

Data Source and Definition

Please find more details from the following data websites.

FEMA Data website:

<https://www.fema.gov/openfema-data-page/disaster-declarations-summaries-v2>

NOAA data website:

<https://www.ncdc.noaa.gov/stormevents/>

Opioid Overdose Deaths Data

The longitudinal opioid-related overdose death data, at the county-by-year level, were constructed using the NCHS's Restricted-Use Vital Statistics of the Detailed Multiple Cause of Death Data that contains records of death certificates in the U.S., with information about the deceased's age, gender, ethnicity, residence county, year and weekday of death, and the contributing causes of death.

Following the CDC practice (<https://www.cdc.gov/nchs/nvss/vsrr/drug-overdose-data.htm>) , we used a combination of underlying death cause codes (X40-X44, X60-X64, X85, and Y10-Y14, for deaths related to drug overdose) and contributing death cause codes (T40.0-T40.4 and T40.6, for opioid-related drugs), to identify opioid-related overdose deaths. We then calculated a county's annual opioid overdose death rates by dividing the death counts by the corresponding populations (per 100,000).

Access to and use of restricted versions of national vital statistics files on detailed multiple causes of death require a research proposal review and approval by the National Center for

Health Statistics (NCHS). For more information and to apply for access, please visit:

<https://www.cdc.gov/nchs/nvss/nvss-restricted-data.htm>. Restricted version of detailed

multiple cause of death files are microdata files. Publicly available county-level national

mortality and population data can be accessed through CDC WONDER at:

<https://wonder.cdc.gov/mcd.html>.

Population data: county-level population

Produced by the U.S. Census Bureau in collaboration with the National Center for Health Statistics (NCHS).

<https://wonder.cdc.gov/bridged-race-population.html>

Unemployment Rate: county-level unemployment rate from BLS

<https://www.bls.gov/lau/tables.htm#cntyaa>

Poverty and Median Household Income:

Poverty and Median Household Income data is from Census “Small Area Income and Poverty Estimates (SAIPE) Program)”

<https://www.census.gov/programs-surveys/saipe/data/datasets.html>

Other county-level control variables were obtained from American Community Survey (5-years):

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