-2017); V088_DENOMINATOR - Dentists denominator (2018)
CHR_PREMAT_DEATH_RATE	Premature deaths: age-adjusted deaths per 100,000 population aged 74 and under	2010 - 2017 CDC WONDER Mortality Data, 3-year estimates; 2018 National Center for Health Statistics -Mortality Files, 3-year estimates	V127_RAWVALUE - Number of deaths among residents under age 75 per 100,000 population (age-adjusted)
CHR_PRIMARY_DR_NUM	Number of primary care physicians (numerator)	2010-2011 HRSA Area Resource File; 2012-2017 Area Health Resource File/American Medical Association	V004_NUMERATOR - Primary care physicians numerator
CHR_PRIMARY_DR_RATE	Number of primary care physicians per 100,000 population	2010-2011 HRSA Area Resource File; 2012-2017 Area Health Resource File/American Medical Association	V004_RAWVALUE - Number of primary care physicians per 100,000 population
CHR_SEGREG_BLACK	Segregation Index (higher values indicate greater residential segregation between Black and White residents)	American Community Survey, 5-year estimates	V141_RAWVALUE - Index of dissimilarity where higher values indicate greater residential segregation between Black and White county residents
CHR_SEGREG_NON_WHITE	Segregation Index (higher values indicate greater residential segregation between non-White and White residents)	American Community Survey, 5-year estimates	V142_RAWVALUE - Index of dissimilarity where higher values indicate greater residential segregation between non-

Variable name	Variable label	Source	Original variable
			White and White county residents
CHR_SMOKING	Percentage of adults who are current smokers	Behavioral Risk Factor Surveillance System	V009_RAWVALUE - Percentage of adults who are current smokers
CHR_TEEN_BIRTH	Births per 1,000 females aged 15-19	2010-2011 National Center for Health Statistics, 7-year estimates; 2012-2018 National Center for Health Statistics – Natality Files, 7-year estimates	V014_RAWVALUE - Number of births per 1,000 female population ages 15-19
CHR_VIOLENT_CRIME	Reported violent crime offenses per 100,000 population	2009-2011, 2012, 2014 Uniform Crime Reporting- FBI, 3-year estimates; 2016 Uniform Crime Reporting- FBI, 2-year estimates	V043_RAWVALUE - Number of reported violent crime offenses per 100,000 population

**Table 22. Variable availability across years, CHR**

Variable name	Variable label	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
CHR_ADULT_OBESITY	Percentage of the adult population (age 20 and older) that is obese	X	X	X	X	X	X	X	X		
CHR_ALCOHOL_DRIV_DEATH	Percentage of driving deaths involving alcohol				X	X	X	X	X	X	X
CHR_DENTISTS_NUM	Number of dentists (numerator)		X		X	X	X	X	X	X	X
CHR_DENTIST_RATE	Number of dentists per 100,000 population		X		X	X	X	X	X	X	X
CHR_DIABETES_PREV	Percentage of adults aged 20 and above with diagnosed diabetes	X	X	X	X	X		X	X		
CHR_DRUG_OVERDOSE_DEATH	Number of drug poisoning deaths per 100,000 population		X		X		X	X	X	X	X
CHR_EXCESS_DRINK	Percentage of adults reporting binge or heavy drinking						X	X	X	X	
CHR_FIREARM_DEATH	Deaths due to firearms per 100,000 population							X	X	X	X
CHR_HOMICIDES	Deaths due to homicide per 100,000 population		X		X	X		X	X	X	X
CHR_MENTAL_DISTRESS	Percentage of adults reporting 14 or more days of poor mental health per month						X	X	X	X	
CHR_MENTAL_DR_NUM	Number of mental health care providers (numerator)						X	X	X	X	X
CHR_MENTAL_DR_RATE	Number of mental health care providers per 100,000 population						X	X	X	X	X
CHR_PHYSICAL_DISTRESS	Percentage of adults reporting 14 or more days of poor physical health per month						X	X	X	X	
CHR_PHYS_INACTIVITY	Percentage of adults age 20 and over reporting no leisure-time physical activity	X	X	X	X	X	X	X	X		

CHR_POOR_HEALTH	Percentage of adults reporting fair or poor health (age-adjusted)						X	X	X	X	
CHR_POP_DENOMINATOR	County population (Denominator for provider rates)		X	X	X	X	X	X	X	X	X
CHR_PREMAT_DEATH_RATE	Premature deaths: age-adjusted deaths per 100,000 population aged 74 and under		X		X	X		X	X	X	X
CHR_PRIMARY_DR_NUM	Number of primary care physicians (numerator)		X	X	X	X	X	X	X	X	
CHR_PRIMARY_DR_RATE	Number of primary care physicians per 100,000 population		X	X	X	X	X	X	X	X	
CHR_SEGREG_BLACK	Segregation Index (higher values indicate greater residential segregation between Black and White residents)						X	X	X	X	X
CHR_SEGREG_NON_WHITE	Segregation Index (higher values indicate greater residential segregation between non-White and White residents)						X	X	X	X	X
CHR_SMOKING	Percentage of adults who are current smokers						X	X	X	X	
CHR_TEEN_BIRTH	Births per 1,000 females aged 15-19		X	X	X	X	X		X	X	X
CHR_VIOLENT_CRIME	Reported violent crime offenses per 100,000 population	X	X	X	X		X		X		

## 13. Civil Rights Data Collection (CRDC)

### Sponsor

U.S. Department of Education

### Description

Since 1968, the U.S. Department of Education (ED) has conducted the CRDC biennially to collect data on key education and civil rights issues in our nation's public schools. The collection was formerly administered as the Elementary and Secondary School Survey.

The CRDC collects a variety of information, including student enrollment and educational programs and services, most of which is disaggregated by race/ethnicity, sex, limited English proficiency, and disability. The CRDC is a longstanding and important aspect of the ED Office for Civil Rights' overall strategy for administering and enforcing the civil rights statutes for which it is responsible.

### Inclusion in the SDOH Beta Data Files

The SDOH county-level beta data files include constructed variables based on the CRDC's local education agency (LEA)<sup>1</sup> and school data for 2013–2014 and 2015–2016. The CRDC covers the SDOH domain of education.

