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## Humboldt County cerebrovascular disease (stroke) mortality data report, 2005-2018 Version 10/17/2019

### PURPOSE:

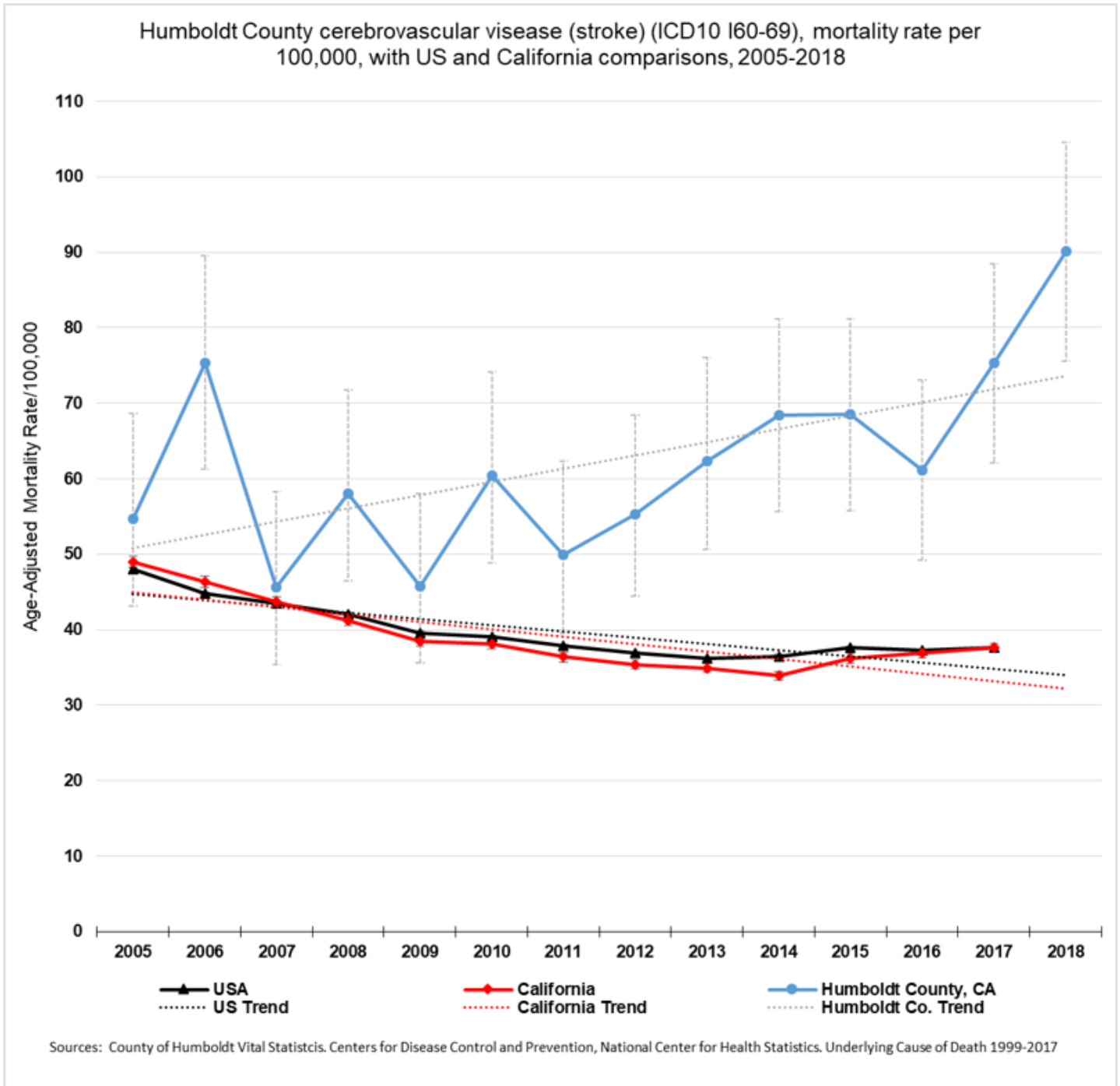
The purpose of this report is to supplement the section “Diabetes, Heart Health and Stroke (Pg. 51-52)—Health Outcomes and Risk Behaviors” of the 2018 Humboldt County Community health assessment (CHA). The CHA can be found online at:

<https://humboldt.gov/DocumentCenter/View/71701/2018-Community-Health-Assessment-PDF>

### SUMMARY

1. Deaths from cerebrovascular disease (stroke) (ICD10 codes I60-I69) have decreased over the last decade nationally and statewide; however, the stroke mortality rate for Humboldt County has significantly increased over the same time period (figure 1). Per the 2019 California County Health Status Profiles, Humboldt County has the highest stroke mortality rate compared with all other counties.
2. The stroke mortality rate in over 80% of Humboldt County zip codes (based on zip code of residence at death) exceeds the national and state mortality rates (figure 2). This includes the most populous and some of the most rural, low population density zip codes in Humboldt County.
3. The average age for Humboldt County stroke deaths is approximately 83 years (figure 3) and is not a major contributor of “premature death” (<age 75, see notes, page 6). This indicates that there are determinants of health driving Humboldt County’s high stroke mortality rate other than risk behaviors (ex. smoking, lack of exercise) and chronic conditions (ex. obesity, hypertension).
4. Stroke mortality rates tend to be slightly higher in American Indian/Alaska Native and White non-Hispanic persons in Humboldt County, but is not statistically significant (figure 4).

Figure 1:



95% confidence estimates were calculated for each annual rate estimate (see notes, page 6 for additional information.)

Figure 2:

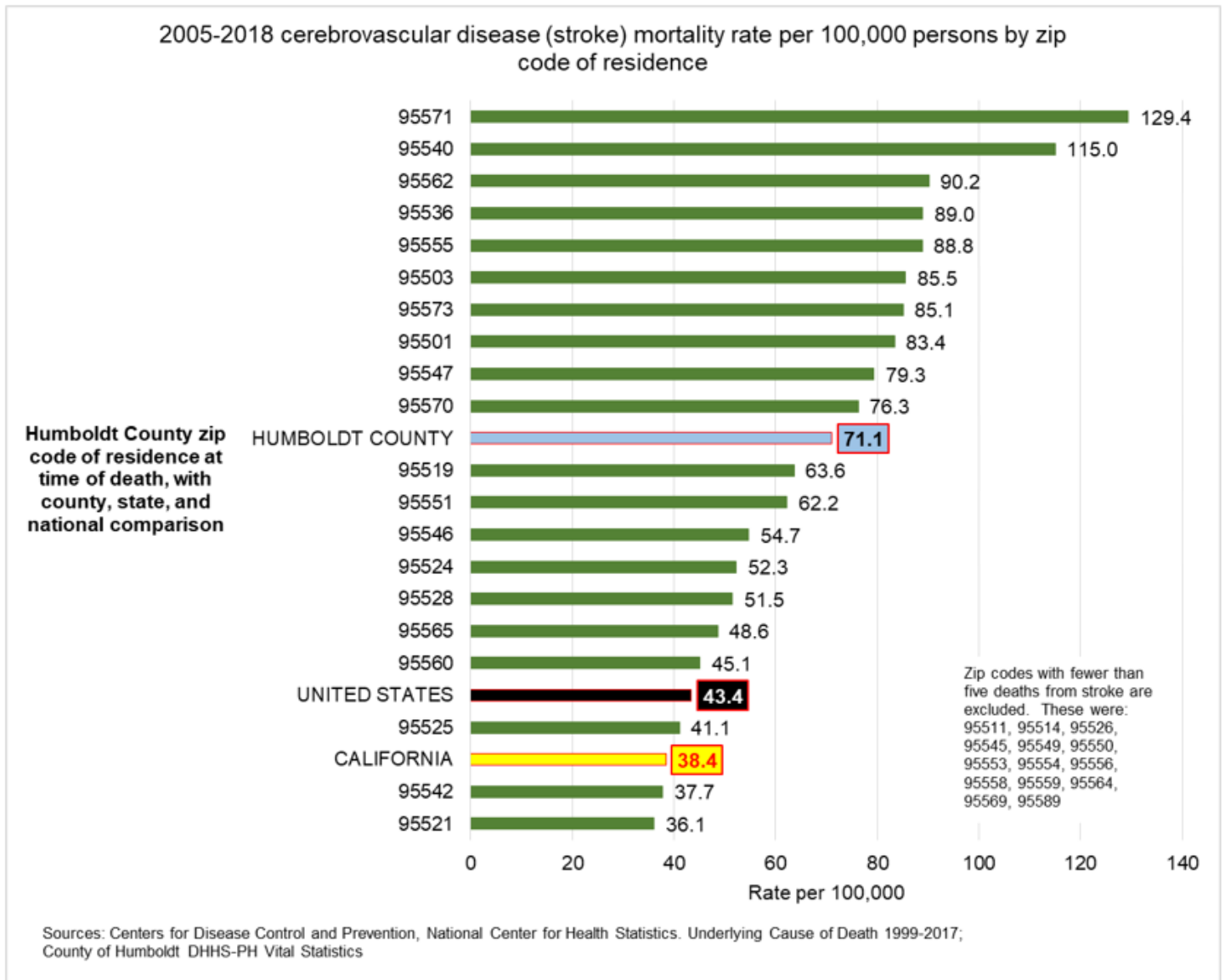


Figure 3:

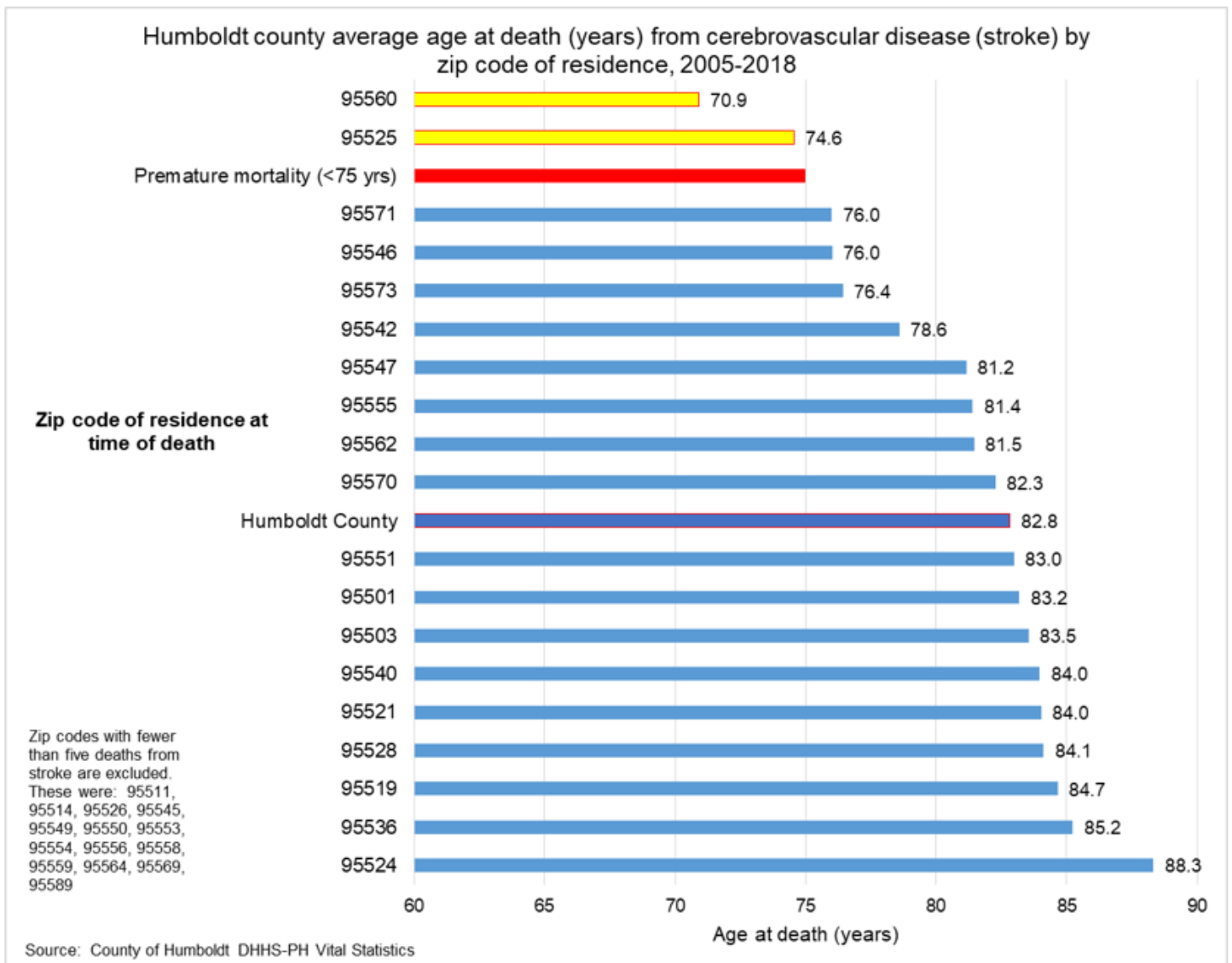
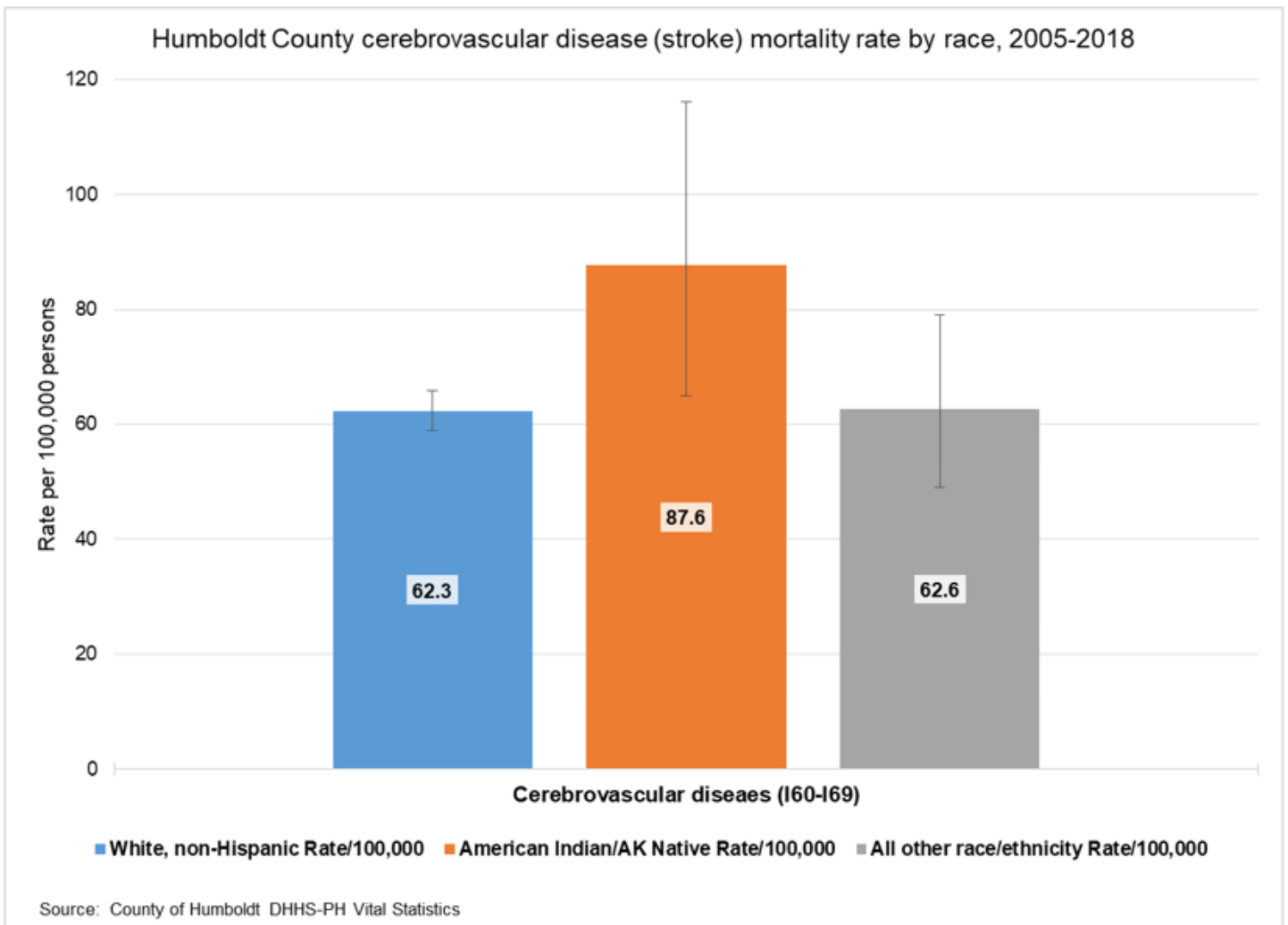


