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 questions, both simple and complex, about the intersection between health disparities and place.

This tool is designed for use by CDPH programs, local health departments, and community partners for epidemiologic analysis and to provide systematic scientific insight to inform public health planning, evaluation and action.

The CCB currently displays over 15 years of California condition-specific mortality burden data, using a range of measures, displayed at the statewide, county, community, and census tract levels, 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.

The CCB is 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 enhancements:

Hospital discharge and emergency department data

Cost (charges) data based on hospital discharge

Life expectancy estimates at the census tract, community, and county levels

Incorporation of Institute for Health Metrics and Evaluation California Disability Adjusted Life Years Estimates

Incorporation of 'multiple cause of death' and 'out of state' death data files

Expanded range and analysis of social determinants data

Additional displays of statistical significance

Enhanced user interface

Automated report generation

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, of 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 System

The CCB is the California State implementation piloting the Community Burden of Disease System. 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 Community Burden of Disease 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.