

# VA EDH Data Curation Documentation – FY21, Rev. 2



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Computational Sciences & Engineering Division

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## CHANGE HISTORY

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2	1. A co-author's last name has been corrected from 'Brandstetter' to 'Branstetter'.	Hilda B. Klasky	July, 2022

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## **1. INTRODUCTION**

The health and well-being of the Nation's men and women who have served in uniform is the highest priority for the U.S. Department of Veterans Affairs (VA). VA is committed to providing timely access to high-quality, recovery-oriented, evidence-based mental health care that anticipates and responds to Veterans' needs and supports the reintegration of returning Service members into their communities. VA is working to eliminate suicide among all Veterans by developing and implementing innovative suicide prevention approaches and resources.

Health outcomes, such as suicide are typically modeled as a function of genetics and environment, where environment refers to factors beyond medical, e.g., air quality, access to transportation and food, homelessness status, etc. Mental health outcomes for each individual are considered to be associated with multiple stressors that fall under a variety of categories – socioeconomic, economic, physical environment. Understanding the relationships between these stressors, covariates and health outcomes, requires curated, standardized data that can be input into the VA's Recovery Engagement and Coordination for Health – Veterans Enhanced Treatment (REACH VET) or other health outcomes model. Environmental Determinants of Health (EDH) as defined by the World Health Organization (WHO) is clean air, stable climate, adequate water, sanitation and hygiene, safe use of chemicals, protection from radiation, healthy and safe workplaces, sound agricultural practices, health-supportive cities and built environments, and a preserved nature are all prerequisites for good health.

### **1.1 BACKGROUND**

With funding from the VA Office of Mental Health and Suicide Prevention, the EDH project has developed novel datasets associated with select health outcomes, a methodology for converting spatiotemporal data from one spatial reference (such as a 1km grid) to another (such as US Census Tracts), and health outcomes modeling capabilities. The datasets are an advancement to the AHRQ SDoH covariates as key gaps are addressed, a finer spatial resolution (Census Tract), and environmental covariates are included.

The process of curating and standardizing these datasets is non-trivial, as they are often measured at different spatial and temporal resolutions and have different spatial and temporal granularities. For example, the US Census data products typically use census blocks, block groups, or counties, whereas air pollutants from the EPA and weather data are available on 1km grids, and some economic data may be available only at a zip code level. In this context, standardized refers to the datasets all being at the same scale of spatial extent (e.g., US Census Tract and/or County), and curated refers both to a process that is repeatable, has data provenance, and which uses appropriate methodologies for converting covariates.

The data contained in the EDH dataset 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.

## **2. DOCUMENTATION OVERVIEW**

### **2.1 DATA SOURCE DOCUMENTATION REPORT**

This data source documentation report contains information for researchers about the structure and contents of the datasets 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 (name of the organization that provided the raw data, 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 EDH datasets
  - Lists the SDOH domains to which the data source has contributed variables
  - Includes additional information about the data source relevant to the EDH dataset
- Resources (links to original data source documentation, data download sites, and other relevant information)
- EDH 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 EDH dataset)
- EDH variable availability across years (in tabular format)
  - Variable name
  - Variable label
  - Data year availability (e.g. 2009–2018)

## 2.2 CONTENTS AND STRUCTURE OF THE EDH DATASET

The data presented in the EDH datasets were derived from several publicly available data sources. Table 1 lists each of the data sources, the granularity, and years. More detailed information about each data source is included in the following sections of this report.

The datasets are an advancement to the AHRQ SDoH covariates as key gaps are addressed, a finer spatial resolution (Census Tract), and environmental covariates are included. The data contained in the EDH dataset were drawn from multiple sources, and variables may have differing degrees of availability, patterns of missing data, and methodological considerations across sources, geographies, and years. A partial list of datasets created in FY21 is shown in Table 1. In Table 1, types are: ED = Economic Distress, SCC = Social Capital and Connectedness, LMA = Lethal Means Access, HQA = Healthcare Quality and Access.

**Table 1. EDH FY 2021 Datasets.**

Type	Dataset	Years	Source
ED	American Community Survey Income Inequality Measures based on Income to Poverty Ratio and Household Income Quantiles	2015 - 2019	US Census Bureau
ED	Local Area Unemployment Statistics.	01/2010 - 06/2021	Bureau of Labor Statistics
ED	Quarterly Census of Employment and Wages.	Q1/2016 - Q4/2020	Bureau of Labor Statistics
ED	Veteran Segments by Vulnerability and Disability Levels	2014-2019	UrbanPop Veterans (Derived from US Census Bureau)
ED	Individual-Oriented Social Vulnerability Index	2015 - 2019	UrbanPop (Derived from US Census Bureau)

SCC	Social Capital Index	2000-2020	ORNL Updated Version of Rupasingha et al [2]; multiple data sources
LMA	National Instant Criminal Background Check System (NICS)	1998 -2021	Federal Bureau of Investigation
HQA	Healthcare Quality and Access; Provider Availability	2014-2019	Centers for Medicare & Medicaid Services (CMS), Health Resource & Services Administration (HRSA)

The data presented in the SDH datasets were derived from publicly available data sources.

### 2.2.1 Dataset overviews

Variables in the EDH Dataset were created from the data sources included herein in one of two ways:

1. Drawn directly from the original data source.
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.

### 2.2.2 Conventions

The following conventions were followed in constructing the EDH Datasets 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 when specified, all variables are as in the data source.
- **Missing values.** The datasets use a blank or 'N/A' 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.

## 3. CONTENTS AND STRUCTURE

In this document, we provide the following information for each dataset:

- **Name:** the name of data set. e.g., American Community Survey.
- **Sponsor:** e.g., Health Resources and Services Administration.
- **Description:** Brief, general description of the data.
- **Inclusion:** Areas of coverage. Data precision. Data construction details. Other important notes about the data.
- **Resource:** URLs or locations to find the raw data of the data
- **Variable Definitions Table:** Table for variable definitions.
- **Variable Availability Table:** Table for variable availabilities.

### 3.1 RECOMMENDED CITATION FOR THIS DATASET PACKAGE

Christian, J.B., Branstetter, M, Klasky, H.B., Tuccillo, J., Sparks, K., Rastogi, D., Watson, R., Yoon, H-J., Kim, Y., *VA EDH Data Curation Documentation - FY 2021, ORNL/SPR-2021/2366 - Pub ID 170648*. May 2021.

## 4. AMERICAN COMMUNITY SURVEY INCOME INEQUALITY MEASURES BASED ON INCOME TO POVERTY RATIO BY CENSUS BLOCK GROUP

### 4.1 SPONSOR

United States Census Bureau

### 4.2 DESCRIPTION

Income inequality measures and descriptive statistics based on the income to poverty ratio (IPR) for the last 12 months, including the Gini index, majority IPR class, and population shares by IPR class. Contrasted with the American Community Survey's default (quintile-based) representation of income inequality, the IPR is adjusted for differences in living arrangement status (i.e., families with children, couple households, non-family/living alone).

### 4.3 INCLUSION

Data was acquired from the American Community Survey 2015 - 2019 5-year Summary File and is available for all populated census block groups in the United States, including Puerto Rico. Population share by IPR class were computed by normalizing count estimates by the total population for whom poverty status is determined (all adults not in group quarters living arrangements and all related children based on householder income). The Gini index and majority IPR class were computed based on shares of each IPR class.

### 4.4 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/?#)

(<https://www.census.gov/topics/income-poverty/income-inequality/data/data-tables/acs-data->

tables.html)[<https://www.census.gov/topics/income-poverty/income-inequality/data/data-tables/acs-data-tables.html>]

**Measurement of Poverty Status:**

(<https://www.census.gov/topics/income-poverty/poverty/about.html>)[<https://www.census.gov/topics/income-poverty/poverty/about.html>]

**Table 2. American Community Survey Income Inequality Measures based on Income to Poverty Ratio by Census Block Group (INCOME\_INEQUALITY\_IPR\_BG )**

variable name	variable label	source table
geoid	US Census Block Group FIPS code	C17021: Ratio of Income to Poverty Level in the Past 12 Months
gini	Gini index of income inequality	C17021: Ratio of Income to Poverty Level in the Past 12 Months
maj	Majority income to poverty ratio class	C17021: Ratio of Income to Poverty Level in the Past 12 Months
incpov_L50	Share of population with income less than 50% of poverty threshold	C17021: Ratio of Income to Poverty Level in the Past 12 Months
incpov_50_99	Share of population with income 50% - 99% of poverty threshold	C17021: Ratio of Income to Poverty Level in the Past 12 Months
incpov_100_124	Share of population with income 100% - 124% of poverty threshold	C17021: Ratio of Income to Poverty Level in the Past 12 Months
incpov_125_149	Share of population with income 125% - 149% of poverty threshold	C17021: Ratio of Income to Poverty Level in the Past 12 Months
incpov_150_184	Share of population with income 150% - 184% of poverty threshold	C17021: Ratio of Income to Poverty Level in the Past 12 Months
incpov_185_199	Share of population with income 185% - 199% of poverty threshold	C17021: Ratio of Income to Poverty Level in the Past 12 Months
incpov_GE200	Share of population with income 200% of poverty threshold or greater	C17021: Ratio of Income to Poverty Level in the Past 12 Months

**Table 3. Variable availability across years, INCOME\_INEQUALITY\_IPR\_BG**

variable name	variable label	2015 - 2019	source table
geoid	US Census Block Group FIPS code	X	C17021: Ratio of Income to Poverty Level in the Past 12 Months
gini	Gini index of income inequality	X	C17021: Ratio of Income to Poverty Level in the Past 12 Months
maj	Majority income to poverty ratio class	X	C17021: Ratio of Income to Poverty Level in the Past 12 Months
incpov_L50	Share of population with income less than 50% of poverty threshold	X	C17021: Ratio of Income to Poverty Level in the Past 12 Months
incpov_50_99	Share of population with income 50% - 99% of poverty threshold	X	C17021: Ratio of Income to Poverty Level in the Past 12 Months
incpov_100_124	Share of population with income 100% - 124% of poverty threshold	X	C17021: Ratio of Income to Poverty Level in the Past 12 Months
incpov_125_149	Share of population with income 125% - 149% of poverty threshold	X	C17021: Ratio of Income to Poverty Level in the Past 12 Months
incpov_150_184	Share of population with income 150% - 184% of poverty threshold	X	C17021: Ratio of Income to Poverty Level in the Past 12 Months
incpov_185_199	Share of population with income 185% - 199% of poverty threshold	X	C17021: Ratio of Income to Poverty Level in the Past 12 Months
incpov_GE200	Share of population with income 200% of poverty threshold or greater	X	C17021: Ratio of Income to Poverty Level in the Past 12 Months

## 5. AMERICAN COMMUNITY SURVEY INCOME INEQUALITY MEASURES BASED ON INCOME TO POVERTY RATIO, CENSUS TRACTS

### 5.1 SPONSOR

United States Census Bureau

### 5.2 DESCRIPTION

Income inequality measures and descriptive statistics based on the income to poverty ratio (IPR) for the last 12 months, including the Gini index, majority IPR class, and population shares by IPR class. Contrasted with the American Community Survey's default (quintile-based) representation of income inequality, the IPR is adjusted for differences in living arrangement status (i.e., families with children, couple households, non-family/living alone).