CRDC data are available for each LEA and each school. Because certain items are available only at the LEA or school level, we created aggregate county estimates using the appropriate data (table 23). To construct the variables for the SDOH county datasets, an LEA-to-county crosswalk file (<https://nces.ed.gov/programs/edge/Geographic/RelationshipFiles>) was used to create county-level estimates for the 2014 and 2016 SDOH files. Because districts and schools change from school year to school year, we used Common Core School Universe data ([2013-14](#) and [2015-16](#)) for the relevant school year to obtain the correct county FIPS codes. CRDC variables are only available in the 2014 and 2016 SDOH county data files (table 24).

*User note:* Specialized schools are currently included in the SDOH beta data files, including juvenile justice facilities, special education schools, magnet schools, charter schools, and alternative schools.

*Suggested citation:* U.S. Department of Education. (n.d.). *Civil Rights Data Collection*. Retrieved August 13, 2020, from <https://ocrdata.ed.gov>

### Resources

Main: <https://www2.ed.gov/about/offices/list/ocr/data.html>

Data: <https://www2.ed.gov/about/offices/list/ocr/docs/crdc-2015-16.html>

LEA and School Universe Data: <https://nces.ed.gov/ccd/files.asp#Fiscal:2,Page:1>

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<sup>1</sup> Each LEA is a public authority that maintains administrative control of public elementary or secondary schools within a political subdivision of a state. School districts and county offices of education are both LEAs.

**Table 23. Variable definitions and specifications, CRDC**

Variable name	Variable label	Numerator	Denominator*
CRDC_PCT_COUNTY_ECE	Percentage of all students in county whose school offers early childhood services to children birth to 3	Count of CRDC_TOT_STUDENTS where LEA level variable LEA_ECE_IND=YES	Calculated CRDC_TOT_STUDENTS – Total number of students
CRDC_PCT_COUNTY_PREK	Percentage of all students in county whose school offers pre-kindergarten to children aged 3–5	Count of CRDC_TOT_STUDENTS where LEA level variable LEA_PS_IND=Yes	Calculated CRDC_TOT_STUDENTS – Total number of students
CRDC_PCT_CTY_KGTN	Percentage of students in county whose school offers kindergarten programs	Sum of TOT_ENR where LEA_KG_IND =Yes	TOT_ENR - Total enrollment
CRDC_PCT_CTY_PSLWINC	Percentage of all students in county whose school offers preschool to low-income families	Aggregated school level TOT_ENR at LEA level where LEA_PSELIG_LOWINC=Yes	TOT_ENR - Total enrollment where SCH_GRADE_PS=Yes (PS = preschool)
CRDC_PCT_CTY_PSTITLEI	Percentage of all students in county whose school offers preschool to children in Title I schools	TOT_ENR where LEA_PSELIG_TITLEI=Yes & SCH_GRADE_PS=Yes	TOT_ENR - Total enrollment where SCH_GRADE_PS=Yes (PS = preschool)
CRDC_PCT_GED_FEMALE	Percentage of all female students who received a high school equivalency credential (whose LEA requires a GED equivalency exam)	TOT_GEDCRED_F – Female students receiving a GED	School level TOT_ENR_F – Total enrollment, Female – at LEA aggregated to County level
CRDC_PCT_GED_MALE	Percentage of all male students who received a high school equivalency credential (whose LEA requires a GED equivalency exam)	TOT_GEDCRED_M – Male students receiving a GED	School level TOT_ENR_M – Total enrollment, Male – at LEA aggregated to County level
CRDC_PCT_GED_TOT	Percentage of all students who received a high school equivalency credential (whose LEA requires a GED equivalency exam)	Sum of TOT_GEDCRED_M and TOT_GEDCRED_F	School level TOT_ENR_F + TOT_ENR_M at LEA level aggregated to County level
CRDC_PCT_LEA_DESEGPLAN	Percentage of Local Education Agencies (LEAs) covered by a desegregation order or plan	Count of schools where LEA_DESEGPLAN=Yes	Calculated CRDC_TOT_SCHOOLS – Total number of schools
CRDC_PCT_STU_DESEGPLAN	Percentage of students covered by a desegregation order or plan	Count of CRDC_TOT_STUDENTS students where LEA level variable LEA_DESEGPLAN=Yes	Calculated CRDC_TOT_STUDENTS – Total number of students
CRDC_TOT_LEA	Number of Local Education Agencies (LEAs) in county	N/A	Count of # of LEAs in each county



Variable name	Variable label	Numerator	Denominator*
CRDC_TOT_PREK	Number of preschool-aged children served (aged 2-5)	N/A	Sum of total TOT_PSENR_M - Male preschool enrollment and TOT_PSENR_F - Female preschool enrollment
CRDC_TOT_SCHOOLS	Total number of public schools in county	N/A	Count of public schools within county
CRDC_TOT_STUDENTS	Number of students in county	N/A	Sum of students enrolled in schools within county

Note: All numerators and denominators were from the source tables CRDC2013\_14\_LEA and CRDC2013\_14\_SCH for 2014 data and CRDC 2015-16 LEA Data and CRDC 2015-16 School Data for 2016 data; N/A = not applicable.

\* When variables are derived directly from the source data, the denominator column will describe the original variable, and the numerator will be N/A.

**Table 24. Variable availability across years, CRDC**

Variable name	Variable label	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
CRDC_PCT_COUNTY_ECE	Percentage of all students in county whose school offers early childhood services to children birth to 3						X		X		
CRDC_PCT_COUNTY_PREK	Percentage of all students in county whose school offers pre-kindergarten to children aged 3-5						X		X		
CRDC_PCT_CTY_KGTN	Percentage of students in county whose school offers kindergarten programs						X		X		
CRDC_PCT_CTY_PSLWINC	Percentage of all students in county whose school offers preschool to low-income families						X		X		
CRDC_PCT_CTY_PSTITLEI	Percentage of all students in county whose school offers preschool to children in Title I schools						X		X		
CRDC_PCT_GED_FEMALE	Percentage of all female students who received a high school equivalency credential (whose LEA requires a GED equivalency exam)						X		X		
CRDC_PCT_GED_MALE	Percentage of all male students who received a high school equivalency credential (whose LEA requires a GED equivalency exam)						X		X		
CRDC_PCT_GED_TOT	Percentage of all students who received a high school equivalency credential (whose LEA requires a GED equivalency exam)						X		X		
CRDC_PCT_LEA_DESEGPLAN	Percentage of Local Education Agencies (LEAs) covered by a desegregation order or plan						X		X		
CRDC_PCT_STU_DESEGPLAN	Percentage of students covered by a desegregation order or plan						X		X		

