Community Level Estimates and Open Data: Informing Communities

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2017 COLORADO CULTURE OF DATA CONFERENCE

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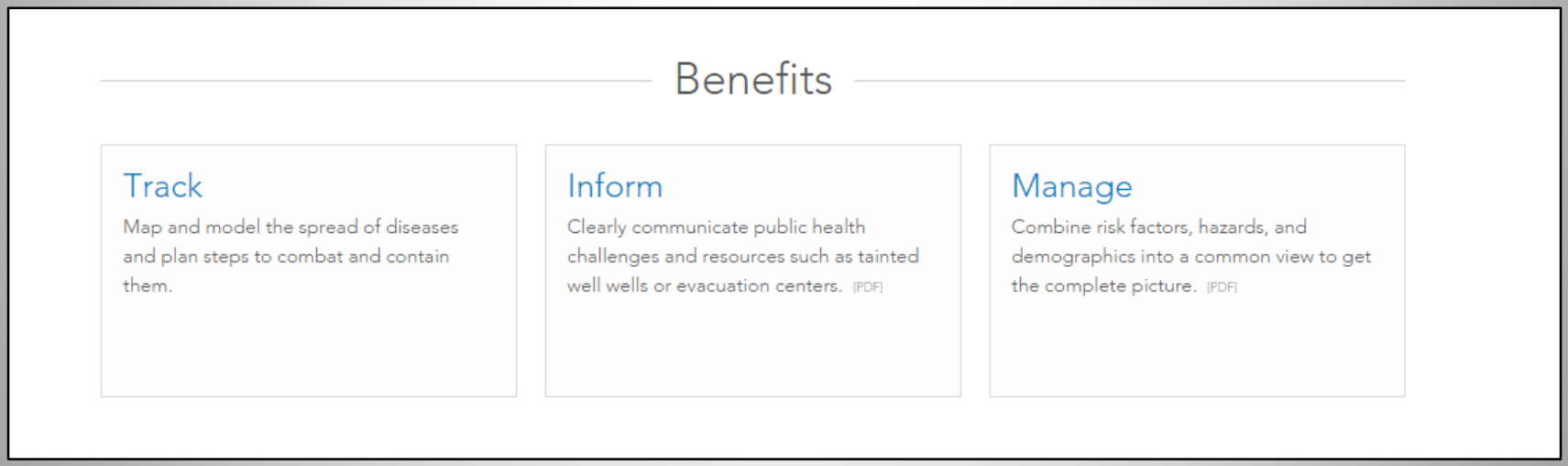
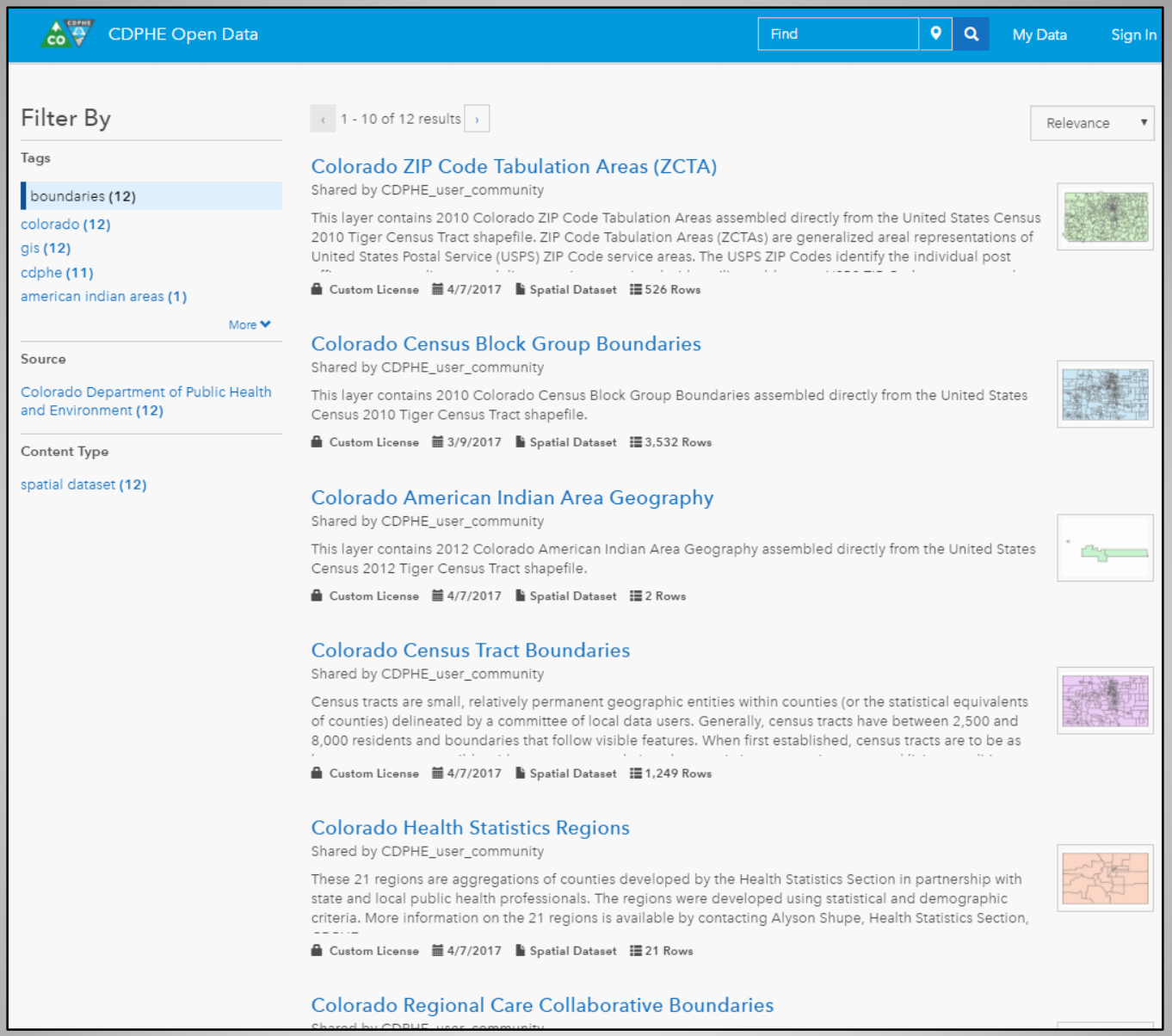
Data, I think, is one of the most powerful mechanisms for telling stories. I take a huge pile of data and I try to get it to tell stories.
Steven Levitt





