Hep B Mortality Report
A Novel Approach for Hawaiʻi
The question is...

What can you do without surveillance data?
<table>
<thead>
<tr>
<th>State or Jurisdiction</th>
<th>2016 No.</th>
<th>2016 Rate</th>
<th>2017 No.</th>
<th>2017 Rate</th>
<th>2018 No.</th>
<th>2018 Rate</th>
<th>2019 No.</th>
<th>2019 Rate</th>
<th>2020 No.</th>
<th>2020 Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alabama</td>
<td>59</td>
<td>1.2</td>
<td>82</td>
<td>1.7</td>
<td>48</td>
<td>1.0</td>
<td>75</td>
<td>1.5</td>
<td>61</td>
<td>1.2</td>
</tr>
<tr>
<td>Alaska</td>
<td>6</td>
<td>0.8</td>
<td>9</td>
<td>1.2</td>
<td>7</td>
<td>0.9</td>
<td>6</td>
<td>0.8</td>
<td>4</td>
<td>0.5</td>
</tr>
<tr>
<td>Arizona</td>
<td>14</td>
<td>0.2</td>
<td>26</td>
<td>0.4</td>
<td>23</td>
<td>0.3</td>
<td>28</td>
<td>0.4</td>
<td>18</td>
<td>0.2</td>
</tr>
<tr>
<td>Arkansas</td>
<td>49</td>
<td>1.6</td>
<td>46</td>
<td>1.5</td>
<td>47</td>
<td>1.6</td>
<td>39</td>
<td>1.3</td>
<td>36</td>
<td>1.2</td>
</tr>
<tr>
<td>California</td>
<td>115</td>
<td>0.3</td>
<td>126</td>
<td>0.3</td>
<td>105</td>
<td>0.3</td>
<td>111</td>
<td>0.3</td>
<td>53</td>
<td>0.1</td>
</tr>
<tr>
<td>Colorado</td>
<td>28</td>
<td>0.5</td>
<td>32</td>
<td>0.6</td>
<td>21</td>
<td>0.4</td>
<td>17</td>
<td>0.3</td>
<td>13</td>
<td>0.2</td>
</tr>
<tr>
<td>Connecticut</td>
<td>7</td>
<td>0.2</td>
<td>10</td>
<td>0.3</td>
<td>10</td>
<td>0.3</td>
<td>3</td>
<td>0.1</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>Delaware</td>
<td>3</td>
<td>0.3</td>
<td>9</td>
<td>0.9</td>
<td>7</td>
<td>0.7</td>
<td>12</td>
<td>1.2</td>
<td>7</td>
<td>0.7</td>
</tr>
<tr>
<td>District of Columbia</td>
<td>U</td>
<td>U</td>
<td>U</td>
<td>U</td>
<td>U</td>
<td>U</td>
<td>U</td>
<td>U</td>
<td>U</td>
<td>U</td>
</tr>
<tr>
<td>Florida</td>
<td>558</td>
<td>2.7</td>
<td>588</td>
<td>2.8</td>
<td>617</td>
<td>2.9</td>
<td>595</td>
<td>2.8</td>
<td>456</td>
<td>2.1</td>
</tr>
<tr>
<td>Georgia</td>
<td>100</td>
<td>1.0</td>
<td>106</td>
<td>1.0</td>
<td>179</td>
<td>1.7</td>
<td>114</td>
<td>1.1</td>
<td>104</td>
<td>1.0</td>
</tr>
<tr>
<td>Hawaii</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>3</td>
<td>0.2</td>
<td>1</td>
<td>0.1</td>
<td>—</td>
<td>—</td>
</tr>
</tbody>
</table>
Existing Opportunities

Local Context
Existing Opportunities

Local Context

HI Health Matters
Laulima Claims
US Cancer Stats
CDC Wonder
The question is...

How did we use CDC Wonder data?
National Center for Health Statistics
Mortality Data on CDC WONDER

Provisional Multiple Cause of Death Data

- 2018 - Last Month: by Single race categories (6 groups, 15 groups, or 31 groups), age groups (single year age cohorts, 5-year age groups, 10-year age groups, or infant age groups), sex, ethnicity, state, county for residence and death's occurrence, underlying cause of death and multiple cause of death (specified in ICD-10 codes, 113 selected causes, 130 selected cause for infants, injury causes, drug / alcohol induced causes), urbanization, year and month of death, week of death, weekday of death, place of death, and autopsy status.