### 5.3 INCLUSION

Data was acquired from the American Community Survey 2015 - 2019 5-year Summary File and is available for all populated census tracts in the United States, including Puerto Rico. Population share by IPR class were computed by normalizing count estimates by the total population for whom poverty status is determined (all adults not in group quarters living arrangements and all related children based on householder income). The Gini index and majority IPR class were computed based on shares of each IPR class.

### 5.4 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/?#), <https://www.census.gov/topics/income-poverty/income-inequality/data/data-tables/acs-data-tables.html>

**Measurement of Poverty Status:** <https://www.census.gov/topics/income-poverty/poverty/about.html>

**Table 4. American Community Survey Income Inequality Measures based on Income to Poverty Ratio, Census Tracts (INCOME\_INEQUALITY\_IPR\_TRT)**

variable name	variable label	source table
geoid	US Census Tract FIPS code	C17021: Ratio of Income to Poverty Level in the Past 12 Months
gini	Gini index of income inequality	C17021: Ratio of Income to Poverty Level in the Past 12 Months
maj	Majority income to poverty ratio class	C17021: Ratio of Income to Poverty Level in the Past 12 Months
incpov_L50	Share of population with income less than 50% of poverty threshold	C17021: Ratio of Income to Poverty Level in the Past 12 Months
incpov_50_99	Share of population with income 50% - 99% of poverty threshold	C17021: Ratio of Income to Poverty Level in the Past 12 Months
incpov_100_124	Share of population with income 100% - 124% of poverty threshold	C17021: Ratio of Income to Poverty Level in the Past 12 Months

incpov_125_149	Share of population with income 125% - 149% of poverty threshold	C17021: Ratio of Income to Poverty Level in the Past 12 Months
incpov_150_184	Share of population with income 150% - 184% of poverty threshold	C17021: Ratio of Income to Poverty Level in the Past 12 Months
incpov_185_199	Share of population with income 185% - 199% of poverty threshold	C17021: Ratio of Income to Poverty Level in the Past 12 Months
incpov_GE200	Share of population with income 200% of poverty threshold or greater	C17021: Ratio of Income to Poverty Level in the Past 12 Months

**Table 5. Variable availability across years, INCOME\_INEQUALITY\_IPR\_TRT**

variable name	variable label	2015 - 2019	source table
geoid	US Census Block Group FIPS code	X	C17021: Ratio of Income to Poverty Level in the Past 12 Months
gini	Gini index of income inequality	X	C17021: Ratio of Income to Poverty Level in the Past 12
maj	Majority income to poverty ratio class	X	C17021: Ratio of Income to Poverty Level in the Past 12 Months
incpov_L50	Share of population with income less than 50% of poverty threshold	X	C17021: Ratio of Income to Poverty Level in the Past 12 Months
incpov_50_99	Share of population with income 50% - 99% of poverty threshold	X	C17021: Ratio of Income to Poverty Level in the Past 12 Months
incpov_100_124	Share of population with income 100% - 124% of poverty threshold	X	C17021: Ratio of Income to Poverty Level in the Past 12 Months
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incpov_185_199	Share of population with income 185% - 199% of poverty threshold	X	C17021: Ratio of Income to Poverty Level in the Past 12 Months
incpov_GE200	Share of population with income 200% of poverty threshold or greater	X	C17021: Ratio of Income to Poverty Level in the Past 12 Months

## **6. AMERICAN COMMUNITY SURVEY INCOME INEQUALITY MEASURES BASED ON HOUSEHOLD INCOME QUINTILES**

### **6.1 SPONSOR**

United States Census Bureau

### **6.2 DESCRIPTION**

Income inequality measures and descriptive statistics based on household income quintiles, including the Gini index (<https://www.census.gov/topics/income-poverty/income-inequality/about/metrics/gini-index.html>), upper quintile limits, mean income of quintiles, and shares of aggregate income by quintile.

### **6.3 INCLUSION**

Data was acquired from the American Community Survey 2015 - 2019 5-year Summary File and is available for all populated census tracts in the United States, including Puerto Rico.

## 6.4 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/?#), <https://www.census.gov/topics/income-poverty/income-inequality/data/data-tables/acs-data-tables.html>

**Table 6. American Community Survey Income Inequality Measures based on Household Income Quintiles ( INCOME\_INEQUALITY\_QUINTILES )**

variable name	variable label	source table
geoid	US Census Tract FIPS code	NA
uql_lowest	Upper quintile limit of income for lowest (first) quintile.	B19080: Household Income Upper Quintile Limits
uql_second	Upper quintile limit of income for second quintile.	B19080: Household Income Upper Quintile Limits
uql_third	Upper quintile limit of income for third quintile.	B19080: Household Income Upper Quintile Limits
uql_fourth	Upper quintile limit of income for fourth quintile.	B19080: Household Income Upper Quintile Limits
uql_1lt5	Lower limit of top 5 percent of household incomes.	B19080: Household Income Upper Quintile Limits
miq_lowest	Mean household income of quintiles - lowest (first)	B19081: Mean Household Income of Quintiles
miq_second	Mean household income of quintiles - second	B19081: Mean Household Income of Quintiles
miq_third	Mean household income of quintiles - third	B19081: Mean Household Income of Quintiles
miq_fourth	Mean household income of quintiles - fourth	B19081: Mean Household Income of Quintiles
miq_highest	Mean household income of quintiles - highest (fifth)	B19081: Mean Household Income of Quintiles
miq_top5	Mean household income of top 5 percent of households	B19081: Mean Household Income of Quintiles
qagg_lowest	Share of aggregate household income in lowest quintile (first)	B19802: Shares of Aggregate Household Income by Quintile
qagg_second	Share of aggregate household income in second quintile	B19802: Shares of Aggregate Household Income by Quintile
qagg_third	Share of aggregate household income in third quintile	B19802: Shares of Aggregate Household Income by Quintile
qagg_fourth	Share of aggregate household income in fourth quintile	B19802: Shares of Aggregate Household Income by Quintile
qagg_highest	Share of aggregate household income in highest quintile (fifth)	B19802: Shares of Aggregate Household Income by Quintile
qagg_top5	Share of aggregate income in top 5 percent of households by income	B19802: Shares of Aggregate Household Income by Quintile
gini	Gini index of income inequality	B19083: Gini Index of Income Inequality

**Table 7. Variable availability across years, INCOME\_INEQUALITY\_QUINTILES**

variable name	variable label	2019	source table
geoid	US Census Tract FIPS code	X	NA
uql_lowest	Upper quintile limit of income for lowest (first)	X	B19080: Household Income Upper



	quintile.		Quintile Limits
uql_second	Upper quintile limit of income for second quintile.	X	B19080: Household Income Upper Quintile Limits
uql_third	Upper quintile limit of income for third quintile.	X	B19080: Household Income Upper Quintile Limits
uql_fourth	Upper quintile limit of income for fourth quintile.	X	B19080: Household Income Upper Quintile Limits
uql_1lt5	Lower limit of top 5 percent of household incomes.	X	B19080: Household Income Upper Quintile Limits
miq_lowest	Mean household income of quintiles - lowest (first)	X	B19081: Mean Household Income of Quintiles
miq_second	Mean household income of quintiles - second	X	B19081: Mean Household Income of Quintiles
miq_third	Mean household income of quintiles - third	X	B19081: Mean Household Income of Quintiles
miq_fourth	Mean household income of quintiles - fourth	X	B19081: Mean Household Income of Quintiles
miq_highest	Mean household income of quintiles - highest (fifth)	X	B19081: Mean Household Income of Quintiles
miq_top5	Mean household income of top 5 percent of households	X	B19081: Mean Household Income of Quintiles
qagg_lowest	Share of aggregate household income in lowest quintile (first)	X	B19802: Shares of Aggregate Household Income by Quintile
qagg_second	Share of aggregate household income in second quintile	X	B19802: Shares of Aggregate Household Income by Quintile
qagg_third	Share of aggregate household income in third quintile	X	B19802: Shares of Aggregate Household Income by Quintile
qagg_fourth	Share of aggregate household income in fourth quintile	X	B19802: Shares of Aggregate Household Income by Quintile
qagg_highest	Share of aggregate household income in highest quintile (fifth)	X	B19802: Shares of Aggregate Household Income by Quintile
qagg_top5	Share of aggregate income in top 5 percent of households by income	X	B19802: Shares of Aggregate Household Income by Quintile
gini	Gini index of income inequality	X	B19083: Gini Index of Income Inequality

## 7. LOCAL AREA UNEMPLOYMENT STATISTICS

### 7.1 SPONSOR

Bureau of Labor Statistics

### 7.2 DESCRIPTION

Seasonally-adjusted monthly unemployment statistics for United States counties.