Boundary Delineations

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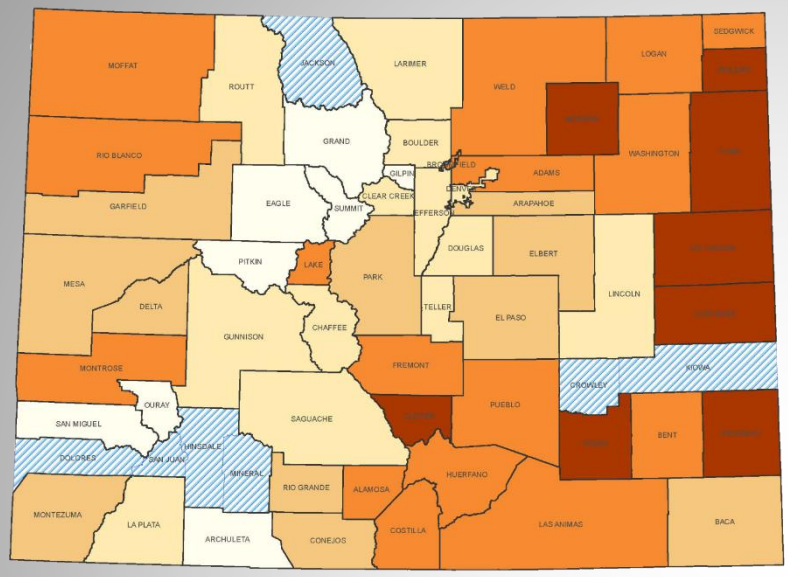
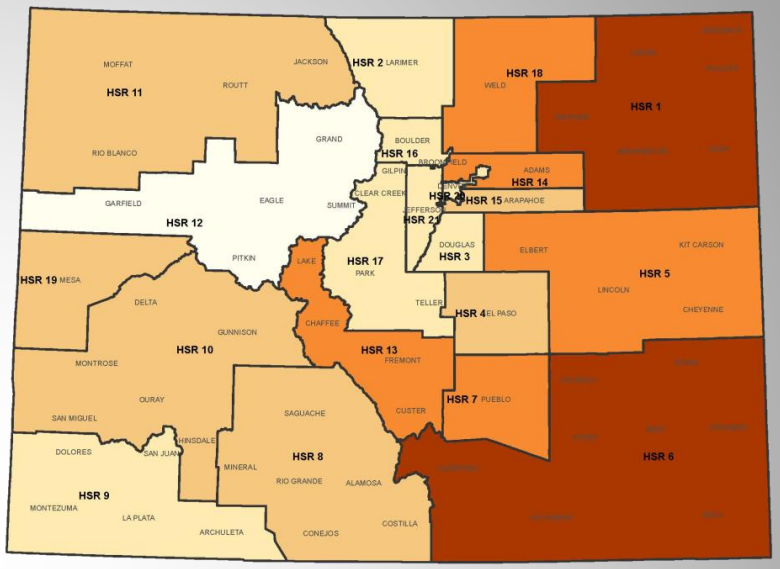
A Need for Sub-County Level Health Data



County BRFSS Direct Estimates (with gaps)



Health Statistics Region (HSR) Aggregation

BRFSS Direct Estimates
County

- 31% - 43%
- 43% - 54%
- 54% - 59%
- 59% - 67%
- 67% - 80%

BRFSS Direct Estimates
Health Statistics Regions

- 0 - 44%
- 44% - 54%
- 54% - 59%
- 59% - 64%
- 64% - 69%

Community Level Estimates

Peer Reviewed Literature

- *Hinojosa et. Al Environ Res. 2014 Oct;134:435-52*
- *Xingyou et. Al Am J Epidemiol (2015) 182 (2): 127-137*
- *D'Agnostio-McGowan et al Int J Environ Res Public Health. 2013 Dec 27;11(1):418-28*