Current Final Multiple Cause of Death Data

- 2018 - 2021: by Single race categories (6 groups, 15 groups, or 31 groups), age groups (single year age cohorts, 5-year age groups, 10-year age groups, or infant age groups), sex, ethnicity, state, county, underlying cause of death and multiple cause of death (specified in ICD-10 codes, 113 selected causes, 130 selected cause for infants, injury causes, drug / alcohol induced causes), urbanization, year and month of death, weekday of death, place of death, and autopsy status.

Archive Final Multiple Cause of Death Data

- 2005 - 2006: By Bridged race categories (4 groups), age groups (10-year age groups, or infant age groups), sex, ethnicity, state, county, underlying cause of death and multiple cause of death (specified in ICD-10 codes, 113 selected causes, 130 selected cause for infants), urbanization and year.

- 1999 - 2004: By race (3 groups), age groups (10-year age groups, or infant age groups), sex, state, county, underlying cause of death and multiple cause of death (specified in ICD-10 codes, 113 selected causes, 130 selected cause for infants), urbanization and year.

The Multiple Cause of Death data available on CDC WONDER are county-level national mortality and population data. Data are based on death certificates for U.S. residents. Each death certificate contains a single underlying cause of death, up to twenty additional multiple causes, and demographic data. The number of deaths, crude death rates and age-adjusted death rates can be obtained by place of residence (United States national, state, and county), age group, race, Hispanic ethnicity, gender, year and month of death, weekday of death, place of death, autopsy status, and underlying and multiple cause of death (4-digit ICD-10 codes, 113 selected causes of death, 130 selected causes of death for infants, injury causes, drug / alcohol induced causes of death). Two archive datasets offer subsets of these data. For more information, refer to Multiple Cause of Death data description.
About Multiple Cause of Death, 1999-2020

Note: Any use of these data implies consent to abide by the terms of the data use restrictions.

The Multiple Cause of Death database contains mortality and population counts for all U.S. counties. Data are based on death certificates for U.S. residents. Each death certificate contains a single underlying cause of death, up to twenty additional multiple causes, and demographic data. The number of deaths, crude death rates, age-adjusted death rates and 95% confidence intervals for death rates can be obtained by cause of death (4 digit ICD-10 codes), 113 selected causes of death, 130 selected causes of infant death, drug and alcohol related causes of death, injury intent and injury mechanism categories, place of residence (national, region, division, state, and county), age (single-year-of-age, 5-year age groups, 10-year age groups and infant age groups), race (American Indian or Alaskan Native, Asian/Pacific Islander, Black or African American, White), Hispanic ethnicity, gender and year. Data are also available by urbanization categories for county of residence, place of death, month and week day of death, and whether an autopsy was performed.

Data Use Restrictions:

The Public Health Service Act (42 U.S.C. 242m[d]) provides that the data collected by the National Center for Health Statistics (NCHS) may be used only for the purpose for which they were obtained; any effort to determine the identity of any reported cases, or to use the information for any purpose other than for health statistical reporting and analysis, is against the law. Therefore users will:

- Use these data for health statistical reporting and analysis only.
- For sub-national geography, do not present or publish death counts of 5 or fewer or death rates based on counts of nine or fewer (in figures, graphs, maps, tables, etc.).
- Make no attempt to learn the identity of any person or establishment included in these data.
- Make no disclosure or other use of the identity of any person or establishment discovered inadvertently and advise the NCHS Confidentiality Officer of any such discovery.

Confidentiality Officer
National Center for Health Statistics
3311 Toledo Road
Hyattsville, MD 20782
Telephone 888-642-4159
Email: nchscar@cdc.gov

Sanctions for Violating Rules:

Researchers who violate the terms of the data use restrictions will lose access to WONDER and their sponsors and institutions will be notified. Researchers who are suspected of violating the rules may be prevented from using WONDER until an investigation can be completed. Deliberately making a false statement in any matter within the jurisdiction of any department or agency of the Federal government violates 18 U.S.C. 1001 and is punishable by a fine of up to $10,000 or up to 5 years in prison, or both.

