**HOME PAGE**

1. Top Header:

**Welcome to the Beta-Test Version of the CCB!**

*Beta-testing in progress October-November 2018*

Share your feedback!

1. Above the fold (column):  (need to know)

The California Community Burden of Disease Engine (CCB) is a tool to explore data on burden of disease in multiple levels of geographic granularity in order to answer and generate questionsabout intersection between health disparities and place.

This tool is designed for epidemiologic analysis and to provide systematic scientific insight to inform public heath planning, evaluation and action.

The CCB currently displays 17 years of California statewide, county, community, and census tract condition-specific mortality burden, using a range of measures, with interactive rankings, charts, maps and trend visualizations. The list of conditions is based on the Global Burden of Disease system, modified for local public health priorities. The CCB also includes a limited set of social determinants data and describes their correlations with death outcomes, as a pilot for more robust functionality in this area.

This app deployment is for preliminary internal CDPH review. Do not share these data with external partners. Any/all comments regarding errors, enhancements, or any other ideas about this version are most welcome.

**Share your feedback!**

Help us improve the CCB by taking a short survey.

1. Below the fold (column): (utilities and details)

Find a bug or have a question?

DEFINITIONS

YLL: Years of Life Lost

SMR: Standard Mortality Ratio (Local Rate/State Rate)

Community: Medical Service Study Areas (MSSA)

LINKS

California Death Data

California Health and Human Service Agency Open Data Portal

American Community Survey

Healthy Places Index

OHE

Let’s Get Healthy California

Developed in R-Shiny

Version: 0.5.X

GitHub Site

1. Graphic panel: (expanded “about” content)

[Above graphics]

California Community Burden of Disease and Cost Engine (CCB)

*An  toolset for epidemiologic analysis and scientific insight,*

*exploring the intersection between health disparities and place*

[GRAPHICS]

[Below graphics]

**Coming Soon:**

The CCB is very much a work in progress- and is intended to be an evolving toolset developing new content and functionality in response to the needs of public health practitioners.

Examples of upcoming development and data integration enhancements:

* Expanded range of social determinants data
* Hospital discharge and emergency department data
* Cost data based on hospital discharge
* Enhanced user interface
* Automated report generation
* And more !!!!
* Our team will also be using the feedback gathered through this beta-testing window to prioritize future enhancements.

**Another great project of the CDPH Fusion Center!**The CCB is one of the ways the Fusion Center is working to explore the lens of place and its impact on health disparities.  The CCB is an initiative of the Fusion Center implemented with participation from a crosscutting technical team, with representatives from multiple CDPH programs.

This platform is also a pilot component of the CDPH Ecosystem of Data Sharing, leveraging a rich multi-level data set/system for modeling and predictive analytics and demonstrating automated and integrated data processing, analytics, and visualization. The project employs nimble modular development, with the goal to share tools/resources with outside partners (counties and other states).

**The Community Burden of Disease Project**

The CCB is the California State implementation piloting the Community Burden of Disease Project (CBDP). The code and system are written and structured to be useable by states and counties throughout the United States—with any state or county using their own structured input file of events (e.g. deaths), and the CBD system supplying underlying population data, social determinants of health data, and all the processing, calculations, and tools to generate a range of interactive displays of multiple rate and count measures.

Technical notes:

At the county level, data are displayed separately for each year, and at the community or census-tract level are displayed only for the most recent five-year period (combined). Data for some conditions with very few deaths and/or with other sensitivity considerations are suppressed in this release.

**Tab descriptions (10/20/18 version – from CCB)**

**MAPS**

These maps display the geographic distribution of disease burden among counties and communities across California. The **Geo Level** options allow the user to change the display from county, to community, to census tract. This selection is one of the key concepts behind the app, **Place Matters**. Insights into the burden of disease must be explored at multiple geographic levels, especially granular community\* levels. Data at the community and the census tract levels are aggregated to 5-year intervals.   
  
Users can either view the state as a whole or zoom to a specific county for a better view of just that county, and its subcounty detail. Throughout the CCB, communities are defined by Medical Service Study Areas (MSSAs). More detail on MSSAs is available in the Technical tab.  
  
Users can select from various measures of mortality to assess burden of disease. Selecting the **State-based cutpoints** option allows for comparisons based on the statewide distribution instead of just within the county.   
  
The interactive map allows for zooming in and out to see streets or other geographically identifying locations. Users can click on a selected geography on the interactive map to display a pop-up with additional information.   
  
The static map is better for use in an external presentation. The Place Names option displays county and community names.

For additional help or more info, click the “?” button next to each tool, or check out the Technical tab .

**RANK CONDITIONS**

This tab displays cause-of-death rankings for either a selected county or the whole state. The figure shows the ranking based on five different measures, and can be sorted based on any of these measures using the **Measure Sort Order**. Different insights can be gained by ranking on different measures (e.g. ranking on the number of deaths or 'age-adjusted death rates' reflects overall burden of disease; ranking on mean age at death shows the conditions that impact young people the most, and ranking on Standard Mortality Ratio (SMR) show those conditions for which a county has particularly high rates compared to the State average). The **Levels to show** option allows user to select between broad or narrow categories of conditions. The **How Many** button determines how many causes of death to display on the graph.   
  