Consulting Experts

- Xingyou Zhang, Ph.D. –Small Area Estimation Branch Chief, U.S. Census
- Shumei Yun, MD, Ph.D. – State Chronic Disease Epi, Missouri Dept. of Health
- Melody Goodman, Ph.D –Washington University of St. Louis

Existing Technology and Data

- PROC GLIMMIX in SAS
- U.S. Census Bureau – American Community Survey data
- Colorado Behavioral Risk Factor Surveillance System (BRFSS) data
- CDPHE Open Data

Generalized Linear Multi-Level Regression

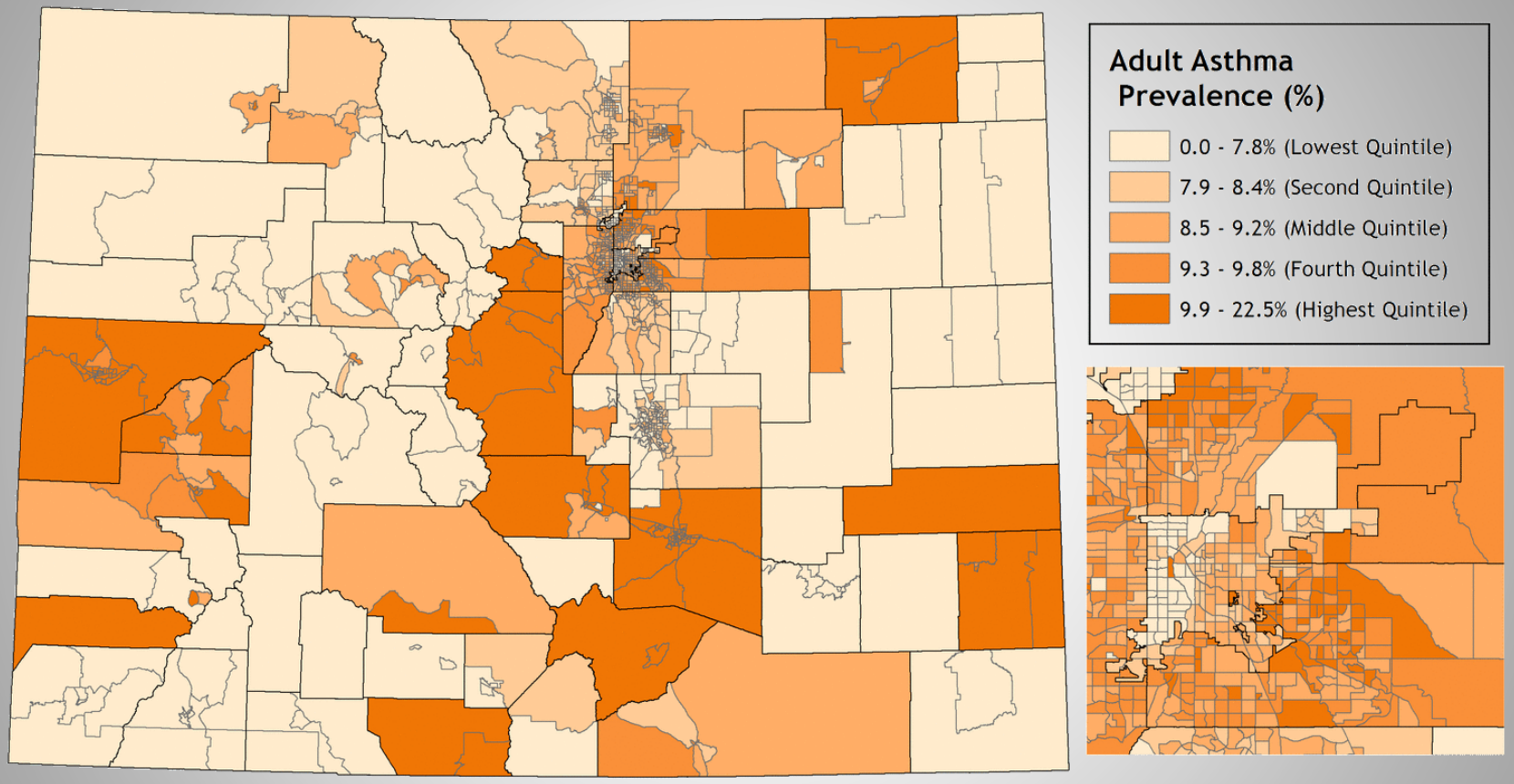
24 Age/Race/Gender Group
Modeled Probabilities

Multiplied by 24 Age/Race/Gender Group
Census Tract Populations

Summed 24 Age/Race/Gender Group Estimates
÷ Total Tract 18+ Population

Census Tract Level Estimate

Adult Current Asthma* Prevalence by Census Tract, Colorado



Includes persons who answered "yes" to the questions: "Has a doctor, nurse, or other health professional EVER told you that you had any of the following: (Ever told) you had asthma?" and "Do you still have asthma?"