<b>Variable name</b>	<b>Variable label</b>	<b>2009</b>	<b>2010</b>	<b>2011</b>	<b>2012</b>	<b>2013</b>	<b>2014</b>	<b>2015</b>	<b>2016</b>	<b>2017</b>	<b>2018</b>
CRDC_TOT_LEA	Number of Local Education Agencies (LEAs) in county						X		X		
CRDC_TOT_PREK	Number of preschool-aged children served (aged 2-5)						X		X		
CRDC_TOT_SCHOOLS	Total number of public schools in county						X		X		
CRDC_TOT_STUDENTS	Number of students in county						X		X		

## 14. Economic Research Service (ERS) Rural-Urban Commuting Area (RUCA)

### Sponsor

U.S. Department of Agriculture

### Description

ERS developed a rural-urban classification scheme for assessing commuter flow in metropolitan, micropolitan, small town, and rural areas. Area values are based on population density, urbanization, and daily commuting, and were first calculated at the census tract level and then transferred to ZIP Codes. Concepts developed by the Office of Management and Budget to define county-level metropolitan and micropolitan areas were used by ERS for these measures.

The 2010 RUCA scheme includes primary and secondary codes to indicate commuter flow. Primary codes are whole numbers 1 through 10, indicating flow within or to urbanized areas (UAs) or urban clusters (UCs). Secondary codes include decimals after the primary code to indicate secondary flow to a UA or UC. The primary and secondary codes are listed in table 25.

**Table 25. RUCA classification scheme**

Primary codes	Secondary codes
1 Metropolitan area core: primary flow within an urbanized area (UA)	1.0 No additional code 1.1 Secondary flow 30% to 50% to a larger UA
2 Metropolitan area high commuting: primary flow 30% or more to a UA	2.0 No additional code 2.1 Secondary flow 30% to 50% to a larger UA
3 Metropolitan area low commuting: primary flow 10% to 30% to a UA	3.0 No additional code
4 Micropolitan area core: primary flow within an urban cluster of 10,000 to 49,999 (large UC)	4.0 No additional code 4.1 Secondary flow 30% to 50% to a UA
5 Micropolitan high commuting: primary flow 30% or more to a large UC	5.0 No additional code 5.1 Secondary flow 30% to 50% to a UA
6 Micropolitan low commuting: primary flow 10% to 30% to a large UC	6.0 No additional code
7 Small town core: primary flow within an urban cluster of 2,500 to 9,999 (small UC)	7.0 No additional code 7.1 Secondary flow 30% to 50% to a UA 7.2 Secondary flow 30% to 50% to a large UC
8 Small town high commuting: primary flow 30% or more to a small UC	8.0 No additional code 8.1 Secondary flow 30% to 50% to a UA 8.2 Secondary flow 30% to 50% to a large UC
9 Small town low commuting: primary flow 10% to 30% to a small UC	9.0 No additional code
10 Rural areas: primary flow to a tract outside a UA or UC	10.0 No additional code 10.1 Secondary flow 30% to 50% to a UA 10.2 Secondary flow 30% to 50% to a large UC 10.3 Secondary flow 30% to 50% to a small UC

### Inclusion in the SDOH Beta Data Files

The SDOH ZCTA-level data files include the 2010 primary and secondary RUCA classification scheme. Variables were drawn directly from the ERS RUCA ZIP files and renamed for clarity and to fit the naming

conventions in the SDOH beta data files (table 26). The ZCTA data files contain RUCAs where the ZIP Code value matched the ZCTA value. Not all ZIP Codes have a corresponding ZCTA, and therefore there are ZIP Codes represented in the RUCA data that do not appear in the SDOH ZCTA files. Furthermore, there are some ZCTAs that do not have a corresponding ZIP Code, resulting in missing data in the SDOH ZCTA files. RUCA variables were included in each ZCTA data file (table 27).

*Suggested citation:* U.S. Department of Agriculture, Economic Research Service. *2010 Rural-Urban Commuting Area codes*. (2020, August 17). Retrieved September 22, 2020, from <https://www.ers.usda.gov/data-products/rural-urban-commuting-area-codes>

## Resources

Main: <https://www.ers.usda.gov/data-products/rural-urban-commuting-area-codes>

Data: <https://www.ers.usda.gov/data-products/rural-urban-commuting-area-codes>

**Table 26. Variable definitions and specifications, ERS RUCA**

Variable name	Variable label	Original variable
ERS_RUCA1_2010	Primary RUCA Code	RUCA1 - Primary RUCA Code
ERS_RUCA2_2010	Secondary RUCA Code	RUCA2 - Secondary RUCA Code

**Table 27. Variable availability across years, ERS RUCA\***

Variable name	Variable label	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
ERS_RUCA1_2010	Primary RUCA Code			X	X	X	X	X	X	X	X
ERS_RUCA2_2010	Secondary RUCA Code			X	X	X	X	X	X	X	X

\* ERS RUCA variables are only in the ZCTA data files.

## 15. Medicare Advantage Penetration (MAP) Files

### Sponsor

U.S. Department of Health and Human Services, Centers for Medicare and Medicaid Services (CMS)

### Description

The MAP files contain county-level data on Medicare Advantage (MA) eligibility and enrollment. CMS maintains these files as part of the MA/Part D Contract and Enrollment data repository, which houses publicly available data such as contracts and plans, enrollment numbers, and service area information. Monthly data files are available spanning 2008–2020.

Penetration data are derived by dividing the number of enrollees by the number of eligible individuals and multiplying the result by 100. Counties for which enrollment data have been suppressed do not have penetration estimates.

### Inclusion in the SDOH Beta Data Files

The SDOH beta data files contain MA data from June of each year, covering the SDOH domain of healthcare context.