### 7.3 INCLUSION

This dataset includes monthly unemployment statistics for county residents in the labor force, for the period of record 01/2010 - 06/2021.

Unemployment statistics are available for all United States counties, excluding Puerto Rico and United States territories.

Unemployment rates without seasonal adjustment were extracted using an R wrapper for the BLS API (blsAPI). A secondary R package (blsq) was used to support batch API requests, as well as perform seasonal adjustment upon ingest.

## 7.4 RESOURCES

Bureau of Labor Statistics:

**Main:** <https://www.bls.gov/lau/> R API wrapper: <https://github.com/mikeasilva/blsAPI>

**Table 8. Local Area Unemployment Statistics ( LAU )**

variable name	variable label
geoid	County FIPS code.
year	Year of record.
period	Index of month of record.
periodName	Name of month of record.
latest	Flag for the most current (latest) month of record.
value	Raw (unadjusted) unemployment rate.
footnotes	BLS notes on data production.
date	Date of record (yyyy-mm-dd).
sadj	Seasonally-adjusted unemployment rate.

**Table 9. Variable availability across years, LAU**

variable name	variable label	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
geoid	County FIPS code.	X	X	X	X	X	X	X	X	X	X	X	X*
year	Year of record.	X	X	X	X	X	X	X	X	X	X	X	X*
period	Index of month of record.	X	X	X	X	X	X	X	X	X	X	X	X*
periodName	Name of month of record.	X	X	X	X	X	X	X	X	X	X	X	X*
latest	Flag for the most current (latest) month of record.	X	X	X	X	X	X	X	X	X	X	X	X*
value	Raw (unadjusted) unemployment rate.	X	X	X	X	X	X	X	X	X	X	X	X*
footnotes	BLS notes on data production.	X	X	X	X	X	X	X	X	X	X	X	X*
date	Date of record (yyyy-mm-dd).	X	X	X	X	X	X	X	X	X	X	X	X*
sadj	Seasonally-adjusted unemployment rate.	X	X	X	X	X	X	X	X	X	X	X	X*

\* Available through June 2021.

## 8. QUARTERLY CENSUS OF EMPLOYMENT AND WAGES

### 8.1 SPONSOR

Bureau of Labor Statistics

### 8.2 DESCRIPTION

Quarterly establishment and wage statistics for United States counties.

### 8.3 INCLUSION

This dataset includes establishment, employment, and wage statistics for workers in United States counties by fiscal quarter for the period of record Q1 2016 - Q4 2020. Employment levels are also disaggregated by month. These statistics are pooled across all industry (NAICS) sectors.

Statistics are available for all United States counties, including Puerto Rico and U.S. territories.

QCEW tables from 2016 - 2020 were gathered and assembled using an R wrapper for the BLS API (blsAPI). The blsq package may be used to perform seasonal adjustment on the QCEW statistics.

### 8.4 RESOURCES

Bureau of Labor Statistics:

**Main:** <https://www.bls.gov/cew> R API wrapper: <https://github.com/mikeasilva/blsAPI>

**Table 10. Quarterly Census of Employment and Wages ( QCEW )**

	variable name	variable label	Temporal resolution
1.	geoid	County FIPS code.	NA
2.	date	Initial date of fiscal quarter (yyyy-mm-dd).	Month
3.	month1_emplvl	Monthly total employees, month 1 of fiscal quarter.	Month
4.	month2_emplvl	Monthly total employees, month 2 of fiscal quarter.	Month
5.	month3_emplvl	Monthly total employees, month 3 of fiscal quarter.	Month
6.	total_qtrly_wages	Total (gross) quarterly wages.	Quarter
7.	taxable_qtrly_wages	Taxable quarterly wages.	Quarter
8.	qtrly_contributions	Quarterly contributions.	Quarter
9.	avg_wkly_wage	Average weekly wage.	Quarter
10.	oty_disclosure_code	Disclosure code for over the year change estimates.	NA
11.	oty_month1_emplvl_chg	Over the year change in monthly total employees, month 1 of fiscal quarter.	Month
12.	oty_month1_emplvl_pct_chg	Over the year percentage change in monthly total employees, month 1 of fiscal quarter.	Month
13.	oty_month2_emplvl_chg	Over the year change in monthly total employees, month 2 of fiscal quarter.	Month
14.	oty_month2_emplvl_pct_chg	Over the year percentage change in monthly total employees, month 2 of fiscal quarter.	Month
15.	oty_month3_emplvl_chg	Over the year change in monthly total employees, month 3 of fiscal quarter.	Month
16.	oty_month3_emplvl_pct_chg	Over the year percentage change in monthly total employees, month 3 of fiscal quarter.	Month

17.	oty_total_qtrly_wages_chg	Over the year change in total (gross) quarterly wages.	Quarter
18.	oty_total_qtrly_wages_pct_chg,	Over the year percentage change in total (gross) quarterly wages.	Quarter
19.	oty_taxable_qtrly_wages_chg	Over the year percentage change in total (gross) quarterly wages.	Quarter
20.	oty_taxable_qtrly_wages_pct_chg,	Over the year percentage change in taxable quarterly wages.	Quarter
21.	oty_qtrly_contributions_chg	Over the year change in quarterly contributions.	Quarter
22.	oty_qtrly_contributions_pct_chg,	Over the year percentage change in quarterly contributions.	Quarter
23.	oty_avg_wkly_wage_chg	Over the year change in average weekly wage.	Quarter
24.	oty_avg_wkly_wage_pct_chg,	Over the year percentage change in average weekly wage.	Quarter

**Table 11. Variable availability across years, QCEW**

	variable name	variable label	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
1.	geoid	County FIPS code.	X	X	X	X	X	X	X	X	X	X	X	X*
2.	date	Initial date of fiscal quarter (yyyy-mm-dd).	X	X	X	X	X	X	X	X	X	X	X	X*
3.	month1_emplvl	Monthly total employees, month 1 of fiscal quarter.	X	X	X	X	X	X	X	X	X	X	X	X*
4.	month2_emplvl	Monthly total employees, month 2 of fiscal quarter.	X	X	X	X	X	X	X	X	X	X	X	X*
5.	month3_emplvl	Monthly total employees, month 3 of fiscal quarter.	X	X	X	X	X	X	X	X	X	X	X	X*
6.	total_qtrly_wages	Total (gross) quarterly wages.	X	X	X	X	X	X	X	X	X	X	X	X*
7.	taxable_qtrly_wages	Taxable quarterly wages.	X	X	X	X	X	X	X	X	X	X	X	X*
8.	qtrly_contributions	Quarterly contributions.	X	X	X	X	X	X	X	X	X	X	X	X*
9.	avg_wkly_wage	Average weekly wage.	X	X	X	X	X	X	X	X	X	X	X	X*
10.	oty_disclosure_code	Disclosure code for over the year change estimates.	X	X	X	X	X	X	X	X	X	X	X	X*
11.	oty_month1_emplvl_chg	Over the year change in monthly total employees.	X	X	X	X	X	X	X	X	X	X	X	X*

		month 1 of fiscal quarter.												
12.	oty_month1_emplvl_pct_chg	Over the year percentage change in monthly total employees, month 1 of fiscal quarter.	X	X	X	X	X	X	X	X	X	X	X	X*
13.	oty_month2_emplvl_chg	Over the year change in monthly total employees, month 2 of fiscal quarter.	X	X	X	X	X	X	X	X	X	X	X	X*
14.	oty_month2_emplvl_pct_chg	Over the year percentage change in monthly total employees, month 2 of fiscal quarter.	X	X	X	X	X	X	X	X	X	X	X	X*
15.	oty_month3_emplvl_chg	Over the year change in monthly total employees, month 3 of fiscal quarter.	X	X	X	X	X	X	X	X	X	X	X	X*
16.	oty_month3_emplvl_pct_chg	Over the year percentage change in monthly total employees, month 3 of fiscal quarter.	X	X	X	X	X	X	X	X	X	X	X	X*
17.	oty_total_qtrly_wages_chg	Over the year change in total (gross) quarterly wages.	X	X	X	X	X	X	X	X	X	X	X	X*
18.	oty_total_qtrly_wages_pct_chg,	Over the year percentage change in	X	X	X	X	X	X	X	X	X	X	X	X*

		total (gross) quarterly wages.												
19.	oty_taxable_qtrly_wages_ch g	Over the year percentage change in total (gross) quarterly wages.	X	X	X	X	X	X	X	X	X	X	X	X*
20.	oty_taxable_qtrly_wages_pct _chg,	Over the year percentage change in taxable quarterly wages.	X	X	X	X	X	X	X	X	X	X	X	X*
21.	oty_qtrly_contributions_chg	Over the year change in quarterly contributions.	X	X	X	X	X	X	X	X	X	X	X	X*
22.	oty_qtrly_contributions_pct chg,	Over the year percentage change in quarterly contributions.	X	X	X	X	X	X	X	X	X	X	X	X*
23.	oty_avg_wkly_wage_chg	Over the year change in average weekly wage.	X	X	X	X	X	X	X	X	X	X	X	X*
24.	oty_avg_wkly_wage_pct_ch g,	Over the year percentage change in average weekly wage.	X	X	X	X	X	X	X	X	X	X	X	X*

\* Available through Q2 2021.

## **9. HEALTHCARE QUALITY AND ACCESS**

### **9.1 SPONSOR**

Centers for Medicare & Medicaid Services (CMS), Health Resource & Services Administration (HRSA)

### **9.2 DESCRIPTION**

CMS provides health coverage to more than 100 million people through Medicare, Medicaid, the Children's Health Insurance Program, and the Health Insurance Marketplace. HRSA programs provide health care to people who are geographically isolated, economically or medically vulnerable. This includes people living with HIV/AIDS, pregnant women, mothers and their families, and those otherwise unable to access high quality health care. HRSA also supports access to health care in rural areas, the training of health professionals, the distribution of providers to areas where they are needed most, and improvements in health care delivery.