Source: CDPHE Community Level Estimates, 2016

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14 Modeled Estimates of Health Indicators:

Unhealthy behaviors

- Binge drinking
- Smoking
- No leisure-time physical activity
- Obesity
- Overweight
- Heavy drinking

Health outcomes

- Asthma
- Coronary heart disease
- Diabetes
- Mental distress
- Physical health not good
- Self-reported health status

Prevention measures

- Routine checkup
- Delayed medical care due to cost

2013-2016 estimates will be published in September 2017!

Limitations

The community level estimates are modeled/predicted based on demographic estimates.

The community level estimates are based on other data sources with their own sampling biases.

The estimates do not represent the known prevalence of adults for an individual neighborhood or census tract.

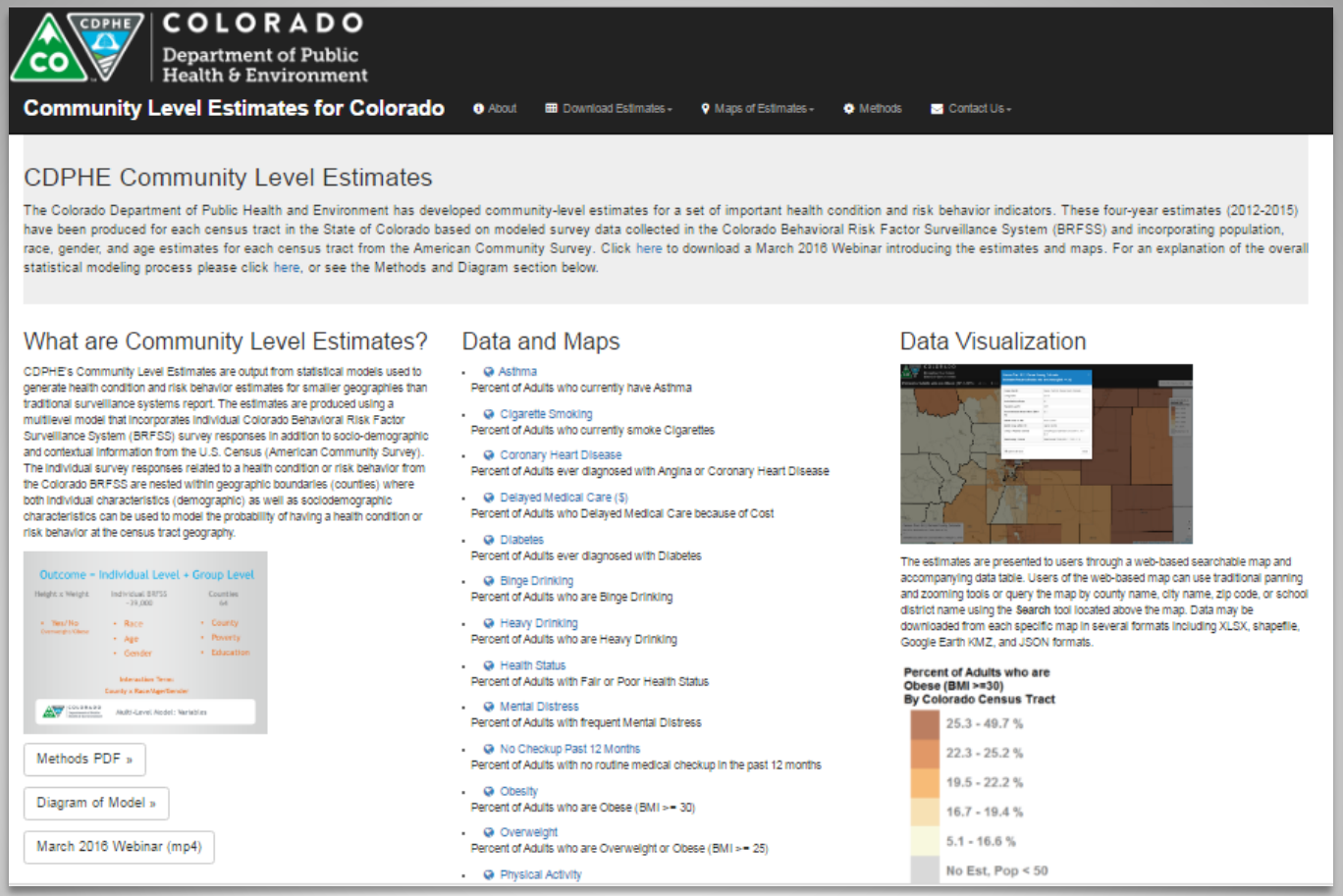
No local city/neighborhood-level health outcome or risk behavior data is incorporated into the model to generate the estimates.

The community level estimates cannot be used for pre/post program evaluation.