As noted above, MAP files are produced monthly. The SDOH beta data files contain only data published for June of each year. Variables were drawn directly from MAP State/County Penetration files and renamed for clarity and to fit the naming conventions in the SDOH beta data files (table 28). Variable availability by year is shown in table 29. For counties that changed names and FIPS codes, but not land area, the county data files harmonize MAP data to include only one record per geography per year (see also Section 3, Table 3). As such, it was necessary to recode MAP variables to different FIPS codes as follows:

- For the 2015 data files, variable values for:
  - Wade Hampton Census Area, Alaska (02270) were re-assigned to Kusilvak Census Area, Alaska (02158)
  - Oglala Lakota County, South Dakota (46113) were re-assigned to Shannon County, South Dakota (46102)

*Suggested citation:* Centers for Medicare and Medicaid Services. (2020, June). *MA State/County Penetration*. Retrieved July 20, 2020, from <https://www.cms.gov/Research-Statistics-Data-and-Systems/Statistics-Trends-and-Reports/MCRAAdvPartDENrolData/MA-State-County-Penetration>

### Resources

Main: <https://www.cms.gov/Research-Statistics-Data-and-Systems/Statistics-Trends-and-Reports/MCRAAdvPartDENrolData/MA-State-County-Penetration>

Data: <https://www.cms.gov/Research-Statistics-Data-and-Systems/Statistics-Trends-and-Reports/MCRAAdvPartDENrolData/MA-State-County-Penetration>

**Table 28. Variable definitions and specifications, MAP files**

Variable name	Variable label	Original variable
MP_ELIGIBLES	Number of Medicare eligibles in the county	ELIGIBLES - The number of Medicare eligibles in the county
MP_ENROLLED	Number of Medicare Advantage enrollees in the county (10 or fewer = missing)	ENROLLED - The number of Medicare Advantage enrollees in the county (10 or fewer = missing)
MP_PERCPEN	Derived field that equals the ratio of enrollees over eligibles * 100	PENETRATION - Derived field that equals the ratio of enrollees over eligibles x 100

**Table 29. Variable availability across years, MAP files**

Variable name	Variable label	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
MP_ELIGIBLES	Number of Medicare eligibles in the county	X	X	X	X	X	X	X	X	X	X
MP_ENROLLED	Number of Medicare Advantage enrollees in the county (10 or fewer = missing)	X	X	X	X	X	X	X	X	X	X
MP_PERCPEN	Derived field that equals the ratio of enrollees over eligibles * 100	X	X	X	X	X	X	X	X	X	X

## 16. National Environmental Public Health Tracking Network (NEPHTN)

### Sponsor

U.S. Department of Health and Human Services, Centers for Disease Control and Prevention

### Description

The NEPHTN brings together health data and environmental data from national, state, and city sources and provides supporting information to make the data easier to understand. The Tracking Network has data and information on environments and hazards, health effects, and population health, spanning 2001–2018, although variable availability changes from one year to another.

### Inclusion in the SDOH Beta Data Files

The county SDOH beta data files contain variables from the NEPHTN Data Explorer from 2009 to 2018, covering the SDOH domain of physical infrastructure.

Data were downloaded from the NEPHTN Data Explorer and renamed for clarity and to fit the naming conventions in the SDOH beta data files (table 30). The availability of each variable in the SDOH beta data files varies by year (table 31). The county data files harmonize NEPHTN data to include only one record per geography per year (see also Section 3, Table 3). As such, it was necessary to re-assign NEPHTN data as follows:

- For the 2015 and 2016 data files, variable values for:
  - Wade Hampton Census Area, Alaska (02270) were re-assigned to Kusilvak Census Area, Alaska (02158)
  - Oglala Lakota County, South Dakota (46113) were re-assigned to Shannon County, South Dakota (46102)

*User Note:* We strongly encourage users of NEPHTN variables to review the technical information contained on the website (<https://ephtracking.cdc.gov/searchMetadata>), in particular as it relates to the calculation of specific indices, such as PM2.5 and heat index variables.

*Particulate Matter (PM) 2.5 Variables.* PM2.5 is a specific air-quality indicator that measures particulate matter less than 2.4 micrometers. Particles of this size can remain in the air for longer periods. These particles are typically formed as a result of burning fuel and chemical reactions that occur in the atmosphere.

Data are available based on monitoring or based on modeled estimates. In the SDOH datasets there are two types of variables: (i) those that reflect monitored values only, and (ii) those that reflect modeled estimates only. The variable label indicates one or the other.

- **Monitored Values.** The monitoring data comes from the U.S. Environmental Protection Agency (EPA) Air Quality System (AQS). When AQS data are available from multiple monitors for a given county and day, the highest 24-hour average (daily) PM2.5 concentration among all the monitors is selected for purposes of creating daily county-level data.

- Modeled Estimates.** The EPA has developed modeled estimates that are used by the NEPHTN as its data source. EPA provides modeled estimates of PM2.5 using the Downscaler (DS) model, which uses a statistical approach to fuse monitoring data in areas where monitors exist, and relies on Community Multiscale Air Quality (CMAQ) modeled output in areas without monitors. DS modeled estimates are available by census tract centroid—the geographic center of the census tract. Daily county-level modeled estimates are obtained by selecting the maximum value observed among all the census tracts within each county. County-level PM2.5 measures are created using monitor data when available and using modeled estimates for days and locations without such data.

*Extreme Heat Variables.* Extreme heat is a specific climate change and heat vulnerability exposure indicator that measures the number of extreme heat days within a county. County-level estimates of temperature and heat index are obtained by processing modeled data, which are available by 1/8th-degree grid from the North American Land Data Assimilation System (NLDAS). The NEPHTN selected the daily maximum temperatures from the hourly NLDAS data and calculated a daily maximum heat index, which takes into account relative humidity and temperature.

Measure data were calculated only for the months of May through September, converting the grid-level data to county-level estimates to determine population exposure to extreme heat and enable linkage with datasets.

Specifically, NEPHTN calculated daily county-level maximum temperatures and heat indices by averaging values from all the adjacent grid cells and calculated the 90th, 95th, and 98th percentiles values for daily maximum temperature and maximum health index. NEPHTN identified extreme heat days for each combination of the following parameters: (1) temperature or heat index and (2) absolute threshold (e.g., 90°F, 95°F, 100°F, and 105°F).