### **9.3 INCLUSION**

The data include:

- 1) Medicare disparities: quality of care, cost of care, hospital metrics and performance scores
- 2) Market Saturation and Utilization: number of fee-for-service beneficiaries, number of providers, average number of users per provider etc.
- 3) Health Professional shortage areas: primary care, dental health and mental health
- 4) Medically Underserved Areas/Populations

### **9.4 RESOURCES**

For more information on the health care quality and access:

#### **Main:**

<https://data.hrsa.gov/data/about> <https://data.cms.gov/>

#### **Data:**

<https://data.hrsa.gov/topics/health-workforce/shortage-areas> <https://data.hrsa.gov/topics/health-workforce/shortage-areas?tab=muapHeader> <https://data.cms.gov/tools/mapping-medicare-disparities-by-hospital>

<https://data.cms.gov/summary-statistics-on-use-and-payments/program-integrity-market-saturation-by-type-of-service/market-saturation-utilization-state-county>



**Table 12. Healthcare Quality and Access ( HQA )**

variable name	variable label	domain	data
H_CLEAN_STAR_RATING	Cleanliness - star rating	Patient Experience	Mapping Medicare Disparities by Hospital
H_COMP_1_STAR_RATING	Nurse communication - star rating	Patient Experience	Mapping Medicare Disparities by Hospital
H_COMP_2_STAR_RATING	Doctor communication - star rating	Patient Experience	Mapping Medicare Disparities by Hospital
H_COMP_3_STAR_RATING	Staff responsiveness - star rating	Patient Experience	Mapping Medicare Disparities by Hospital
H_COMP_5_STAR_RATING	Communication about medicines - star rating	Patient Experience	Mapping Medicare Disparities by Hospital
H_COMP_6_STAR_RATING	Discharge information - star rating	Patient Experience	Mapping Medicare Disparities by Hospital
H_COMP_7_STAR_RATING	Care transition - star rating	Patient Experience	Mapping Medicare Disparities by Hospital
H_HSP_RATING_STAR_RATING	Overall hospital rating - star rating	Patient Experience	Mapping Medicare Disparities by Hospital
H_QUIET_STAR_RATING	Quietness - star rating	Patient Experience	Mapping Medicare Disparities by Hospital
H_RECMND_STAR_RATING	Recommend hospital - star rating	Patient Experience	Mapping Medicare Disparities by Hospital
H_STAR_RATING	Summary star rating	Patient Experience	Mapping Medicare Disparities by Hospital
Number of Fee-for-Service Beneficiaries	Number of Fee-for-Service Beneficiaries	Access Care	Market Saturation and Utilization
Number of Providers	Number of Providers	Access Care	Market Saturation and Utilization
Average Number of Users per Provider	Average Number of Users per Provider	Access Care	Market Saturation and Utilization
Average Number of Providers per County	Average Number of Providers per County	Access Care	Market Saturation and Utilization

**Table 13. Variable availability across years, HQA**

variable name	2014	2015	2016	2017	2018	2019
Number of Fee-for-Service Beneficiaries	X	X	X	X	X	X
Number of Providers	X	X	X	X	X	X
Average Number of Users per Provider	X	X	X	X	X	X
Average Number of Providers per County	X	X	X	X	X	X

## 10. INDIVIDUAL-ORIENTED SOCIAL VULNERABILITY INDEX, CENSUS BLOCK GROUPS

### 10.1 SPONSOR

United States Census Bureau

## 10.2 DESCRIPTION

Our team at ORNL computed an individually-oriented social vulnerability index (IOSVI) adapted from the Centers for Disease Control and Prevention (CDC) SVI. Contrasted with the CDC SVI, IOSVI takes a bottom-up approach, first by computing an individual vulnerability index (IVI) from the American Community Survey's (ACS) Public-Use Microdata Sample (PUMS), then computing the SVI based on aggregate IVI characteristics at the census block group level (social areas of roughly 600 - 3000 people) to compute the SVI. Block group-level IVI estimates were generated using synthetic populations produced from the American Community Survey and Public-Use Microdata Sample via the UrbanPop project at Oak Ridge National Laboratory.

## 10.3 INCLUSION

IOSVI was computed on the pooled PUMS sample from the ACS 2015 - 2019 5-Year Estimates for all Public-Use Microdata Areas (PUMAs) in the United States and Puerto Rico.

IVI was constructed from the PUMS by 1) separating vulnerability indicators at the census tract level into four thematic domains used to compute the CDC SVI (Socioeconomic Status, Household Composition and Disability, Minority Status and Language, Housing Type and Transportation); 2) tabulating the number of vulnerability indicators describing every unique person-level record in the pooled PUMS for the United States; 3) standardizing the indicator counts by domain with percentile ranking (to control for uneven numbers of indicators per domain); 4) combining the domain scores into a final index based on the mean for each individual profile.

Modifications of the CDC vulnerability indicators for IVI included A) removing per-capita income, an area-level variable; B) expanding single-parent households to include any single-adult guardian relationship; C) expanding limited English ability to include any member of a linguistically-isolated household according to the PUMS.

SVI was constructed by 1) linking the IVI scores for unique individual profiles back to each PUMS response 2) joining IVI scores to UrbanPop block group-level synthetic population estimates based on PUMS household serial number and person order 3) for each block group, computing the cumulative proportion of the population at each unique IVI level in ascending order 4) computing SVI as the difference in area under curve (AUC) between a) the cumulative distribution of a hypothetical population consisting entirely of people with IVI = 0 and b) the estimated cumulative distribution of IVI scores. For each block group, the final SVI is a Monte Carlo estimate (average) of indices across 30 realizations of the synthetic population produced by UrbanPop.

Using the IOSVI approach, it is possible to compute a "high-low" index break based on the observed cumulative distribution of IVI scores for the entire United States. In this case, the break value occurs at SVI ~ 0.51.

## 10.4 RESOURCES

**American Community Survey:** <https://www.census.gov/programs-surveys/acs>

**UrbanPop:** <https://acsdatacommunity.prb.org/m/2021-acs-conference-files/161/> CDC Social

**Vulnerability Index:**

[https://www.atsdr.cdc.gov/placeandhealth/svi/documentation/SVI\\_documentation\\_2018.html](https://www.atsdr.cdc.gov/placeandhealth/svi/documentation/SVI_documentation_2018.html)

**Table 14. Individual-Oriented Social Vulnerability Index, Census Block Groups ( IOSVI\_BG )**

variable name	variable label
geoid	Block Group FIPS code.
svi	Social Vulnerability Index score.

**Table 15. Variable availability across years, IOSVI\_BG**

variable name	variable label	2019
geoid	Block Group FIPS code.	X
svi	Social Vulnerability Index score.	X

## **11. INDIVIDUAL-ORIENTED SOCIAL VULNERABILITY INDEX, CENSUS TRACTS**

### **11.1 SPONSOR**

United States Census Bureau

### **11.2 DESCRIPTION**

Our team at ORNL computed an individually-oriented social vulnerability index (IOSVI) adapted from the Centers for Disease Control and Prevention (CDC) SVI. Contrasted with the CDC SVI, IOSVI takes a bottom-up approach, first by computing an individual vulnerability index (IVI) from the American Community Survey's (ACS) Public-Use Microdata Sample (PUMS), then computing the SVI based on aggregate IVI characteristics at the census tract level (social areas of roughly 1200 - 8000 people) to compute the SVI. Block group-level IVI estimates were generated using synthetic populations produced from the American Community Survey and Public-Use Microdata Sample via the UrbanPop project at Oak Ridge National Laboratory.

### **11.3 INCLUSION**

IOSVI (see Section 10.3) was computed on the pooled PUMS sample from the ACS 2015 - 2019 5-Year Estimates for all Public-Use Microdata Areas (PUMAs) in the United States and Puerto Rico.

IVI was constructed from the PUMS by 1) separating vulnerability indicators into four thematic domains used to compute the CDC SVI (Socioeconomic Status, Household Composition and Disability, Minority Status and Language, Housing Type and Transportation) 2) tabulating vulnerability indicators for every unique individual profile in the PUMS 3) standardizing the indicator counts by domain with percentile ranking (to control for uneven numbers of indicators per domain) 4) combining the domain scores into a final index based on the mean for each individual profile.

Modifications of the CDC vulnerability indicators for IVI included A) removing per-capita income, an area-level variable; B) expanding single-parent households to include any single-adult guardian relationship;

C) expanding limited English ability to include any member of a linguistically-isolated household according to the PUMS.

SVI was constructed by 1) linking the IVI scores for unique individual profiles back to each PUMS response

2) joining IVI scores to UrbanPop tract-level synthetic population estimates based on PUMS household serial number and person order 3) for each tract, computing the cumulative proportion of the population at each unique IVI level in ascending order 4) computing SVI as the difference in area under curve (AUC) between a) the cumulative distribution of a hypothetical population consisting entirely of people with IVI = 0 and b) the estimated cumulative distribution of IVI scores. For each tract, the final SVI is a Monte Carlo estimate (average) of indices across 30 realizations of the synthetic population produced by UrbanPop.

Using the IOSVI approach, it is possible to compute a “high-low” index break based on the observed cumulative distribution of IVI scores for the entire United States. In this case, the break value occurs at SVI ~ 0.51.

## 11.4 RESOURCES

American Community Survey: <https://www.census.gov/programs-surveys/acs>

UrbanPop: <https://acsdatacommunity.prb.org/m/2021-acs-conference-files/161/> CDC Social Vulnerability

Index: [https://www.atsdr.cdc.gov/placeandhealth/svi/documentation/SVI\\_documentation\\_2018.html](https://www.atsdr.cdc.gov/placeandhealth/svi/documentation/SVI_documentation_2018.html)

**Table 16. Individual-Oriented Social Vulnerability Index, Census Tracts ( IOSVI\_TRT )**

variable name	variable label
geoid	Tract FIPS code.
svi	Social Vulnerability Index score.

**Table 17. Variable availability across years, IOSVI\_BG**

variable name	variable label	2019
geoid	Tract FIPS code.	X
svi	Social Vulnerability Index score.	X

## 12. NATIONAL INSTANT CRIMINAL BACKGROUND CHECK SYSTEM (NICS)

### 12.1 SPONSOR

Federal Bureau of Investigation

### 12.2 DESCRIPTION

Record of the number of permits and firearm transactions from 1998 to present by state and month.