Community Level Estimates: External Validations

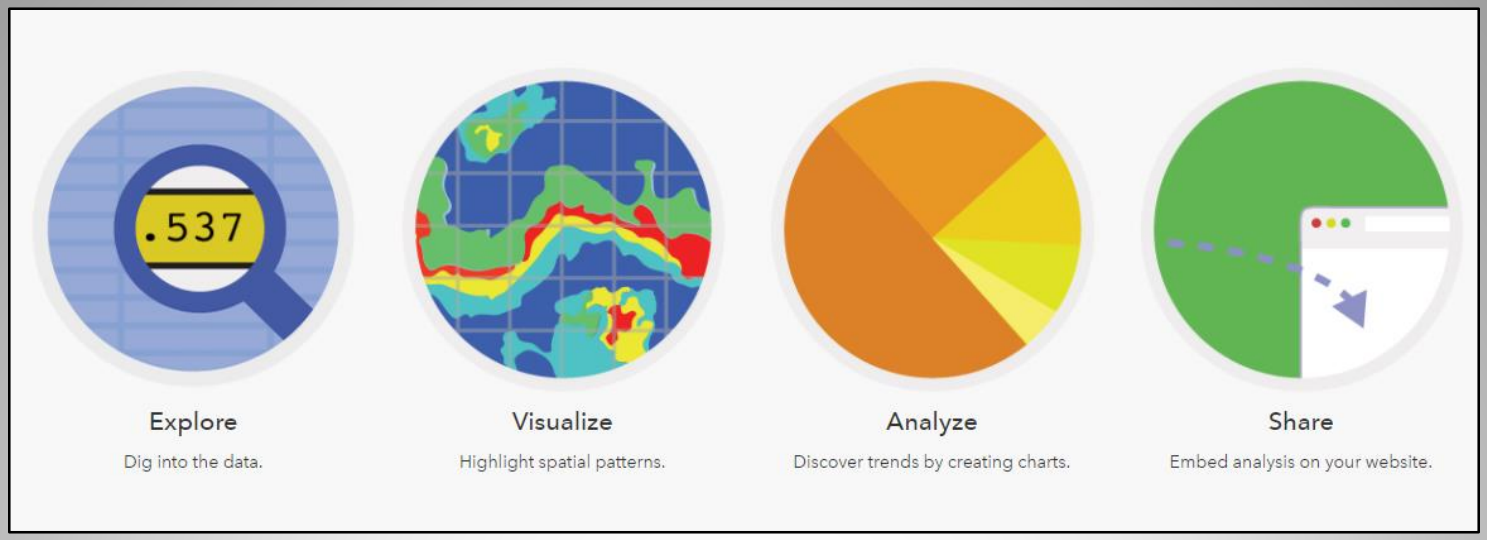
Gallup · Healthways Well-Being Index®

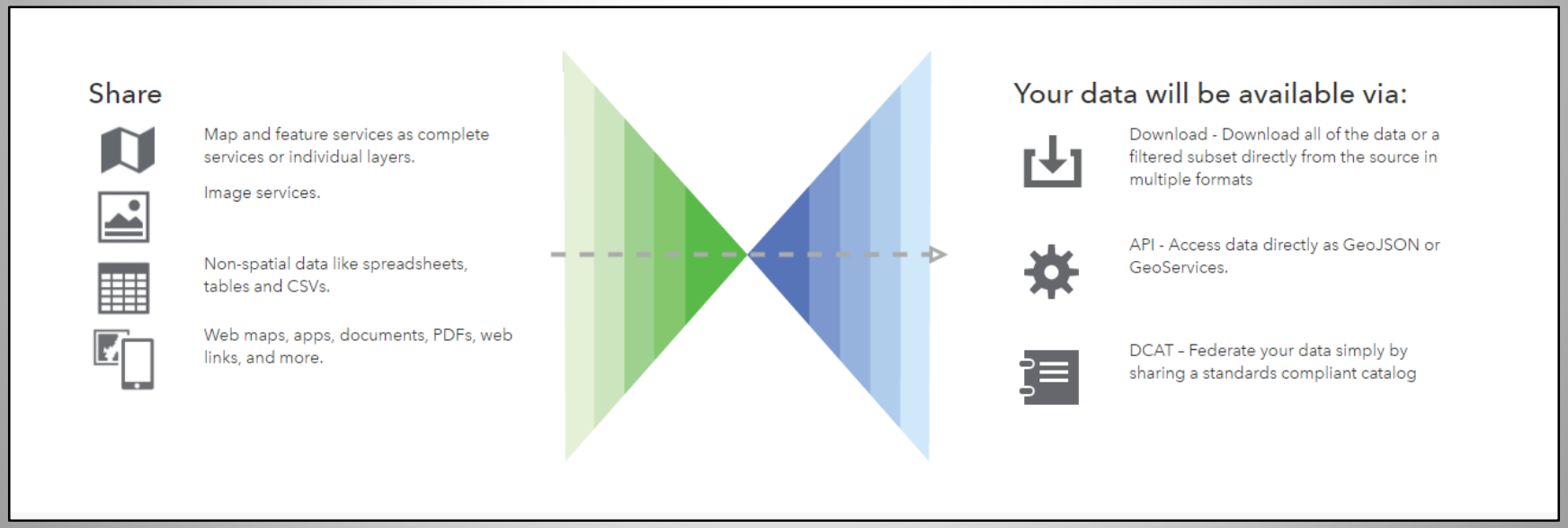
Health District of Northern Larimer County



http://www.bit.ly/CDPHE_CLE

OR…





What is Open Data?