By clicking the "I Agree" button I signify that I will abide by the terms of data use stated above and understand the sanctions and legal penalties for violation of these terms of use.

Click Dataset Documentation for complete information about this dataset.
Multiple Cause of Death, 1999-2020 Request
Deaths occurring through 2020

1. Organize table layout:
   - Group Results By: Census Region
   - Notes:
     - Group Results By "15 Leading Causes" to see the top 15 rankable causes selected from the corresponding 113 or 130 Cause List. More Information.
   - Measures (Default measures always checked and included. Check box to include any others.):
     - Deaths
     - Population
     - Crude Rate
     - 95% Confidence Interval
     - Standard Error
     - Age Adjusted Rate
     - 95% Confidence Interval
     - Standard Error
     - Percent of Total Deaths
   - Title

2. Select location:
   - Click a button to choose locations by State, Census Region or HHS Region.
   - Browse or search to find items in the States Finder Tool, then highlight the items to use for this request.
   - (The Currently selected box displays all current request items.)
   - Finder Tool Help Advanced Finder Options
Multiple Cause of Death Data Request

Output: You can produce tables, maps, charts, and data extracts. Obtain death counts, crude death rates, age-adjusted rates, 95% confidence intervals and standard errors for rates, and percentage of total. Select specific disease and demographic criteria to produce cross-tabulated mortality measures. Data are organized into three levels of geographic detail: national, state (including multi-state regions and divisions) and county. The population estimates used as the denominator for rate calculations are also shown.

Variables:
You can limit and index your data by any and all of these variables:

1. Location: HHs Regions, Census Regions and Census Divisions, State, County
2. Age Groups: 10 year age groups, 5 year age groups, single-year age groups and infant age groups
3. Race: American Indian or Alaskan Native, Asian / Pacific Islander, Black or African American, White (archive data for years 1999-2004: Black or African American, White, Other Race)
4. Hispanic Origin: Hispanic or Latino, Not Hispanic or Latino, Not stated (Hispanic Origin not available in archive data 1999-2004)
5. Gender (Sex): Female, Male
7. Month of death: January through December (Month not available in archive data)
8. Weekday of death: Sunday through Saturday, Unknown (Weekday not available in archive data)
9. Autopsy performed: No, Yes, Unknown (Autopsy not available in archive data)
10. Place of Death: Medical Facility - Inpatient, Medical Facility - Outpatient or ER, Medical Facility - Dead on Arrival, Medical Facility - Status unknown (years 1999-2002 only), Decedent's home, Hospice Facility (years 2003 and later only), Nursing home/long term care, Other, Place of death unknown (Place of Death not available in archive data)
11. Cause of Death: underlying and multiple causes of death - ICD-10 codes, 113 Selected Causes, 130 Selected Causes (for infants), Drug/Alcohol Induced Causes (not available in archive data), Injury Intent and Mechanism groups (not available in archive data)
12. Urbanization: classifies population density and other factors at the county level - pick between the 2006 or the 2013 NCHS Urban-Rural Classification Scheme for Counties

How? The Request screen has sections to guide you through the making a data request as step-by-step process. However, to get your first taste of how the system works, you might want to simply press any Send button, and execute the default data request. The data results for your query appear on the Table screen. After you get your data results, try the Chart and Map screens. Or export your data to a file (tab-delimited line listing) for download to your computer.

For more information, see the following:
Quick Start Guide
Step 1. Organize table layout
Step 2. Select location
Step 3. Select demographics
Step 4. Select year and month
Step 5. Select weekday, autopsy and place of death
Step 6. Select underlying cause of death
Step 7. Select multiple cause of death
Step 8. Other options

'By-Variables' Select variables that serve as keys (indexes) for organizing your data. See How do I organize my data? for more information.

Note: To map your data, you must select at least one geographical location as a "By-Variable" for grouping your data, such as State or County.

Help: Click on any button labeled "Help", located to the right hand side of the screen at the top of each section. Each control’s label, such as the "Location" label next to the Location entry box, is linked to the on-line help for that item.

Send: Sends your data request to be processed on the CDC WONDER databases. The Send buttons are located on the bottom of the Request page, and also in the upper right corner of each section, for easy access.