## 12.3 INCLUSION

The numbers were aggregated by year.

## 12.4 RESOURCES

National Instant Criminal Background Check System (NICS):

<https://raw.githubusercontent.com/BuzzFeedNews/nics-firearm-background-checks/master/data/nics-firearm-background-checks.csv>

<https://www.fbi.gov/services/cjis/nics>

**Table 18. National Instant Criminal Background Check System (NICS)**

variable name	variable label
year	Year data collected.
state	State of residence of persons on which background checks are conducted.
permit	Number of permits approved.
handguns	Number of handgun transactions.
totals	Total number of firearm transactions, including handguns, long guns, private sales, returns to seller, firearm rentals.

**Table 19. Variable availability across years, NICS**

variable name	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
year	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
state	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
permit	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
handguns	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
totals	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X

## 13. USA NATIONAL TRANSPORTATION NOISE DATABASE 2018 NOISE COMBINED DATA FOR ROAD, AVIATION AND PASSENGER RAIL.

### 13.1 SPONSOR

National Transportation Noise Database

## 13.2 DESCRIPTION

This dataset is the USA 2018 noise data, combined file which includes passenger rail, plus road and aviation as well. It comes from the USA National Transportation Noise Database. Note that these data are raster files and are in an Esri geodatabase.

Also, note that the National Transportation Noise Map and associated data were developed for national level analysis and includes simplified noise modeling. It is intended for the tracking of trends and should not be used to evaluate noise levels in individual locations and/or at specific times. There are potential differences in the data sources and the complexity of the models used for noise modeling depending on type of analysis. The term “potential to be exposed” is used because there are several conservative assumptions that go into the analysis. If any one of those assumptions were to change, the noise exposure numbers could also change. For example, the documentation states “Shielding is not considered (i.e. attenuation due to barriers and terrain are not considered)”; for areas that have shielding, the noise levels may be overestimated. The average implies that sound levels could be both higher and lower, depending upon time of day, season of the year, etc. Additionally, sounds from transportation sources other than aviation and road (e.g. rail and maritime) as well as non-transportation sources are not considered. Sounds from things such as construction sites, rock quarries, power plants, etc., could dampen some of the transportation noise.

## 13.3 INCLUSION

The USA 2018 noise data split into 3 geographies (lower 48 states, HI, and AK)

## 13.4 RESOURCES

<https://www.arcgis.com/home/item.html?id=a4bc5afb6132423ab4432f1a84d9626f>

**Table 20. USA National Transportation Noise Database 2018 Noise combined data for road, aviation and passenger rail. ( NTAD )**

Note that these data are raster files and are in an Esri geodatabase.
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**Table 21. Variable availability across years, NTAD**

Note that these data are raster files and are in an Esri geodatabase.
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## 14. SOCIAL CAPITAL INDEX

### 14.1 SPONSOR

United States Department of Veterans Affairs

## 14.2 DESCRIPTION

Our team at ORNL produced a Social Capital Index for 2019 based on Rupasingha et al 2006 (<https://www.sciencedirect.com/science/article/abs/pii/S1053535705000971>), and an update to the Social Capital Index for the years 1997, 2005, 2009, and 2014. Social capital has had a powerful impact on the study of politics, policy, and social science at large. While the concept of social capital is valid universally, the measure of social capital varies by context. Much of what we know about the causes and effects of social capital, however, is limited by the nature of data used regularly by scholars working in this area. Principal Component Analysis is used to extract principal components from data variables and create a signal index that indicates the social capital. Data are used that represents relevant establishments, voter turnout, census response rates, and non-profit organizations. The implementation presented various challenges including missing and suppressed data and changing county names.

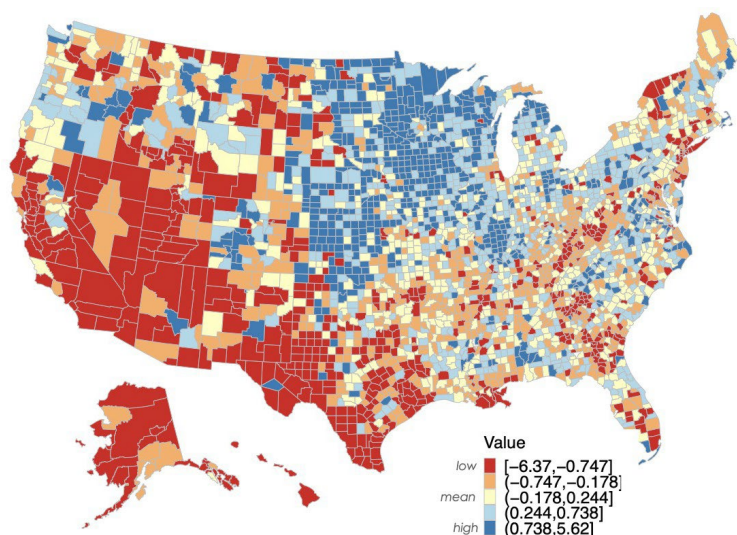


Figure 1. 2019 Social Capital Index

## 14.3 INCLUSION

**Geographic Unit:** county level (county FIPS codes) for the 48 continental US states plus Alaska and Hawaii. Index value: A single social capital index value for each county.

**Input Data:** Four factors used for the computation of the 2019 index. 1) Establishments per 10,000 population, 2) Voter turnout, 3) American Community Survey response rate, 4) Non-profit organizations per 10,000 population.

**Method:** The social capital index is created using principal component analysis using the above four factors. The four factors are standardized to have a mean of zero and a standard deviation of one, and the first principal component is considered as the index of social capital.

When county level data were not available, state averages were used for the following counties: Idaho - 3 counties, Montana - 5 counties, Nebraska - 10 counties, Nevada - 1 county, New Mexico - 1 county, South Dakota - 3 counties, Texas - 8 counties, Utah - 1 county, Alaska - all counties (only for voter turnout rate in Alaska).

## 14.4 RESOURCES

For more information on the Social Capital Index, the original data products are archived here (<https://aese.psu.edu/nercrd/community/social-capital-resources>). The primary data sources used in the calculations for 1997, 2005, 2009, and 2014 are as follows:

1. **Establishments:** County Business Patterns (<https://www.census.gov/programs-surveys/cbp.html>)
2. **Population:** US Census, Population and Housing Unit Estimates (<https://www.census.gov/programs-surveys/popest.html>)
3. **Voter Turnout:** Dave Leip's Atlas of U.S. Presidential Elections (<https://uselectionatlas.org/>)
4. **Census response rate:** US Census 2010 (<https://www.census.gov/cgi-bin/census2010/staterates.cgi>)
5. **Non-profit:** National Center for Charitable Statistics (<http://www.nccs.urban.org/>)

The primary data sources used in the calculations for 2019 are as follows:

1. **Establishments:** County Business Patterns (CBP) via Census Bureau (<https://www.census.gov/programs-surveys/cbp/data/tables.2019.html>). Description: CBP is an annual series that provides subnational economic data by industry. This series includes the number of establishments, employment during the week of March 12, first quarter payroll, and annual payroll. This data is useful for studying the economic activity of small areas; analyzing economic changes over time; and as a benchmark for other statistical series, surveys, and databases between economic censuses. Statistics are available on establishments at the U.S. level and by State, County, Metropolitan/Micropolitan Statistical Area (MSA), Combined Statistical Area (CSA), ZIP code, and Congressional District levels.
2. **Voter turnout:** 2016 MIT Election Data and Science Lab (<https://dataverse.harvard.edu/dataset.xhtml?persistentId=doi:1>)
3. **Census response rate:** 2019 American Community Survey (ACS) response rates ([https://www2.census.gov/programs-surveys/acs/summary\\_file/2019/data](https://www2.census.gov/programs-surveys/acs/summary_file/2019/data)). Survey response rates by county from the ACS 2014-2019 5-year Estimates Summary File (ACS B98021001).
4. **Non-profit:** County Business Patterns (CBP) via Census Bureau (<https://www.census.gov/programs-surveys/cbp/data/tables.2019.html>). (NAICS 8132 or 8133).

**Table 22. Social Capital Index (SOCAP)**

variable name	variable label
fips	County FIPS code
SCI [YEAR]	Social Capital index for 1997-2019 (ex. SCI 2019)
SCI [YEAR].Cat_all	Social Capital index normalized category (1 of 5 quantiles)

**Table 23. Variable availability across years, SOCAP**

variable name	variable label	1997	2005	2009	2014	2019
fips	County FIPS code	X	X	X	X	X



SCI_[YEAR]	Social Capital Index	X	X	X	X	X
SCI_[YEAR].Cat_all	Normalized category	X	X	X	X	X

## 15. VETERAN SEGMENTS BY VULNERABILITY LEVEL BY CENSUS BLOCK GROUP

### 15.1 SPONSOR

United States Census Bureau

### 15.2 DESCRIPTION

Proportional estimates of veteran segments by vulnerability level derived from the American Community Survey's (ACS) Public-Use Microdata Sample (PUMS) at the Census Block Group level (social areas of roughly 600 - 3000 people). Vulnerability levels were generalized from an individual vulnerability index (IVI) scored on indicators adapted for the PUMS from the Centers for Disease Control and Prevention (CDC) Social Vulnerability Index (SVI) feature set (see section 10.3 for more information). Estimates were generated using synthetic populations produced from the American Community Survey and Public-Use Microdata Sample via the UrbanPop project at Oak Ridge National Laboratory.

### 15.3 INCLUSION

Estimates of veteran segments are available for all populated block groups within the United States and Puerto Rico. Segments ( $k = 29$ ) are nested within a series of high-level groups A - H ( $k = 8$ ).

Both segmentation and index (IVI) construction were performed on the pooled PUMS sample from the ACS 2015 - 2019 5-Year Estimates. To compute IVI, modifications of the CDC SVI indicators included 1) removing per-capita income, an area-level variable; 2) expanding single-parent households to include any single-adult guardian relationship; 3) expanding limited English ability to include any member of a linguistically-isolated household according to the PUMS. To combine with segment labels, IVI levels were generalized into quantiles.