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http://data-cdphe.opendata.arcgis.com/

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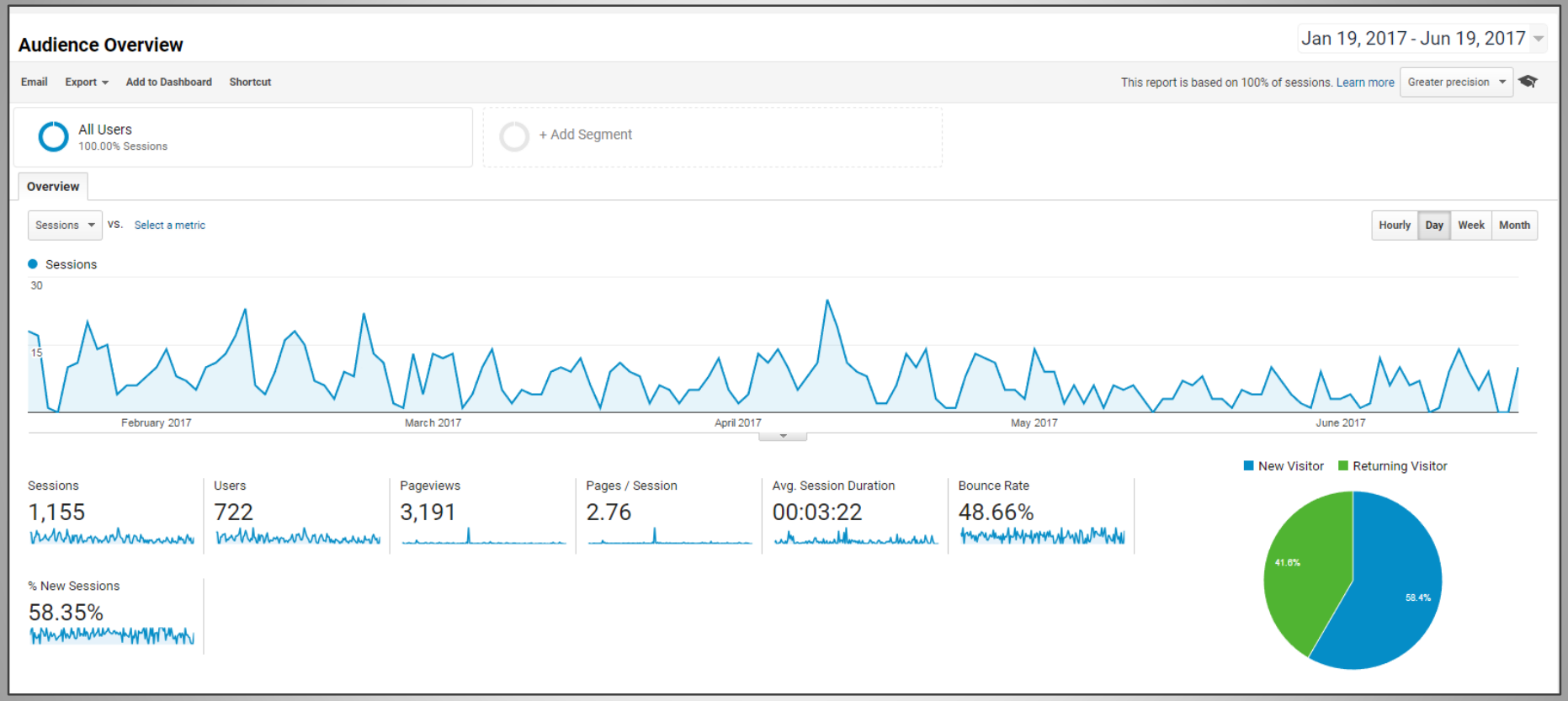

CDPHE Open Data Web Statistics – 6 months

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CDPHE Open Data

city

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Filter By

Tags

- health (36)
- cdphe (36)
- colorado (36)
- gis (36)
- asthma (3)
- diabetes (3)
- facilities (3)
- heart disease (3)
- alcohol (2)
- influenza (2)

Fewer

Source

Colorado Department of Public Health and Environment (36)

Content Type

spatial dataset (36)

‹ 11 - 20 of 36 results ›

Most Recent

Influenza Hospitalization Rate (Census Tracts)

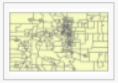
Shared by CDPHE_user_community

These data contain the Age-Adjusted Colorado Census Tract Rate of Influenza-Related Hospital Discharges (2011-2015) and Inpatient Hospitalizations per 100,000 persons based on the ICD-10 Code of J10-J11. The rates are calculated using the geocoded billing address of discharged individuals found in the dataset with the