Ranking on SMR provides a special window in the potentially unique priority of a condition in the selected geography. A large SMR means the condition is especially high in that geography relative to the State average, even if the condition does not have a large number of deaths. This is an important way to detect conditions that, while perhaps not common, are unusually high (or low) in a county or community in which one is interested. To aid in using this measure, the vertical red line is at 1.2, corresponding to the measure being 120% higher in the selected geography than the State average. The green line is at 0.8, 80% of the State average and the grey line is at 1.0, right on the State average.

Because SMR compares County rates to the State average, it is only available for Counties, and does not display when the statewide “California” geography is selected.

For additional help or more info, click the “?” button next to each tool, or check out the Technical tab .

**RANK CONDITIONS TABLE**

This is a tabular version of the Rank Conditions tab, providing for a more granular examination of specific numbers or rates. Users can sort the table on any of the measures and can use the search window to quickly find a specific condition.

For additional help or more info, click the “?” button next to each tool, or check out the Technical tab .

**RANK CONDITIONS BY SEX**

(This tab work in progress, awaiting further development of the tab)   
  
This tab ranks causes within a selected geography separately for males and females. It can highlight conditions that appear to be a leading cause of death for one sex but not the other.

For additional help or more info, click the “?” button next to each tool, or check out the Technical tab .

**RANK COUNTIES/COMMUNITIES**

This tab displays the ranked order of counties in California, or the communities within a selected county, for a selected condition. These rankings highlight places where a particular condition is the highest as well as highlighting geographical disparities of the condition. Users can select from multiple measures which reflect different dimensions of health burden. Years of life lost and number of deaths will tend to be highest in areas with the largest populations, whereas rate measures adjust for population size.

Note that higher ranking counties or communities may not be meaningfully higher from a statistical perspective; examining confidence intervals will help determine if there is a meaningful difference or not. Users can display confidence intervals by checking the **95% CIs** option. In the current version, confidence intervals are only displayed for the crude death rate and age-adjusted death rate but will be available soon for other measures.

For additional help or more info, click the “?” button next to each tool, or check out the Technical tab .

**TREND**

This graph displays the trend over time for a particular condition within a selected geography, separately for males, females, and the total population. Reviewing the trend over time is important for understanding which problems are improving and which are getting worse.

Note: Because the data for the communities and census tracts are currently aggregated for 5 years, those data are not available currently in the trend tab.

For additional help or more info, click the “?” button next to each tool, or check out the Technical tab .

**SOCIAL DETERMINANTS OF HEALTH ASSOCIATIONS**

This tab is preliminary and under development.   
  
This scatter plot displays the correlation of a selected <b> Social Determinant of Health<b> <b> Social Determinant of Health<b> measure with a selected condition. Each dot maps the value of the social determinant measure against the value of the condition measure for one geographic unit (county, community, or census tract). Because this association is 'ecologic' (correlation of geographic units, not of individuals), it is particularly important in this tab to look at measures that take into account the size and age distribution of the population, such as age-adjusted YLL rate and age-adjusted death rate. While correlations do not indicate causation, they are a potentially important way to understand the differential roles of some social determinants of health on disease outcomes.   
  
In the current version, the colors represent the regions of the state and the size of the dots is proportional to the size of the population represented by the dot.

Note: Currently this tab only displays one variable, but the display and analysis in this tab will be expanded to include multiple variables simultaneously.

For additional help or more info, click the “?” button next to each tool, or check out the Technical tab .

**Tab descriptions (10/2/18 version)**

**RANK CONDITIONS**

This tab displays cause-of-death rankings for either a selected county or the whole state. The figure shows the ranking based on five different measures, and can be sorted based on any of these measures. Different insights can be gained by ranking on different measures (e.g. ranking on the number of deaths or “age-adjusted death rates” shows the more “typical” ranking of most systems; ranking on mean age at death shows the conditions that impact young people the most, and ranking on SMR show those conditions for which a county has particularly high rates compared to the State average). The “How Many” button determines how many causes of death to display on the graph.

**RANK CONDITIONS TABLE**

This is a tabular version of the Rank Conditions tab, providing for a more granular examination of specific numbers or rates., Users can sort the table on any of the measures and can use the search window allows users to quickly find a specific condition.

**RANK CONDITIONS BY SEX** (work in progress – awaiting further development of the tab)

This tab ranks causes within a selected geography separately for males and females. It can highlight conditions that appear to be a leading cause of death for one sex but not the other.

**RANK COUNTIES/COMMUNITIES**

This tab displays the ranked order of counties in California or the communities within a selected county for a selected condition.These rankings highlight places where a particular condition is the highest as well as highlighting geographical disparities of the condition. Years of life lost and number of deaths will tend to be highest in areas with the largest populations, whereas rate measures adjust for population size.Note that higher ranking counties or communities may not be meaningfully higher from a statistical perspective; examining the confidence intervals will help determine if there is a meaningful difference or not.

Note: In the current version, confidence intervals are only displayed for the crude death rate but will be available soon for all measures.

**SOCIAL DETERMINANTS OF HEALTH ASSOCIATIONS**

This scatter plot displays the correlation of a selected social determinant measure with a selected condition. Each dot maps the value of the social determinant measure against the value of the condition measure for one geographic unit (county, community, or census tract). Because this association is “ecologic” (correlation of geographic units, not of individuals), it is particularly important in this tab to look at measures that take into account the size and age distribution of the population, such as age-adjusted YLL rate and age-adjusted death rate. While correlations do not indicate causation, they are a potentially important way to understand the differential roles of some social determinants of health on disease outcomes.

(Needs to be added)In the current version, the colors represent the regions of the state – the colors represent the rurality levels of the places represented by the dots

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