Estimates were taken as the proportion of the target segment within the whole block group population (veterans and non-veterans). Estimates consist of the Monte Carlo proportion (mean) of 30 synthetic populations generated by UrbanPop for the United States. Monte Carlo standard errors are not available for segments that occurred in a block group for just one simulation.

### 15.4 RESOURCES

**American Community Survey:** <https://www.census.gov/programs-surveys/acs>

**UrbanPop:**

<https://acsdatacommunity.prb.org/m/2021-acsc-conference-files/161/>

**CDC Social Vulnerability Index:**

[https://www.atsdr.cdc.gov/placeandhealth/svi/documentation/SVI\\_documentation\\_2018.html](https://www.atsdr.cdc.gov/placeandhealth/svi/documentation/SVI_documentation_2018.html)

**Table 24. Veteran Segments by Vulnerability Level by Census Block Group ( UP-VET\_BG\_SEG\_IVI )**

variable name	variable label
geoid	US Census Block Group FIPS code.
seg	Segment label (character 1 - group; character 2 - segment index).
ivi	Individual Vulnerability Index (IVI) quantile (Q1 - lowest; Q4 - highest).
est	Monte Carlo proportional estimate.
se	Monte Carlo standard error of the proportional estimate.

variable name	variable label	2015 - 2019
geoid	US Census Block Group FIPS code.	X
seg	Segment label (character 1 - group; character 2 - segment index).	X
ivi	Individual Vulnerability Index (IVI) quantile (Q1 - lowest; Q4 - highest).	X
est	Monte Carlo proportional estimate.	X
se	Monte Carlo standard error of the proportional estimate.	X

## 16. VETERAN SEGMENTS BY CENSUS BLOCK GROUP

### 16.1 SPONSOR

United States Census Bureau

### 16.2 DESCRIPTION

Proportional estimates of veteran segments derived from the American Community Survey's (ACS) Public-Use Microdata Sample (PUMS) at the Census Block Group level (social areas of roughly 600 - 3000 people). Estimates were generated using synthetic populations produced from the American Community Survey and Public-Use Microdata Sample via the UrbanPop project at Oak Ridge National Laboratory.

### 16.3 INCLUSION

Estimates of veteran segments are available for all populated block groups within the United States and Puerto Rico. Segments ( $k = 29$ ) are nested within a series of high-level groups A - H ( $k = 8$ ).

Segmentation was performed on the pooled PUMS sample from the ACS 2015 - 2019 5-Year Estimates. Estimates were taken as the proportion of the target segment within the whole block group population (veterans and non-veterans). Estimates consist of the Monte Carlo proportion (mean) of 30 synthetic

populations generated by UrbanPop for the United States. Monte Carlo standard errors are not available for segments that occurred in a block group for just one simulation.

## 16.4 RESOURCES

**American Community Survey:** <https://www.census.gov/programs-surveys/acs>

**UrbanPop:**

<https://acsdatacommunity.prb.org/m/2021-acs-conference-files/161/>

**Table 25. Veteran Segments by Census Block Group ( UP-VET\_BG\_SEG )**

variable name	variable label
geoid	US Census Block Group FIPS code.
seg	Segment label (character 1 - group; character 2 - segment index).
est	Monte Carlo proportional estimate.
se	Monte Carlo standard error of the proportional estimate.

**Table 26. Variable availability across years, UP-VET\_BG\_SEG**

variable name	variable label	2015 - 2019
geoid	US Census Block Group FIPS code.	X
seg	Segment label (character 1 - group; character 2 - segment index).	X
est	Monte Carlo proportional estimate.	X
se	Monte Carlo standard error of the proportional estimate.	X

## 17. PROFILES OF VETERAN SEGMENTS BY VULNERABILITY LEVEL

### 17.1 SPONSOR

United States Census Bureau

### 17.2 DESCRIPTION

Detailed veteran segment profiles by vulnerability level derived from the American Community Survey's (ACS) Public-Use Microdata Sample (PUMS) at the Census Block Group level (social areas of roughly 600 - 3000 people). Vulnerability levels were generalized from an individual vulnerability index (IVI) scored on indicators adapted for the PUMS from the Centers for Disease Control and Prevention (CDC) Social Vulnerability Index (SVI) feature set (see section 10.3 for more information).

### 17.3 INCLUSION

Veteran segments ( $k = 29$ ) are nested within a series of high-level groups A – H ( $k = 8$ ). Veteran segment profiles describe the pooled PUMS sample from the ACS 2015 – 2019 5-Year Estimates across all Public-Use Microdata Areas (PUMAs) within the United States and Puerto Rico. To combine with segment labels, IVI levels were generalized into quantiles (Q1 – lowest; Q4 – highest).

This dataset consists of a lookup table (an R list object), hierarchically organized by 1) veteran segment (parent level) 2) IVI quantile (child level). Each segment is profiled by the veterans belonging to each IVI quantile that it contains.

Profiles describe 1) the item probabilities of vulnerability indicators within each segment/IVI quantile 2) the rate and severity of veteran service-connected disabilities. (Note that service-connected disabilities are an external variable and are sometimes independent of the CDC-derived vulnerability indicator for disability status). Missing values occur for service-connected disability status when it is unobserved among ACS respondents in the target segment/IVI quantile.

Representative attributes of each segment/IVI quantile, derived from the indicator item probabilities, are organized into four levels – 1) ALWAYS (100% occurrence); 2) USUALLY (90% - 99% occurrence); 3) OFTEN (50% - 89% occurrence); SOMETIMES (25% - 49% occurrence).

To compute IVI, modifications of the CDC SVI indicators included: 1) removing per-capita income, an area-level variable; 2) expanding single-parent households to include any single-adult guardian relationship; 3) expanding limited English ability to include any member of a linguistically-isolated household according to the PUMS.

### 17.4 RESOURCES

American Community Survey: <https://www.census.gov/programs-surveys/acs>

UrbanPop:

<https://acsdatacommunity.prb.org/m/2021-acsc-conference-files/161/>

CDC Social Vulnerability Index:

[https://www.atsdr.cdc.gov/placeandhealth/svi/documentation/SVI\\_documentation\\_2018.html](https://www.atsdr.cdc.gov/placeandhealth/svi/documentation/SVI_documentation_2018.html)

**Table 27. Profiles of Veteran Segments by Vulnerability Level ( UP-VET\_SEG\_PROFILES )**

variable name	variable label	attribute prop	attribute rating
profile	Description of veterans in segment/IVI quantile.	NA	NA
service_connected_disability	Service connected disability status summary.	Proportion of veterans with a service-connected disability.	Average disability rating for all veterans with a service-connected disability.

**Table 28. Variable availability across years, UP-VET\_SEG\_PROFILES**

variable name	variable label	2015 - 2019
profile	Description of veterans in segment/IVI quantile.	X
service_connected_disability_status	Service-connected disability status summary.	X

## **18. VETERAN SEGMENT VULNERABILITY PROFILES BY VULNERABILITY LEVEL**

### **18.1 SPONSOR**

United States Census Bureau

### **18.2 DESCRIPTION**

Detailed vulnerability profiles of veteran segments in the United States in 2019 created from American Community Survey's (ACS) Public-Use Microdata Sample (PUMS) on vulnerability indicators and an individual-level vulnerability index (IVI) adapted for the PUMS from the Centers for Disease Control and Prevention (CDC) Social Vulnerability Index (SVI) feature set (see section 10.3 for more information).

### **18.3 INCLUSION**

Veteran segments ( $k = 29$ ) are nested within a series of high-level groups A - H ( $k = 8$ ). Veteran segment profiles describe the pooled PUMS sample from the ACS 2015 - 2019 5-Year Estimates across all Public-Use Microdata Areas (PUMAs) within the United States and Puerto Rico.

To combine with segment labels, IVI levels were generalized into value quantiles (Q1 - lowest; Q4 - highest). To compute IVI, modifications of the CDC SVI indicators included 1) removing per-capita income, an area-level variable; 2) expanding single-parent households to include any single-adult guardian relationship; 3) expanding limited English ability to include any member of a linguistically-isolated household according to the PUMS.

Segment profiles describe the proportion of a target segment with a given vulnerability indicator and IVI level. Profiles were estimated on the PUMS using person-level sample weights (PWGTP) and are used to characterize area-level estimates of veteran populations (up\_vet\_bg\_seg, up\_vet\_bg\_seg\_ivi, up\_vet\_trt\_seg, up\_vet\_trt\_seg\_ivi).

