**Name:** Life Expectancy

**Short Description**: Estimate of life expectancy at birth.

**Data Source(s)**:

* Name: Centers for Disease Control and Prevention (CDC) U.S. Small-area Life Expectancy Estimates Project (USALEEP)
* Link to Source: <https://www.cdc.gov/nchs/nvss/usaleep/usaleep.html>

**Year(s):** 2010 - 2015

**Source Geographic Level**: Census Tract

**Stratification**: Extrapolated stratification for Black population

**Selection Rationale:** Life expectancy can be used as a measure of the general health status of a population and to identify disparities between geographic areas and population groups. Additionally, people with severe mental disorders on average experience premature mortality more frequently than the general population.[[1]](#footnote-2)

**Strengths and Limitations**:

* **Strengths**:
  + [*Importance*] Life expectancy is impacted by various determinants of health including access to care, neighborhood amenities and physical environment, employment opportunities and income, and health status. In addition, people with mental illnesses tend to have reduced life expectancy due to a variety of comorbidities including cardiovascular disease, suicide, and substance use.[[2]](#footnote-3), [[3]](#footnote-4)
  + [*Scientific Soundness*] The USALEEP data have been tailored to directly address small-area estimation challenges, such as small numbers of deaths, missing age-specific death counts, and small population sizes.[[4]](#footnote-5)
  + [*Feasibility*] Data is easily accessible and downloadable at the census tract level from the CDC USALEEP page.[[5]](#footnote-6)
* **Limitations**:
  + [*Relevance and Usability*] Identifying the reasons for differences in life expectancy can be challenging because many factors contribute to mortality, which may make it difficult to determine how to improve life expectancy.
  + [*Feasibility*] It is not clear how frequently the CDC USALEEP data will be updated.

**Default Weight**:2.5% (*see Weighting Documentation for details on how default weights were assigned*)

**Calculation**:

*Overall Population Calculation*:

*Black Population Calculation*:

Race stratified life expectancy data was not available at the census tract level. However, race-stratified approximations were calculated by scaling the census tract estimate by the ratio of life expectancy between the Black population and total population at the county level.

Estimates of life expectancy at birth were generated by the USALEEP project by:

1. geocoding decedents’ residential addresses using data from the National Vital Statistics System registration areas and the National Center for Health Statistics,
2. producing population estimates based on the decennial census and the American Community Survey,
3. combining demographic techniques and statistical modeling to address small population size and missing age-specific death count challenges, and
4. adjusting abridged life table methods to account for error introduced by population estimates based on sample data. [[6]](#footnote-7)

1. World Health Organization. Information sheet - Premature death among people with severe mental disorders. <https://www.who.int/mental_health/management/info_sheet.pdf> [↑](#footnote-ref-2)
2. Ilyas, A., Chesney, E., & Patel, R. (2017). Improving life expectancy in people with serious mental illness: should we place more emphasis on primary prevention?. *The British journal of psychiatry : the journal of mental science*, 211(4), 194–197. <https://doi.org/10.1192/bjp.bp.117.203240> [↑](#footnote-ref-3)
3. Rans, C. (2019) US Life Expectancy: The Mental Health Perspective. *Psychiatric Times*. *36*(2). <https://www.psychiatrictimes.com/view/us-life-expectancy-mental-health-perspective> [↑](#footnote-ref-4)
4. Arias E, Escobedo LA, Kennedy J, Fu C, Cisewski J. (2018) U.S. small-area life expectancy estimates project: Methodology and results summary. National Center for Health Statistics*. Vital Health Stat,* 2(181). <https://www.cdc.gov/nchs/data/series/sr_02/sr02_181.pdf> [↑](#footnote-ref-5)
5. National Center for Health Statistics. U.S. Small-Area Life Expectancy Estimates Project (USALEEP): Life Expectancy Estimates File for {Jurisdiction}, 2010-2015]. National Center for Health Statistics. 2018. Available from: <https://www.cdc.gov/nchs/nvss/usaleep/usaleep.html>. [↑](#footnote-ref-6)
6. Arias E, Escobedo LA, Kennedy J, Fu C, Cisewski J. (2018) U.S. small-area life expectancy estimates project: Methodology and results summary. National Center for Health Statistics*. Vital Health Stat,* 2(181). <https://www.cdc.gov/nchs/data/series/sr_02/sr02_181.pdf> [↑](#footnote-ref-7)