CLICK HERE for the "Quick Start Guide"
https://wonder.cdc.gov/wonder/help/mcd.html#
Identify ICD-10 Codes
Using CDC Wonder

1 Hep B: B16, B17.0, B18.0, B18.1
Causes of Death

Attention!
Age Adjust Rates

Using CDC Wonder

Adjust to age distribution of 2000 US standard population

Express per 100,000 population
Confidentiality & Suppression Rules

Using CDC Wonder

**3**

**Suppress** if <10 deaths in year

**Report** “unreliable rate” if <20 deaths in year
Combine Years for Hep B in Hawaii

Using CDC Wonder

Calculate 3-yr moving average rates (due to small #/yr)

Run separate queries for each 3 yrs

--19 queries to generate trend data for 2000-2020
Highlight of Findings

2000-2020 in Hawaiʻi
Figure 1. Age-adjusted rates of hep B associated death (per 100K), Hawaiʻi vs U.S.
Figure 2. Percentage of Asian or Pacific Islander (API) Residents among general population vs hepatitis-B associated death, 2000-2020, Hawaii

- General population: 62%
- Hep B associated death: 80.1%
Figure 3. Three-year moving average rates of hep B associated death (per 100K), statewide vs API populations

Natl 2025 Goal for API ≤1.84
Limitations
Insufficient Data

Limitations

No individual level (consider confounders)

Cannot separate API (except dataset 2018-2021)
Underreporting

Limitations

- Hep B Decedents: 81 reported, 19 underreported
- Liver Disease Decedents: 60 reported, 40 underreported
Hepatitis B Reported as Cause of Death (%)\(^4\)

- Hep B Decedents: 19 (81% reported)
- Liver Disease Decedents: 60 (40% reported)

\(^4\) Source: CDC's National Center for Health Statistics
Data to Action
Action

Dissemination

HepFree
Action

Dissemination
Action
Dissemination
Access

Dissemination
Access

Dissemination
Access Dissemination
Access

Dissemination

DEPARTMENT OF HEALTH

FOR IMMEDIATE RELEASE

Friday, July 15, 2023

20-259

DOH report finds high rates of hepatitis B and liver cancer mortality among Asian and/or Pacific Islander residents in Hawaii

HONOLULU – The Hawaii Department of Health (DOH) recently released a report that found higher rates of hepatitis B virus infection and liver cancer mortality in Hawaii, compared to the United States. The Hawaii Hepatitis B Mortality and Liver Cancer report analyzed mortality data from 2000 to 2019 in order to guide local efforts to improve health and reduce preventable deaths.

This novel report was the first comprehensive analysis of hepatitis B and liver cancer death data for Hawaii. The most important findings from the report include:

- Hawaii has some of the highest hepatitis B death rates nationwide. In 2019, the rate for Hawaii (1.14 per 100,000) was almost three times the national rate (0.42 per 100,000).
- Hepatitis B death rates were higher among Asian and Pacific Islander (API) residents in Hawaii. Rates for API residents were 1.2 to 1.4 times the rate of the state average.
- Liver cancer death rates in Hawaii were consistently higher than the national average, with Hawaii rates 1.1 to 1.8 times national rates. This overall trend was driven by higher rates among male and API residents, compared to the rest of the state.

Based on these findings, the report makes recommendations to reduce the burden of hepatitis B and liver cancer mortality, including additional research and reporting, improved data collection...
Awareness

Dissemination
Awareness

Dissemination
Awareness

Dissemination

Figure 1. Age-adjusted rates of hepatitis B associated death (per 100K), Hawaii vs U.S.

https://centersforbiologicaldiversity.sharefile.com/share/view/s2a0d856f8a754e8fac21c3b1196aec1e
The question is...

What can you do with non-surveillance data?
Download Report

https://health.hawaiigov/harmreduction/new-hep-b-mortality-article/
Contact Us

Fenfang Li - fenfang.li@doh.hawaii.gov

Nichole Rahberg - nichole.fukuda@doh.hawaii.gov

Risa Goto - rgoto1@g.ucla.edu

Thaddeus Pham – thaddeus.pham@doh.hawaii.gov