*Suggested citation:* Centers for Disease Control and Prevention. (2020). *National Environmental Public Health Tracking Network*. Retrieved July 2020 from <https://www.cdc.gov/ephtracking>

## Resources

Main: <https://ephtracking.cdc.gov/showHome>

Data: <https://ephtracking.cdc.gov/DataExplorer/#>

**Table 30. Variable definitions and specifications, NEPHTN**

Variable name	Variable label	Source table	Original variable
NEPHTN_HEATIND_100	Extreme heat - 100°F: Number of days with daily maximum heat index, absolute threshold: 100°F	NEPHTN data - (EPHTN_M423_D - data_HHMMSS)	EPHTN_M423 - NUMBER OF EXTREME HEAT DAYS   Absolute Threshold: 100 degrees F, Heat Metric: Daily Maximum Heat Index
NEPHTN_HEATIND_105	Extreme heat - 105°F: Number of days with daily maximum heat index, absolute threshold: 105°F	NEPHTN data - (EPHTN_M423_D - data_HHMMSS)	EPHTN_M423 -NUMBER OF EXTREME HEAT DAYS   Absolute Threshold: 105 degrees F, Heat Metric: Daily Maximum Heat Index
NEPHTN_HEATIND_90	Extreme heat - 90°F: Number of days with daily	NEPHTN data - (EPHTN_M423_D - data_HHMMSS)	EPHTN_M423_D - NUMBER OF EXTREME HEAT DAYS   Absolute



Variable name	Variable label	Source table	Original variable
	maximum heat index, absolute threshold: 90°F		Threshold: 90 degrees F, Heat Metric: Daily Maximum Heat Index
NEPHTN_HEATIND_95	Extreme heat - 95°F: Number of days with daily maximum heat index, absolute threshold: 95°F	NEPHTN data - (EPHTN_M423_D - data_HHMMSS)	EPHTN_M423_D - NUMBER OF EXTREME HEAT DAYS   Absolute Threshold: 95 degrees F, Heat Metric: Daily Maximum Heat Index
NEPHTN_LEAD	Percentage of children tested with confirmed blood lead levels 10 µg/dL or greater	NEPHTN data - (EPHTN_M416_D - data_HHMMSS)	EPHTN_M416_D - Annual Blood Lead Levels   Percent of children tested with confirmed blood lead levels of 10 µg/dL or greater
NEPHTN_MAXDROUGHT	Maximum number of consecutive months of mild drought or worse	NEPHTN data - (EPHTN_M708_D - data_HHMMSS)	EPHTN_M708_D - Drought Duration and Severity (Monthly)   Maximum number of consecutive months of mild drought or worse
NEPHTN_MODALAAC_PM25	Annual average ambient concentrations of PM2.5 in micrograms per cubic meter (modeled estimates only)	NEPHTN data - (EPHTN_M296_D - data_HHMMSS)	EPHTN_M296_D - Annual PM2.5 Level (Monitor + Modeled)   Annual average ambient concentrations of PM 2.5 in micrograms per cubic meter, based on seasonal averages and daily measurement (monitor and modeled data), where DATA_COMMENT = "Modeled"
NEPHTN_MODALPDP25_OVER	Person-days with PM2.5 levels over the national ambient air quality standard (modeled estimates only)	NEPHTN data - (EPHTN_M295_D - data_HHMMSS)	EPHTN_M295_D - PM2.5 - Days Above Regulatory Standard (Monitor + Modeled)   Number of person-days with PM2.5 over the National Ambient Air Quality Standard (monitor and modeled data), where DATA_COMMENT = "Modeled"
NEPHTN_MODALPDP25	Percentage of days with PM2.5 levels over the national ambient air quality standard (modeled estimates only)	NEPHTN data - (EPHTN_M294_D - data_HHMMSS)	EPHTN_M294_D - PM2.5 - Days Above Regulatory Standard (Monitor + Modeled)   Percent of days with PM2.5 levels over the National Ambient Air Quality Standard (monitor and modeled data), where DATA_COMMENT = "Modeled"
NEPHTN_MONAAAC_PM25	Annual average ambient concentrations of PM2.5 in micrograms per cubic meter (monitored values only)	NEPHTN data - (EPHTN_M87_D - data_HHMMSS)	EPHTN_M87_D - Annual PM2.5 Level (Monitor only)   Annual average ambient concentrations of PM2.5 in micrograms per cubic meter (based on seasonal averages and daily measurement)
NEPHTN_MONPDP25_OVER	Person-days with PM2.5 levels over the national ambient air quality standard (monitored values only)	NEPHTN data - (EPHTN_M86_D - data_HHMMSS)	EPHTN_M86_D - PM2.5 - Days Above Regulatory Standard (Monitor only)   Person-days with PM2.5 over the National Ambient Air Quality Standard

Variable name	Variable label	Source table	Original variable
NEPHTN_MONPD_PM25	Percentage of days with PM2.5 levels over the national ambient air quality standard (monitored values only)	NEPHTN data - (EPHTN_M85_D - data_HHMMSS)	EPHTN_M85_D - PM2.5 - Days Above Regulatory Standard (Monitor only)   Percent of days with PM2.5 levels over the National Ambient Air Quality Standard (NAAQS)
NEPHTN_NUMDROUGHT	Number of months of mild drought or worse per year	NEPHTN data - (EPHTN_M707_D - data_HHMMSS)	EPHTN_M707_D - Drought Duration and Severity (Monthly)   Number of months of mild drought or worse per year
NEPHTN_PARK	Percentage of population living within a half a mile of a park	NEPHTN data - (EPHTN_M428_D - data_HHMMSS)	EPHTN_M428_D - Access to Parks and Public Elementary Schools   Percent of population living within a half mile of a park
NEPHTN_TEMPERATURE_100	Extreme heat - 100°F: Number of days with daily maximum temperature, absolute threshold: 100°F	NEPHTN data - (EPHTN_M423_D - data_HHMMSS)	EPHTN_M423_D - NUMBER OF EXTREME HEAT DAYS   ALL COUNTIES  Absolute Threshold: 100 degrees F, Heat Metric: Daily Maximum Temperature
NEPHTN_TEMPERATURE_105	Extreme heat - 105°F: Number of days with daily maximum temperature, absolute threshold: 105°F	NEPHTN data - (EPHTN_M423_D - data_HHMMSS)	EPHTN_M423_D - NUMBER OF EXTREME HEAT DAYS   ALL COUNTIES  Absolute Threshold: 105 degrees F, Heat Metric: Daily Maximum Temperature
NEPHTN_TEMPERATURE_90	Extreme heat - 90°F: Number of days with daily maximum temperature, absolute threshold: 90°F	NEPHTN data - (EPHTN_M423_D - data_HHMMSS)	EPHTN_M423_D - NUMBER OF EXTREME HEAT DAYS   Absolute Threshold: 90 degrees F, Heat Metric: Daily Maximum Temperature
NEPHTN_TEMPERATURE_95	Extreme heat - 95°F: Number of days with daily maximum temperature, absolute threshold: 95°F	NEPHTN data - (EPHTN_M423_D - data_HHMMSS)	EPHTN_M423_D - NUMBER OF EXTREME HEAT DAYS   Absolute Threshold: 95 degrees F, Heat Metric: Daily Maximum Temperature