### **18.4 RESOURCES**

**American Community Survey:** <https://www.census.gov/programs-surveys/acs>

**UrbanPop:** <https://acsdatacommunity.prb.org/m/2021-acs-conference-files/161/> CDC Social  
**Vulnerability Index:**  
[https://www.atsdr.cdc.gov/placeandhealth/svi/documentation/SVI\\_documentation\\_2018.html](https://www.atsdr.cdc.gov/placeandhealth/svi/documentation/SVI_documentation_2018.html)

**Table 29. Veteran Segment Vulnerability Profiles by Vulnerability Level ( UP-VET\_SEGMENT\_PROFILES\_BY\_IVI )**

variable name	variable label	source table	notes
seg	Segment ID	NA	NA
ivi_q	Individual Vulnerability Index quantile	NA	NA
prop	Proportion of segment in United States Veteran population	NA	NA
living_in_poverty	Living in Poverty	POVPIP: Income to Poverty Ratio Recode	NA
unemployed	Proportion Unemployed	ESR: Employment Status Recode	NA
no_hs_diploma	Proportion with Less than High School Educational Attainment	SCHG: Grade level attending	Adults 25 years and older not currently attending school
age_over_65	Proportion age over 65	AGEP: Age	NA
disability	Proportion with a Disability	DIS: Disability recode	Union of Independent Living (DOUT), Self-Care (DDRS), Cognitive (DREM), Ambulatory (DPHYS), Vision (DEYE), and Hearing Difficulties (DEAR)
single_parent	Proportion Single-Adult Guardians	HHT2: Household/Family Type	Householder, children present but spouse/partner not present.
munit	Proportion in Multifamily Dwellings (10+ Units)	BLD: Units in structure	NA
moho	Proportion in Mobile Homes	BLD: Units in structure	NA
crowding	Proportion in an Overcrowded House	NP: Number of persons associated with this housing record	Ratio of occupants to rooms >1; normalized by number of rooms (RMSP)
no_car	Proportion with No Personal Vehicle	VEH: Vehicles (1 ton or less) available	NA
gq	Proportion Group Quarters	TYPE: Type of unit	NA
limited_english	Linguistically Isolated	LNGL: Limited English speaking	For Group Quarters, any person who speaks

		household	English less than “Very Well” (ENG)
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**Table 30. Variable availability across years, UP-VET\_SEGMENT\_PROFILES\_BY\_IVI**

variable name	variable label	2015 - 2019
seg	Segment ID	X
prop	Proportion of segment in United States Veteran population	X
living_in_poverty	Proportion Living in Poverty	X
unemployed	Proportion Unemployed	X
no_hs_diploma	Proportion with Less than High School Educational Attainment	X
age_over_65	Proportion Age over 65	X
disability	Proportion with a Disability	X
single_parent_hhd	Proportion Single-Adult Guardians	X
munit	Proportion in Multifamily Dwellings (10+ Units)	X
moho	Proportion in Mobile Homes	X
crowding	Proportion in an Overcrowded House	X
no_car	Proportion with No Personal Vehicle	X
gq	Proportion Group Quarters	X
limited_english	Proportion Linguistically Isolated	X

## 19. VETERAN SEGMENT VULNERABILITY PROFILES

### 19.1 SPONSOR

United States Census Bureau

### 19.2 DESCRIPTION

Detailed vulnerability profiles of veteran segments in the United States in 2019 created from American Community Survey’s (ACS) Public-Use Microdata Sample (PUMS) on vulnerability indicators adapted for the PUMS from the Centers for Disease Control and Prevention (CDC) Social Vulnerability Index (SVI) feature set.

### 19.3 INCLUSION

Veteran segments ( $k = 29$ ) are nested within a series of high-level groups A - H ( $k = 8$ ). Veteran segment profiles describe the pooled PUMS sample from the ACS 2015 - 2019 5-Year Estimates across all Public-Use Microdata Areas (PUMAs) within the United States and Puerto Rico.

Segment profiles describe the proportion of a target segment with a given vulnerability indicator. Profiles were estimated on the PUMS using person-level sample weights (PWGTP) and are used to characterize area-level estimates of veteran populations (up\_vet\_bg\_seg, up\_vet\_bg\_seg\_ivi, up\_vet\_trt\_seg, up\_vet\_trt\_seg\_ivi).

## 19.4 RESOURCES

**American Community Survey:** <https://www.census.gov/programs-surveys/acs>

**UrbanPop:** <https://acsdatacommunity.prb.org/m/2021-acs-conference-files/161/> CDC Social

**Vulnerability Index:**

[https://www.atsdr.cdc.gov/placeandhealth/svi/documentation/SVI\\_documentation\\_2018.html](https://www.atsdr.cdc.gov/placeandhealth/svi/documentation/SVI_documentation_2018.html)

**Table 31. Veteran Segment Vulnerability Profiles ( UP-VET\_SEGMENT\_PROFILES )**

variable name	variable label	source table	notes
seg	Segment ID	NA	NA
prop	Proportion of segment in United States Veteran population	NA	NA
living_in_poverty	Living in Poverty	POVPIP: Income to Poverty Ratio Recode	NA
unemployed	Proportion Unemployed	ESR: Employment Status Recode	NA
no_hs_diploma	Proportion with Less than High School Educational Attainment	SCHG: Grade level attending	Adults 25 years and older not currently attending school
age_over_65	Proportion age over 65	AGEP: Age	NA
disability	Proportion with a Disability	DIS: Disability recode	Union of Independent Living (DOUT), Self-Care (DDRS), Cognitive (DREM), Ambulatory (DPHYS), Vision (DEYE), and Hearing Difficulties (DEAR)
single_parent	Proportion Single-Adult Guardians	HHT2: Household/Family Type	Householder, children present but spouse/partner not present.
munit	Proportion in Multifamily Dwellings (10+ Units)	BLD: Units in structure	NA
moho	Proportion in Mobile Homes	BLD: Units in structure	NA
crowding	Proportion in an Overcrowded House	NP: Number of persons associated with this housing record	Ratio of occupants to rooms >1; normalized by number of rooms (RMSP)
no_car	Proportion with No Personal Vehicle	VEH: Vehicles (1 ton or less) available	NA
gq	Proportion Group Quarters	TYPE: Type of unit	NA
limited_english	Linguistically Isolated	LNGI: Limited English speaking household	For Group Quarters, any person who speaks



			English less than “Very Well” (ENG)
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**Table 32. Variable availability across years, UP-VET\_SEGMENT\_PROFILES**

variable name	variable label	2015 - 2019
seg	Segment ID	X
prop	Proportion of segment in United States Veteran population	X
living_in_poverty	Proportion Living in Poverty	X
unemployed	Proportion Unemployed	X
no_hs_diploma	Proportion with Less than High School Educational Attainment	X
age_over_65	Proportion Age over 65	X
disability	Proportion with a Disability	X
single_parent_hhd	Proportion Single-Adult Guardians	X
munit	Proportion in Multifamily Dwellings (10+ Units)	X
moho	Proportion in Mobile Homes	X
crowding	Proportion in an Overcrowded House	X
no_car	Proportion with No Personal Vehicle	X
gq	Proportion Group Quarters	X
limited_english	Proportion Linguistically Isolated	X

## **20. VETERAN SEGMENT SERVICE-CONNECTED DISABILITY PROFILES BY VULNERABILITY LEVEL**

### **20.1 SPONSOR**

United States Census Bureau

### **20.2 DESCRIPTION**

Service Connected Disability profiles of veteran segments in the United States in 2019 created from American Community Survey’s (ACS) Public-Use Microdata Sample (PUMS) on vulnerability indicators and an individual-level vulnerability index (IVI) adapted for the PUMS from the Centers for Disease Control and Prevention (CDC) Social Vulnerability Index (SVI) feature set.

### **20.3 INCLUSION**

Veteran segments (k = 29) are nested within a series of high-level groups A - H (k = 8). Veteran segment profiles describe the pooled PUMS sample from the ACS 2015 - 2019 5-Year Estimates across all Public-Use Microdata Areas (PUMAs) within the United States and Puerto Rico.

To combine with segment labels, IVI levels were generalized into value quantiles (Q1 - lowest; Q4 - highest). To compute IVI, modifications of the CDC SVI indicators included 1) removing per-capita income, an area-level variable; 2) expanding single-parent households to include any single-adult

guardian relationship; 3) expanding limited English ability to include any member of a linguistically-isolated household according to the PUMS.

Service-connected disability profiles describe the proportion of a target segment with a service-connected disability, the service-connected disability rating, and the proportion of respondents with a service-connected disability who did not provide a rating. These features were estimated on the PUMS using person-level sample weights (PWGTP) and are used to characterize area-level estimates of veteran populations (up\_vet\_bg\_seg, up\_vet\_bg\_seg\_ivi, up\_vet\_trt\_seg, up\_vet\_trt\_seg\_ivi).

Service-connected disability ratings are measured on a five-point scale based on the degree to which the disability limits one's ability to work:

- 1) 0% - 9% disability
- 2) 10% - 19% disability
- 3) 30% - 40% disability
- 4) 50% - 60% disability
- 5) 70% - 100% disability

Missing (NaN) values are present when no ACS respondents in the segment/IVI quantile reported experiencing a service-connected disability.

## 20.4 RESOURCES

**American Community Survey:** <https://www.census.gov/programs-surveys/acs>

**UrbanPop:** <https://acsdatacommunity.prb.org/m/2021-acsc-conference-files/161/> CDC Social

**Vulnerability Index:**

[https://www.atsdr.cdc.gov/placeandhealth/svi/documentation/SVI\\_documentation\\_2018.html](https://www.atsdr.cdc.gov/placeandhealth/svi/documentation/SVI_documentation_2018.html)

**Table 33. Veteran Segment Service Connected Disability Profiles by Vulnerability Level ( UP-VET\_SVC-CON-DIS\_PROFILES\_BY\_IVI )**

variable name	variable label
seg	Segment ID
ivi_q	Individual Vulnerability Index (IVI) quantile
prop	Proportion with a service-connected disability
rating	Mean service-connected disability rating
nonrep	Proportion with a service-connected disability but no reported rating

**Table 34. Variable availability across years, UP-VET\_SVC-CON-DIS\_PROFILES\_BY\_IVI**

variable name	variable label	2015 - 2019
seg	Segment ID	X
ivi	Individual Vulnerability Index (IVI) quantile	X
prop	Proportion with a service-connected disability	X
rating	Mean service-connected disability rating	X
nonrep	Proportion with a service-connected disability but no reported rating	X

## 21. VETERAN SEGMENT SERVICE-CONNECTED DISABILITY PROFILES

### 21.1 SPONSOR

United States Census Bureau

### 21.2 DESCRIPTION

Service-Connected Disability profiles of veteran segments in the United States in 2019 created from American Community Survey's (ACS) Public-Use Microdata Sample (PUMS) on vulnerability indicators adapted for the PUMS from the Centers for Disease Control and Prevention (CDC) Social Vulnerability Index (SVI) feature set.

### 21.3 INCLUSION

Veteran segments ( $k = 29$ ) are nested within a series of high-level groups A - H ( $k = 8$ ). Veteran segment profiles describe the pooled PUMS sample from the ACS 2015 - 2019 5-Year Estimates across all Public-Use Microdata Areas (PUMAs) within the United States and Puerto Rico.

