

Description of state-specific county-level population inputs for the USMDB county life table series

January 10, 2023

Celeste Winant

We provide the specific population inputs used to generate the Bayesian estimates of mortality rates for US counties (and certain county groupings) in comma-separated variable (CSV) text-files, with one file for each of the 50 states and the District of Columbia (DC), though the latter is not included in the published life tables (since it does not include any counties).

These inputs are compiled from the annual July 1st US Census population estimates compiled by the Center for Disease Control (CDC) National Center for Health Statistics. See end of this memo for an updated list of sources for the 1982—2019 population inputs.

As a reminder, we cannot disclose the death tabulations we prepare and use for our analysis, as per our Data User Agreement with the National Center for Health Statistics (NCHS). However, we are allowed to publish the population estimates by calendar year, sex and five-year age groups from the NCHS since they are publicly available. For years since 1989, the estimates are also provided for ages 0 year and 1-4 years separately, which allow us to compute the infant mortality rates. For previous years (1982-1988), the population estimates are only available for the age group 0-4 years as a whole so we used the detailed mortality and natality data from 1981-1988 to disaggregate the population estimates at 0-4 years into two separate age groups, at 0 and 1-4 years ([link](#) to our full method for estimating US county-level life tables).

We have prepared an archive named USMDBCountyPopulation1982_2019.zip, which can be downloaded from:

https://usa.mortality.org/uploads/Private/counties/USMDBCountyPopulation1982_2019.zip

Only registered USMDB's users can access the population data. To register, follow this [link](#)

Download to your working directory and expand at the command-line with

```
>> unzip USMDBCountyPopulation1982_2019.zip
```

This will create a directory titled USMDBCountyPopulation1982_2019/ under which are 51 separate state-level files and this memo. Each file has the name XXpop.csv, where XX is the two-letter US postal code abbreviation for the given state. The format of the file is as follows: The first line (row) consists of headers, the following lines (rows), the estimates for each county, sex, age-group, and year.

Header	Description	Format
PopCode	County or county-group*	5-digit FIPS code or 5-character county code*
Sex	sex	Single character: f (female), m (male)
Age	Lower-age bound of age group (years)**	numeric
AgeInterval	Span of age-group (years)**	String: numeric or '+' for open age interval
Day	Day of month for the population estimate	Numeric (1-31)
Month	Month for the population estimate	Numeric (1-12)
Year	Year of population estimate	Numeric (1982-2019)
Population	Total population for the given county-sex-agegroup-year	Numeric

*We assert that our methods are robust for subregional populations that maintain a total population of 10,000 over the entire time series. Many US counties have populations that fall below this threshold, either over part or all of the time series. We group low-population counties and demographically similar neighbors (1084 total) together into county-groups (401 total) with historically consistent boundaries that exceed a minimum population threshold of 10,000 at any time point in our series. County groupings never cross state borders. 2071 counties are left ungrouped. A comma-separated variable lookup table linking the 1084 individual counties (by FIPS code) to the 401 groups can be found [here](#). The individual counties in the life table files are listed by FIPS code. The county groupings have their own naming scheme: XXgYY where XX is the two-digit FIPS state code, the character 'g' implies group, and YY is the two-digit we assign for the county-grouping in the given state. E.g. 06g01 would be the first county grouping in the state of California.

** Population is aggregated by 5-year age group, including disaggregated infant (ages 0 to < 1-year) and young child (ages 1 to < 5-years) populations and an open age group starting at age 85.

References: [Data](#)

Note, web links may not be permanently valid. If the link is broken, you can search for the data through the "Source" information.

1980 – 1989

- US Census Bureau - Estimates of the Population of Counties in the United States by Age, Sex, and Race: July 1, 1980
- Source: Intercensal Population Estimates by Age, Sex, and Race: 1980-1989
- <https://www.census.gov/data/tables/time-series/demo/popest/1980s-county.html>

- Internet Release date: October 22, 2004
- Revised May 12, 2009
- <https://www2.census.gov/programs-surveys/popest/datasets/1980-1990/counties/asrh/pe-02.xls>

1990-1999

- CDC National Center for Health Statistics
- Source: Bridged-Race Intercensal Population Estimates for July 1, 1990 – July 1, 1999
- https://www.cdc.gov/nchs/nvss/bridged_race/data_documentation.htm#july1990-1999
- Internet Release date: July 26, 2004
- Data:
 - ftp://ftp.cdc.gov/pub/Health_Statistics/NCHS/datasets/nvss/bridgepop/icenA1_1.zip
 - ftp://ftp.cdc.gov/pub/Health_Statistics/NCHS/datasets/nvss/bridgepop/icenA2_1.zip
 - ftp://ftp.cdc.gov/pub/Health_Statistics/NCHS/datasets/nvss/bridgepop/icenA3_1.zip
 - ftp://ftp.cdc.gov/pub/Health_Statistics/NCHS/datasets/nvss/bridgepop/icenA4_1.zip
- Documentation:
 - ftp://ftp.cdc.gov/pub/Health_Statistics/NCHS/datasets/nvss/bridgepop/DocumentationBridgedIntercenA1.doc

2000-2009

- CDC National Center for Health Statistics
- Source: July 1, 2000 – July 1, 2009 Revised Bridged-Race Intercensal Population Estimates
- https://www.cdc.gov/nchs/nvss/bridged_race/data_documentation.htm#july2000-2009
- Internet Release date: October 26, 2012
- Data:
 - ftp://ftp.cdc.gov/pub/Health_Statistics/NCHS/datasets/nvss/bridgepop/2000_09/icen_2000_09_y0509.zip and
 - ftp://ftp.cdc.gov/pub/Health_Statistics/NCHS/datasets/nvss/bridgepop/2000_09/icen_2000_09_y0004.zip
- Documentation:
 - ftp://ftp.cdc.gov/pub/Health_Statistics/NCHS/datasets/nvss/bridgepop/2000_09/DocumentationRevisedBridgedIntercen2000_09.pdf

2010-2019

- CDC National Center for Health Statistics
- Source: Vintage 2019 Bridged-Race Postcensal Population Estimates
- https://www.cdc.gov/nchs/nvss/bridged_race/data_documentation.htm#Vintage2019
- Internet Release date: July 9, 2020
- Data: https://www.cdc.gov/nchs/nvss/bridged_race/pcen_v2019_y1019_txt.zip

- Documentation: (Note, vintage 2019 release links to vintage 2018 documentation)
https://www.cdc.gov/nchs/nvss/bridged_race/Documentation-Bridged-PostcenV2018.pdf