**Table 31. Variable availability across years, NEPHTN**

Variable name	Variable label	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
NEPHTN_HEATIND_100	Extreme heat - 100°F: Number of days with daily maximum heat index, absolute threshold: 100°F	X	X	X	X	X	X	X	X		
NEPHTN_HEATIND_105	Extreme heat - 105°F: Number of days with daily maximum heat index, absolute threshold: 105°F	X	X	X	X	X	X	X	X		
NEPHTN_HEATIND_90	Extreme heat - 90°F: Number of days with daily maximum heat index, absolute threshold: 90°F	X	X	X	X	X	X	X	X		
NEPHTN_HEATIND_95	Extreme heat - 95°F: Number of days with daily maximum heat index, absolute threshold: 95°F	X	X	X	X	X	X	X	X		

Variable name	Variable label	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
NEPHTN_LEAD	Percentage of children tested with confirmed blood lead levels 10 µg/dL or greater	X	X	X	X	X	X	X	X		
NEPHTN_MAXDROUGHT	Maximum number of consecutive months of mild drought or worse		X					X			
NEPHTN_MODAAC_PM25	Annual average ambient concentrations of PM2.5 in micrograms per cubic meter (modeled estimates only)	X	X	X	X	X	X	X	X		
NEPHTN_MODPDP25_OVER	Person-days with PM2.5 levels over the national ambient air quality standard (modeled estimates only)	X	X	X	X	X	X	X	X		
NEPHTN_MODPD_PM25	Percentage of days with PM2.5 levels over the national ambient air quality standard (modeled estimates only)	X	X	X	X	X	X	X	X		
NEPHTN_MONAAC_PM25	Annual average ambient concentrations of PM2.5 in micrograms per cubic meter (monitored values only)	X	X	X	X	X	X	X	X	X	X
NEPHTN_MONPDP25_OVER	Person-days with PM2.5 levels over the national ambient air quality standard (monitored values only)	X	X	X	X	X	X	X	X	X	X
NEPHTN_MONPD_PM25	Percentage of days with PM2.5 levels over the national ambient air quality standard (monitored values only)	X	X	X	X	X	X	X	X	X	X
NEPHTN_NUMDROUGHT	Number of months of mild drought or worse per year	X	X	X	X	X	X	X	X		
NEPHTN_PARK	Percentage of population living within a half a mile of a park		X					X			
NEPHTN_TEMPERATURE_100	Extreme heat - 100°F: Number of days with daily maximum temperature, absolute threshold: 100°F	X	X	X	X	X	X	X	X		
NEPHTN_TEMPERATURE_105	Extreme heat - 105°F: Number of days with daily maximum temperature, absolute threshold: 105°F	X	X	X	X	X	X	X	X		
NEPHTN_TEMPERATURE_90	Extreme heat - 90°F: Number of days with daily maximum temperature, absolute threshold: 90°F	X	X	X	X	X	X	X	X		
NEPHTN_TEMPERATURE_95	Extreme heat - 95°F: Number of days with daily maximum temperature, absolute threshold: 95°F	X	X	X	X	X	X	X	X		

## 17. National Center for Health Statistics (NCHS) Urban-Rural Classification Scheme

### Sponsor

U.S. Department of Health and Human Services, Centers for Disease Control and Prevention

### Description

NCHS has developed a six-level urban-rural classification scheme for U.S. counties and county-equivalent entities. The most urban category consists of “central” counties of large metropolitan areas, and the most rural category consists of nonmetropolitan “noncore” counties.

The 2013 NCHS Urban-Rural Classification Scheme for Counties is based on the delineation in February 2013 by the Office of Management and Budget (OMB) of metropolitan statistical areas (MSAs) and micropolitan statistical areas. The 2006 NCHS scheme is based on the 2000 census and the December 2005 OMB delineation of MSAs and micropolitan statistical areas. Each schema includes six classifications as shown in table 32. The key differences between the 2006 and the 2013 NCHS Urban-Rural Classification Schemes are contained in the definitions of small metropolitan, micropolitan, and noncore areas.

Variables were renamed for clarity and to fit the naming conventions in the SDOH beta data files (table 33). We include both the 2013 and 2006 classification schemes in each year of the SDOH county-level data files (table 34).

**Table 32. NCHS Urban-Rural Classification Schemes**

Category	2013 definition (NCHS_URCS_2013)	2006 definition (NCHS_URCS_2006)
1 - Large central metropolitan	Counties in an MSA of 1 million or more population: <ul style="list-style-type: none"> <li>• That contain the entire population of the largest principal city of the MSA, or</li> <li>• Whose entire population is contained within the largest principal city of the MSA, or</li> <li>• That contain at least 250,000 residents of any principal city in the MSA</li> </ul>	Counties in an MSA of 1 million or more population: <ul style="list-style-type: none"> <li>• That contain the entire population of the largest principal city of the MSA, or</li> <li>• Whose entire population resides in the largest principal city of the MSA, or</li> <li>• That contain at least 250,000 of the population of any principal city in the MSA</li> </ul>
2 - Large fringe metropolitan	Counties in MSAs of 1 million or more population that do not qualify as large central. Large fringe metropolitan areas are also described as suburban areas.	Counties in MSAs of 1 million or more population that do not qualify as large central.
3 - Medium metropolitan	Counties in MSAs of 250,000 to 999,999 population	Counties in MSAs of 250,000 to 999,999 population
4 - Small metropolitan	Counties in MSAs of less than 250,000 population	Counties in MSAs of 50,000 to 249,999 population
5 - Micropolitan	Counties in a micropolitan statistical area (an urbanized area of at least 10,000 population but less than 50,000 population)	Counties in a micropolitan statistical area
6 – Noncore	Nonmetropolitan counties that are not in a micropolitan statistical area	Counties that are neither metropolitan nor micropolitan

Cf. The 2013 USDA Rural-Urban Continuum Codes (AHRF\_USDA\_RUCC\_2013) described above in the Area Health Resources File entry.