Custom License 4/7/2017 Spatial Dataset 1,249 Rows

CDPHE Composite Community Level Estimates (Census Tract)

Shared by CDPHE_user_community



The Colorado Department of Public Health and Environment has developed community-level estimates for adults in a set of 14 important health condition and risk behavior indicators. The dataset includes indicators on adult asthma prevalence, cigarette smoking prevalence, coronary heart disease prevalence, percent of

Custom License 4/7/2017 Spatial Dataset 1,249 Rows

Asthma Hospitalization Rate (Census Tracts)

Shared by CDPHE_user_community

These data contain the Age-Adjusted Colorado Census Tract Rate of Asthma-Related Hospital Discharges (2011-2015) and Inpatient Hospitalizations per 100,000 persons based on the ICD-10 Code of J45-J46. The rates are calculated using the geocoded billing address of discharged individuals found in the dataset with the

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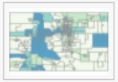
Alcohol Consumption: Adults Who Binge Drink - CDPHE Community Level Estimates (Census Tracts)

Shared by CDPHE_user_community



These data represent the predicted (modeled) prevalence of Binge Drinking among adults for each census tract in Colorado. Binge Drinking is defined for males as having five or more drinks on one occasion and for females as having four or more drinks on one occasion within the past 30 days. The estimate for each census

Custom License 4/7/2017 Spatial Dataset 1,249 Rows

CDPHE Health Facilities

Shared by CDPHE_user_community

Point geometry feature class representing known regulated health facilities in Colorado, developed directly from address information obtained directly from the Health Facilities and Emergency Medical Services Division of the Colorado Department of Public Health and Environment in 2017. Coordinate locations

Custom License 4/7/2017 Spatial Dataset 3,160 Rows

Health Outcome and Risk Factor Data

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CDPHE Open Data

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Relevance

Tags

- demographics (10)
- cdphe (10)
- colorado (10)
- gis (10)
- age (1)
- disability (1)
- education (1)
- employment (1)
- income (1)
- language spoken (1)

Fewer

Source

Colorado Department of Public Health and Environment (10)

Content Type

spatial dataset (10)

Employment (Census Tracts)

Shared by CDPHE_user_community

These data contain selected census tract level demographic indicators (estimates) from the 2011-2015 American Community Survey representing the percent of the civilian labor force population (Age 16+) that is unemployed.

Custom License | 4/7/2017 | Spatial Dataset | 1,242 Rows

Language Isolation (Census Tracts)

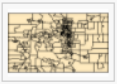
Shared by CDPHE_user_community

These data contain selected census tract level demographic indicators (estimates) from the 2011-2015 American Community Survey representing the percent of the population (Age 5+) that speak English less than well.

Custom License | 3/9/2017 | Spatial Dataset | 1,242 Rows

Income/Poverty (Census Tracts)

Shared by CDPHE_user_community



These data contain selected census tract level demographic indicators (estimates) from the 2011-2015 American Community Survey representing the percent of the population (for all persons) with annual income below the federal poverty level.

Custom License | 3/9/2017 | Spatial Dataset | 1,242 Rows

CDPHE Composite Socio-Demographic Dataset (Census Tract)

Shared by CDPHE_user_community

This census tract geography dataset includes selected indicators (2011-2015 5-Year Averages) pertaining to population, age, race/ethnicity, language, housing, poverty/income, education, disability, health insurance, employment, and age*race*gender groups. This dataset is assembled annually from the U.S. Census American

Custom License | 4/7/2017 | Spatial Dataset | 1,249 Rows

Disability (Census Tracts)

Shared by CDPHE_user_community

These data contain selected census tract level demographic indicators (estimates) from the 2011-2015 American Community Survey representing the percent of the non-institutionalized civilian population (Age 5+) with a disability.

Custom License | 3/3/2017 | Spatial Dataset | 1,242 Rows

Race/Ethnicity (Census Tracts)

Socio-Demographic and Economic Disparity Data

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Relevance

Tags

facilities (10)
cdphe (10)
colorado (10)
gis (10)
health (3)
More

Source

Colorado Department of Public Health and Environment (10)

Content Type

spatial dataset (10)

CDHS Colorado Licensed Childcare Providers

Shared by CDPHE_user_community

This data set represents the known location of licensed Colorado Childcare Providers as provided to CDPHE by the Colorado Department of Human Services in 2017.

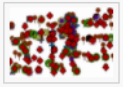
Custom License | 4/7/2017 | Spatial Dataset | 5,398 Rows

Disability Resource Providers: Colorado Community Inclusion

Shared by CDPHE_user_community

This data set represents the known locations of community resources in Colorado serving the Disability community. This map details the agency locations for the following services: Area Agencies on Aging (AAA), Aging and Disability Resources (ADRC), Alzheimer's Association (ALZHEIMERS), ARC Offices (ARC),

Custom License | 4/7/2017 | Spatial Dataset | 830 Rows



CDHS Colorado Licensed Childcare Providers 2016

Shared by CDPHE_user_community

This data set represents the known location of licensed Colorado Childcare Providers as provided to CDPHE by the Colorado Department of Human Services in 2016.