Figure 4:



95% confidence estimates were calculated for each annual rate estimate (see notes, page 6 for additional information.)

For questions regarding this report, contact Ron Largusa MSPH, Epidemiologist, Humboldt County DHHS-Public Health. (707)-268-2187. [rlargusa@co.humboldt.ca.us](mailto:rlargusa@co.humboldt.ca.us)

Sources:

Humboldt County DHHS-Public Health Vital Statistics, 2005-2018

2019 California County Health Status Profiles <https://www.cdph.ca.gov/Programs/CHSI/Pages/County-Health-Status-Profiles.aspx>

Centers for Disease Control and Prevention, National Center for Health Statistics. Underlying Cause of Death 1999-2017 on CDC WONDER Online Database, released December, 2018. Data are from the Multiple Cause of Death Files, 1999-2017, as compiled from data provided by the 57 vital statistics jurisdictions through the Vital Statistics Cooperative Program. <http://wonder.cdc.gov/ucd-icd10.html>

State of California Department of Finance—Demographics <http://www.dof.ca.gov/Forecasting/Demographics/>

Census.gov American FactFinder <https://factfinder.census.gov/faces/nav/jsf/pages/index.xhtml>

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Notes:

Cerebrovascular disease (stroke) deaths are classified using the International Classification of Diseases, Tenth Revision (ICD–10) for codes I60-I69.

Additionally, Humboldt County DHHS-Public Health-Epidemiology analyzes the electronic death registry system for California (CA-EDRS) using VRBIS (Vital Records Business System). The following text fields, or “Literals”, are qualitatively reviewed and each death is grouped into categories:

- a. Causes of death due to **or** as a consequence of a particular health event
- b. Significant conditions contributing to death, including substance use.
- c. Description of injury or illness
- d. Manner of death, as determined by the Humboldt County Coroner or designee (example: Unintentional, Suicide, Natural, etc.)

Death rates are considered “Unreliable” and must be viewed with caution when the rate estimate is calculated with a numerator of 20 or less and/or a relative standard error over 23%. For further information visit: [https://www.cdc.gov/nchs/data/nvsr/nvsr63/nvsr63\\_09.pdf](https://www.cdc.gov/nchs/data/nvsr/nvsr63/nvsr63_09.pdf)

Annual rates for the US, California, and Humboldt County (figures 1 and 3) are age-adjusted to the 2000 US Census population distribution. Crude rates are used in figure 2 to better estimate the stroke mortality burden in Humboldt County zip codes. Confidence intervals for mortality rates from 100+ deaths are calculated using standard normal distribution. Confidence intervals for rates calculated from <99 deaths are calculated using gamma probability distribution.

The cutoff age for determining “years potential life lost” (YPLL) can vary from <65 years to <85 years, depending on the causes of death under study. Typically, the CDC and NCHS use <75 years as the most common cutoff age. This report uses average age at death listed on the death certificate compared with <75 years cutoff as an approximation of YPLL. For an example of YPLL calculation, visit: <http://www.cdc.gov/nchs/hsr/contents2013.htm#021>