*Suggested citation:* Ingram, D. D., & Franco, S. J. (2014, April). 2013 NCHS urban–rural classification scheme for counties. *Vital and Health Statistics. Series 2, Data Evaluation and Methods Research*. Number 166, 1–73. <https://pubmed.ncbi.nlm.nih.gov/24776070>

## Resources

Main: [https://www.cdc.gov/nchs/data\\_access/urban\\_rural.htm](https://www.cdc.gov/nchs/data_access/urban_rural.htm)

Data: [https://www.cdc.gov/nchs/data\\_access/urban\\_rural.htm#Data Files and Documentation](https://www.cdc.gov/nchs/data_access/urban_rural.htm#Data Files and Documentation)

**Table 33. Variable definitions and specifications, NCHS**

Variable name	Variable label	Original variable
NCHS_URCS_2006	NCHS 2006 Rural-Urban Classification Scheme	CODE2006
NCHS_URCS_2013	NCHS 2013 Rural-Urban Classification Scheme	CODE2013

**Table 34. Variable availability across years, NCHS**

Variable name	Variable label	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
NCHS_URCS_2006	NCHS 2006 Rural-Urban Classification Scheme	X	X	X	X	X	X	X	X	X	X
NCHS_URCS_2013	NCHS 2013 Rural-Urban Classification Scheme	X	X	X	X	X	X	X	X	X	X

## 18. Nursing Home Compare (NHC)

### Sponsor

U.S. Department of Health and Human Services, Centers for Medicare and Medicaid Services

### Description

The Centers for Medicare and Medicaid Services (CMS) developed and maintains the publicly accessible NHC data repository. Datasets have been published quarterly since 2013 and contain detailed information about every Medicare- and Medicaid-certified nursing home in the United States, such as the number of beds, the daily census of residents, and staffing characteristics.

### Inclusion in the SDOH Beta Data Files

Information from NHC included in the SDOH county beta data files includes number of facilities, number of federally certified beds, average number of residents based on Minimum Data Set (MDS) daily census, reported licensed staffing, and nursing hours per resident per day (registered nurse [RN] + licensed practical nurse [LPN]). NHC covers the SDOH domain of healthcare context.

NHC facility-level data (“ProviderInfo” tables) were downloaded from CMS for each year from 2013 to 2018. The variables presented in the SDOH beta data files were derived by (1) averaging quarterly data for each facility to calculate an annual average, and then (2) averaging across contributing facilities within a county to calculate a county average (table 35). Variable availability by year is shown in table 36. For the 2015 data file, there were no nursing homes reported for Bedford County, Virginia (51019), so this county was assigned NHC variable values for Bedford City, Virginia (51515). In 2013, Bedford City, Virginia (FIPS 51515) was added to Bedford County (FIPS 51019), resulting in an approximate increase of 6,000 in the population of Bedford County.<sup>2</sup>

*Suggested citation:* Centers for Medicare and Medicaid Services. (n.d.). Nursing Home Compare.

<https://www.medicare.gov/nursinghomecompare/search.html>

### Resources

Main: <https://www.medicare.gov/nursinghomecompare/search.html>

Data: <https://data.medicare.gov/data/nursing-home-compare>

**Table 35. Variable definitions and specifications, NHC**

Variable name	Variable label	Original variable
NHC_BEDCOUNT	Average number of federally certified beds per reporting facility	Calculated average across facilities: BEDCERT - Number of federally certified beds
NHC_DAILY_RES	Average number of residents per reporting facility, based on MDS daily census	Calculated average across facilities: RESTOT - Average number of residents based on MDS daily census

<sup>2</sup> U.S. Census Bureau. Changes to Counties or County Equivalent Entities: 2010s. Accessed 09/18/2020: <https://www.census.gov/programs-surveys/geography/technical-documentation/county-changes.2010.html>

Variable name	Variable label	Original variable
NHC_LIC_STAFF	Average hours per day of licensed staff (RN+LPN) per reporting facility	Calculated average across facilities: TOTLICHRD - Reported licensed staffing, hours per day (RN+LPN)
NHC_NUMFACS	Number of facilities	Calculated - count of unique facilities in a county

**Table 36. Variable availability across years, NHC**

Variable name	Variable label	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
NHC_BEDCOUNT	Average number of federally certified beds per reporting facility					X	X	X	X	X	X
NHC_DAILY_RES	Average number of residents per reporting facility, based on MDS daily census					X	X	X	X	X	X
NHC_LIC_STAFF	Average hours per day of licensed staff (RN+LPN) per reporting facility					X	X	X	X	X	X
NHC_NUMFACS	Number of facilities					X	X	X	X	X	X

## 19. Social Vulnerability Index (SVI)

### Sponsor

U.S. Department of Health and Human Services, Centers for Disease Control and Prevention (CDC)

### Description

Social vulnerability concerns “the resilience of communities when confronted by external stresses on human health, stresses such as natural or human-caused disasters, or disease outbreaks. Reducing social vulnerability can decrease both human suffering and economic loss.”<sup>3</sup>

The SVI uses U.S. Census data to determine the social vulnerability of every census tract. The SVI ranks each tract on 15 social factors, including poverty, lack of vehicle access, and crowded housing, and groups them into four main themes. Each tract receives a separate ranking for each of the four themes, as well as an overall ranking.

The four themes are socioeconomic factors, household composition and disability factors, minority status and language factors, and housing type and transportation.

These four themes (factor groups) are used to calculate the overall vulnerability index.

The four summary theme ranking variables, are (with the SDOH variable name in parentheses):

- Socioeconomic: RPL\_THEME1 (SVI\_RPL\_THEME1\_SOCIECO)
- Household Composition and Disability: RPL\_THEME2 (SVI\_RPL\_THEME2\_HH\_DISB)
- Minority Status and Language: RPL\_THEME3 (SVI\_RPL\_THEME3\_MINO)
- Housing Type and Transportation: RPL\_THEME4 (SVI\_RPL\_THEME4\_HH\_TRANS)

The overall vulnerability index variable is RPL\_THEMES (SVI\_RPL\_THEMES\_ALL).

### Inclusion in the SDOH Beta Data Files

The SDOH county beta data files contain data from the SVI, covering the SDOH domain of social context.

Variables are drawn directly from the SVI databases (SVI2010\_Counties.mdb for 2010 and SVIYYYY\_US\_COUNTY.csv for 2014–2018) and renamed from the original fields for clarity and consistency with other SDOH beta data file variables (table 37). Margins of error are included in the original data source. Variables from SVI are available for 2010, 2014, 2016, and 2018 (table 38).