Service-connected disability profiles describe the proportion of a target segment with a service-connected disability, the service-connected disability rating, and the proportion of respondents with a service-connected disability who did not provide a rating. These features were estimated on the PUMS using person-level sample weights (PWGTP) and are used to characterize area-level estimates of veteran populations (up\_vet\_bg\_seg, up\_vet\_bg\_seg\_ivi, up\_vet\_trt\_seg, up\_vet\_trt\_seg\_ivi).

Service-connected disability ratings are measured on a five-point scale based on the degree to which the disability limits one's ability to work. 1) 0% - 9% disability, 2) 10% - 19% disability, 3) 30% - 40% disability, 4) 50% - 60% disability, 5) 70% - 100% disability. Missing (NaN) values are present when no ACS respondents in the segment reported experiencing a service-connected disability.

### 21.4 RESOURCES

**American Community Survey:** <https://www.census.gov/programs-surveys/acs>

**UrbanPop:** <https://acsdatacommunity.prb.org/m/2021-ac conference-files/161/> CDC Social

**Vulnerability Index:**

[https://www.atsdr.cdc.gov/placeandhealth/svi/documentation/SVI\\_documentation\\_2018.html](https://www.atsdr.cdc.gov/placeandhealth/svi/documentation/SVI_documentation_2018.html)

**Table 35. Veteran Segment Service Connected Disability Profiles ( UP-VET\_SVC-CON-DIS\_PROFILES )**

variable name	variable label
seg	Segment ID
prop	Proportion with a service-connected disability
rating	Mean service-connected disability rating
nonrep	Proportion with a service-connected disability but no reported rating

**Table 36. Variable availability across years, UP-VET\_SVC-CON-DIS\_PROFILES**

variable name	variable label	2015 - 2019
---------------	----------------	-------------

seg	Segment ID	X
prop	Proportion with a service-connected disability	X
rating	Mean service-connected disability rating	X
nonrep	Proportion with a service-connected disability but no reported rating	X

## 22. VETERAN SEGMENTS BY VULNERABILITY LEVEL BY CENSUS TRACT

### 22.1 SPONSOR

United States Census Bureau

### 22.2 DESCRIPTION

Proportional estimates of veteran segments by vulnerability level derived from the American Community Survey's (ACS) Public-Use Microdata Sample (PUMS) at the Census Tract level (social areas of roughly 1200 - 8000 people). Vulnerability levels were generalized from an individual vulnerability index (IVI) scored on indicators adapted for the PUMS from the Centers for Disease Control and Prevention (CDC) Social Vulnerability Index (SVI) feature set. Estimates were generated using the UrbanPop spatial microsimulation framework produced by the Human Geography group at Oak Ridge National Laboratory.

### 22.3 INCLUSION

Estimates of veteran segments are available for all populated tracts within the United States and Puerto Rico. Segments ( $k = 29$ ) are nested within a series of high-level groups A - H ( $k = 8$ ).

Both segmentation and index (IVI) construction were performed on the pooled PUMS sample from the ACS 2015 - 2019 5-Year Estimates. To compute IVI, modifications of the CDC SVI indicators included 1) removing per-capita income, an area-level variable; 2) expanding single-parent households to include any single-adult guardian relationship; 3) expanding limited English ability to include any member of a linguistically-isolated household according to the PUMS. To combine with segment labels, IVI levels were generalized into quantiles.

Estimates were taken as the proportion of the target segment within the whole tract population (veterans and non-veterans). Estimates consist of the Monte Carlo proportion (mean) of 30 synthetic populations generated by UrbanPop for the United States. Monte Carlo standard errors are not available for segments that occurred in a tract for just one simulation.

### 22.4 RESOURCES

**American Community Survey:** <https://www.census.gov/programs-surveys/acs>

**UrbanPop:** <https://acsdatacommunity.prb.org/m/2021-acs-conference-files/161/> CDC Social

**Vulnerability Index:**

[https://www.atsdr.cdc.gov/placeandhealth/svi/documentation/SVI\\_documentation\\_2018.html](https://www.atsdr.cdc.gov/placeandhealth/svi/documentation/SVI_documentation_2018.html)

**Table 37. Veteran Segments by Vulnerability Level by Census Tract ( UP-VET\_TRT\_SEG\_IVI )**

variable name	variable label
geoid	US Census Tract FIPS code.

seg	Segment label (character 1 - group; character 2 - segment index).
ivi	Individual Vulnerability Index (IVI) quantile (Q1 - lowest; Q4 - highest).
est	Monte Carlo proportional estimate.
se	Monte Carlo standard error of the proportional estimate.

**Table 38. Variable availability across years, UP-VET\_TRT\_SEG\_IVI**

variable name	variable label	2015 - 2019
geoid	US Census Tract FIPS code.	X
seg	Segment label (character 1 - group; character 2 - segment index).	X
ivi	Individual Vulnerability Index (IVI) quantile (Q1 - lowest; Q4 - highest).	X
est	Monte Carlo proportional estimate.	X
se	Monte Carlo standard error of the proportional estimate.	X

## **23. VETERAN SEGMENTS BY CENSUS TRACT**

### **23.1 SPONSOR**

United States Census Bureau

### **23.2 DESCRIPTION**

Proportional estimates of veteran segments derived from the American Community Survey's (ACS) Public-Use Microdata Sample (PUMS) at the Census Tract level (social areas of roughly 600 - 3000 people). Estimates were generated using the UrbanPop spatial microsimulation framework produced by the Human Geography group at Oak Ridge National Laboratory.

### **23.3 INCLUSION**

Estimates of veteran segments are available for all populated tracts within the United States and Puerto Rico. Segments ( $k = 29$ ) are nested within a series of high-level groups A - H ( $k = 8$ ). Segmentation was performed on the pooled PUMS sample from the ACS 2015 - 2019 5-Year Estimates. Estimates were taken as the proportion of the target segment within the whole tract population (veterans and non-veterans). Estimates consist of the Monte Carlo proportion (mean) of 30 synthetic populations generated by UrbanPop for the United States. Monte Carlo standard errors are not available for segments that occurred in a tract for just one simulation.

### **23.4 RESOURCES**

**American Community Survey:** <https://www.census.gov/programs-surveys/acs>

**UrbanPop:**

<https://acsdatacommunity.prb.org/m/2021-acs-conference-files/161/>

**Table 39. Veteran Segments by Census Tract ( UP-VET\_TRT\_SEG )**

variable name	variable label
---------------	----------------

geoid	US Census Tract FIPS code.
seg	Segment label (character 1 - group; character 2 - segment index).
est	Monte Carlo proportional estimate.
se	Monte Carlo standard error of the proportional estimate.

**Table 40. Variable availability across years, UP-VET\_TRT\_SEG**

variable name	variable label	2015 - 2019
geoid	US Census Tract FIPS code.	X
seg	Segment label (character 1 - group; character 2 - segment index).	X
est	Monte Carlo proportional estimate.	X
se	Monte Carlo standard error of the proportional estimate.	X

## **24. COUNTY LEVEL UV EXPOSURE DATA FOR THE CONTINENTAL UNITED STATES**

### **24.1 SPONSOR**

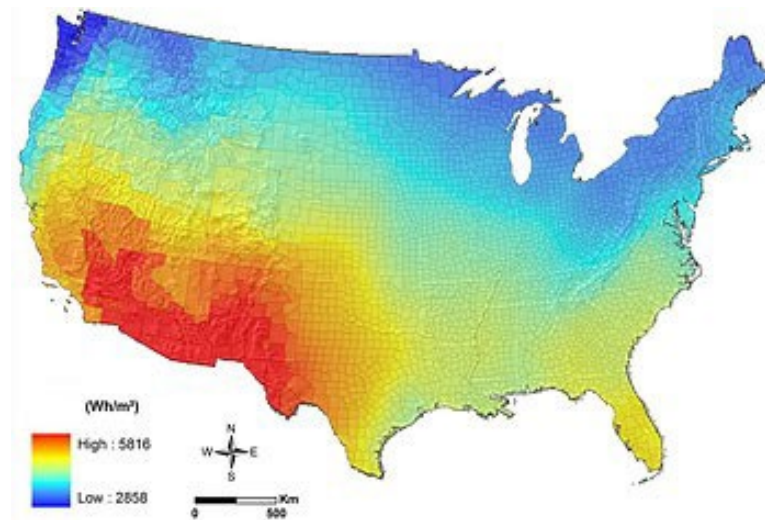
USA National Cancer Institute (NIH)

### **24.2 DESCRIPTION**

The county level UV exposure data for the Continental United States dataset was developed by the NIH in response to a need for an objective metric of individual UV exposure based on known exposure estimates. The data is for the period 1961-1990, i.e. 30-year average. The methodology used behind this dataset comes from:

Tatalovich, Zaria, John P. Wilson, and Myles Cockburn. "A comparison of thiessen polygon, kriging, and spline models of potential UV exposure." *Cartography and Geographic Information Science* 33.3 (2006): 217-231.

"... Input data consisted of global radiation measures recorded at 215 stations, latitude, longitude, and elevation from a 30 arc-second Digital Elevation Model. The objective was to identify the most accurate prediction method for facilitating measurement of potential UV exposure at local (e.g. 1km<sup>2</sup> grid cell) and county levels. The ANUSPLIN method produced the smallest prediction errors in estimating values of potential UV exposure at 1 km<sup>2</sup> resolution; these measurements were aggregated to the county level. . . The National Solar Radiation Database (NSRAD) produced by the National Renewable Energy Laboratory (NREL) under the Department of Energy's (DOE) Resource Assessment Program provided the input data for each interpolation. . . Containing statistical summaries computed from hourly data for 239 U.S radiation stations for the period 1961-1990, NSRAD is currently the largest network in the U.S. for measuring solar radiation data. The statistics include monthly, yearly, and 30-year average global solar radiation<sup>1</sup> measures."



**Figure 2 County Level UV Exposure for the Continental United States, for the period 1961-1990, 30-year average**

### 24.3 INCLUSION

For UV data, the dataset file is missing the following FIPS (the id of the county): 8014, 46113, 51515, 46102.

### 24.4 RESOURCES

<https://gis.cancer.gov/tools/uv-exposure/>