*Suggested citation:* Centers for Disease Control and Prevention; Agency for Toxic Substances and Disease Registry; Geospatial Research, Analysis, and Services Program. *Social Vulnerability Index 2018, 2016, 2014, and 2010* [Databases]. Retrieved May 3, 2020, from [https://www.atsdr.cdc.gov/placeandhealth/svi/data\\_documentation\\_download.html](https://www.atsdr.cdc.gov/placeandhealth/svi/data_documentation_download.html)

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<sup>3</sup> Centers for Disease Control and Prevention, Agency for Toxic Substances and Disease Registry. CDC Social Vulnerability Index. <https://www.atsdr.cdc.gov/placeandhealth/svi/index.html>



## Webpages

Main: <https://svi.cdc.gov/index.html>

Data: [https://www.atsdr.cdc.gov/placeandhealth/svi/data\\_documentation\\_download.html](https://www.atsdr.cdc.gov/placeandhealth/svi/data_documentation_download.html)

**Table 37. Variable definitions and specifications, SVI**

Variable name	Variable label	Original variable
SVI_RPL_THEME1_SOCIECO	Social Vulnerability Index: Percentile ranking for socioeconomic theme	SVI_RPL_THEME1 - SVI percentile ranking for socioeconomic theme summary
SVI_RPL_THEME2_HH_DISB	Social Vulnerability Index: Percentile ranking for household composition theme	SVI_RPL_THEME2 - SVI percentile ranking for household composition theme summary
SVI_RPL_THEME3_MINO	Social Vulnerability Index: Percentile ranking for minority status/language theme	SVI_RPL_THEME3 - SVI percentile ranking for minority status/language theme
SVI_RPL_THEME4_HH_TRANS	Social Vulnerability Index: Percentile ranking for housing/transportation theme	SVI_RPL_THEME4 - SVI percentile ranking for housing/transportation theme
SVI_RPL_THEMES_ALL	Percentile ranking for overall Social Vulnerability Index	SVI_RPL_THEMES - SVI overall percentile ranking

**Table 38. Variable availability across years, SVI**

Variable name	Variable label	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
SVI_RPL_THEME1_SOCIECO	Social Vulnerability Index: Percentile ranking for socioeconomic theme		X				X		X		X
SVI_RPL_THEME2_HH_DISB	Social Vulnerability Index: Percentile ranking for household composition theme		X				X		X		X
SVI_RPL_THEME3_MINO	Social Vulnerability Index: Percentile ranking for minority status/language theme		X				X		X		X
SVI_RPL_THEME4_HH_TRANS	Social Vulnerability Index: Percentile ranking for housing/transportation theme		X				X		X		X
SVI_RPL_THEMES_ALL	Percentile ranking for overall Social Vulnerability Index		X				X		X		X

## 20. U.S. Cancer Statistics (USCS)

### Sponsor

U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, Division of Cancer Prevention and Control

### Description

The CDC Division of Cancer Prevention and Control produces annual U.S. Cancer Statistics (USCS) which estimate cancer burden across states based on publicly reported public health surveillance systems. Cancer incidence statistics are available by type of cancer, stage, race/ethnicity, sex, and age group for multiple geographic areas, including state, county, and health service area. Data tables are available from 1992 through 2017; however, county-level data were only published in more recent years (2015 to 2017, as of August 2020), and health service area data were newly published with the 2016 data release. USCS data contain 1-year averages for state and national rates and 5-year averages for county-level data.

### Inclusion in the SDOH Beta Data Files

The SDOH county beta data files contain 5-year average cancer incidence from USCS in the 2015 to 2017 data files, covering the healthcare context SDOH domain.

The 5-year average is included only in the SDOH data file corresponding to the last year of the 5-year period (e.g., the 2015 SDOH data file contains the 5-year average for 2011 to 2015). Incidence rates are drawn directly from the USCS downloads (BYAREA\_COUNTY.TXT files for each year), and renamed from the original fields for clarity and consistency with other SDOH beta data file variables (table 39). The original data contain 95 percent confidence intervals for county-specific incidence. Variable availability by year is shown in table 40.

*User Note:* Because counties change over time, users should be careful to take into account changes in geography across years. In 2013, Bedford City, Virginia (FIPS 51515) was added to Bedford County (FIPS 51019), resulting in an approximate increase of 6,000 in the population of Bedford County.<sup>4</sup> The original USCS data assigned this a new unique FIPS (51917) to distinguish the results, but for the purposes of the SDOH beta data files, we have reassigned the results to Bedford County (51019) to maintain consistent FIPS codes across datasets and years. For counties that changed names and FIPS codes, but not land area, the county data files harmonize USCS data to include only one record per geography per year (see also Section 3, Table 3). As such, it was necessary to recode USCS variable values as follows:

- For 2015 and 2016, data points for:
  - Wade Hampton Census Area, Alaska (02270) were re-assigned to Kusilvak Census Area, Alaska (02158)
  - Oglala Lakota County, South Dakota (46113) were re-assigned to Shannon County, South Dakota (46102)

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<sup>4</sup> U.S. Census Bureau. Changes to Counties or County Equivalent Entities: 2010s. Accessed 09/18/2020: <https://www.census.gov/programs-surveys/geography/technical-documentation/county-changes.2010.html>

*Suggested citation:* Centers for Disease Control and Prevention. (2020). *U.S. Cancer Statistics*. Retrieved April 24, 2020, from [https://www.cdc.gov/cancer/uscs/dataviz/download\\_data.htm](https://www.cdc.gov/cancer/uscs/dataviz/download_data.htm) .

**Resources**

Main: <https://www.cdc.gov/cancer/uscs/dataviz/index.htm>

Data: [https://www.cdc.gov/cancer/uscs/dataviz/download\\_data.htm](https://www.cdc.gov/cancer/uscs/dataviz/download_data.htm)

**Table 39. Variable definitions and specifications, USCS**

Variable name	Variable label	Original variable
USCS_AGE_ADJUSTED_RATE	Age-adjusted cancer incidence rate per 100,000 people in the county	AGE_ADJUSTED_RATE - Age-adjusted rate of cancer incidence per 100,000, where EVENT_TYPE = Incidence, RACE=All Races, SEX=Both, SITE=All Cancer Sites Combined
USCS_COUNT	Total cancer incidence	COUNT - Count of cancer incidence, where EVENT_TYPE = Incidence, RACE=All Races, SEX=Both, SITE=All Cancer Sites Combined

**Table 40. Variable availability across years, USCS**

Variable name	Variable label	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
USCS_AGE_ADJUSTED_RATE	Age-adjusted cancer incidence rate per 100,000 people in the county							X	X	X	
USCS_COUNT	Total cancer incidence							X	X	X	