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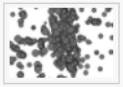

CDPHE Community Behavioral Health Centers

Shared by CDPHE_user_community

Point geometry feature class representing Community Behavioral Health Centers and Resource locations, developed directly from address information obtained directly from the Office of Emergency Preparedness and Response, Colorado Department of Public Health and Environment, in 2017. Coordinate locations

Custom License | 3/10/2017 | Spatial Dataset | 219 Rows

CDPHE CDOE School Locations and District Office Locations

Shared by CDPHE_user_community

Point geometry feature class representing Colorado public school and private school locations along with the locations of school district offices, developed directly from address information obtained from the Colorado Department of Education in 2017. Coordinate locations (latitude/longitude) were derived from the known

Custom License | 3/20/2017 | Spatial Dataset | 2,481 Rows

CDPHE Colorado Drug Treatment Programs and Resources

Shared by CDPHE_user_community

Point geometry feature class representing known Colorado Drug Treatment Program Resource locations

Health Facilities, Schools, Community Resources

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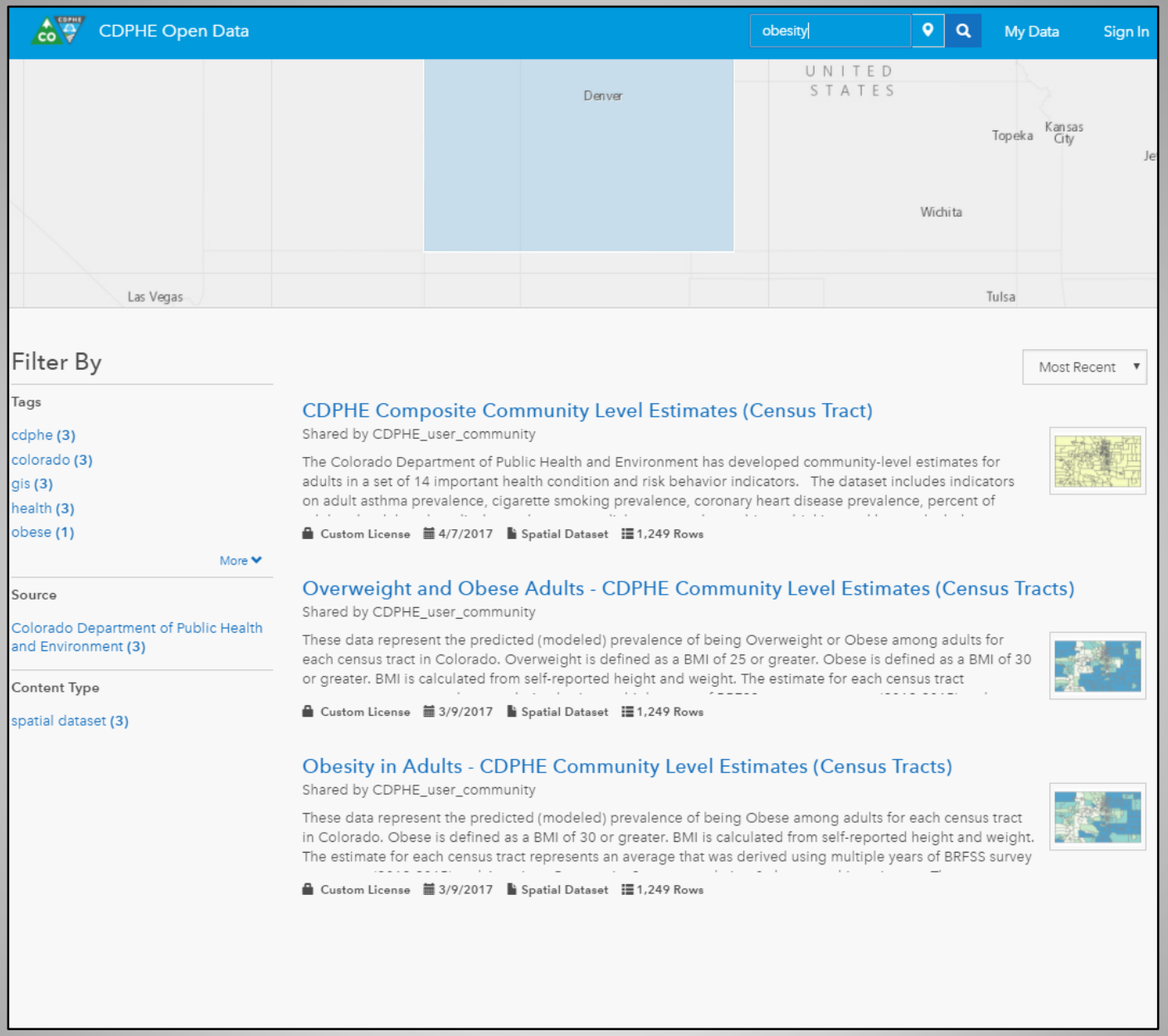

Use Tags to Search for and Find Data

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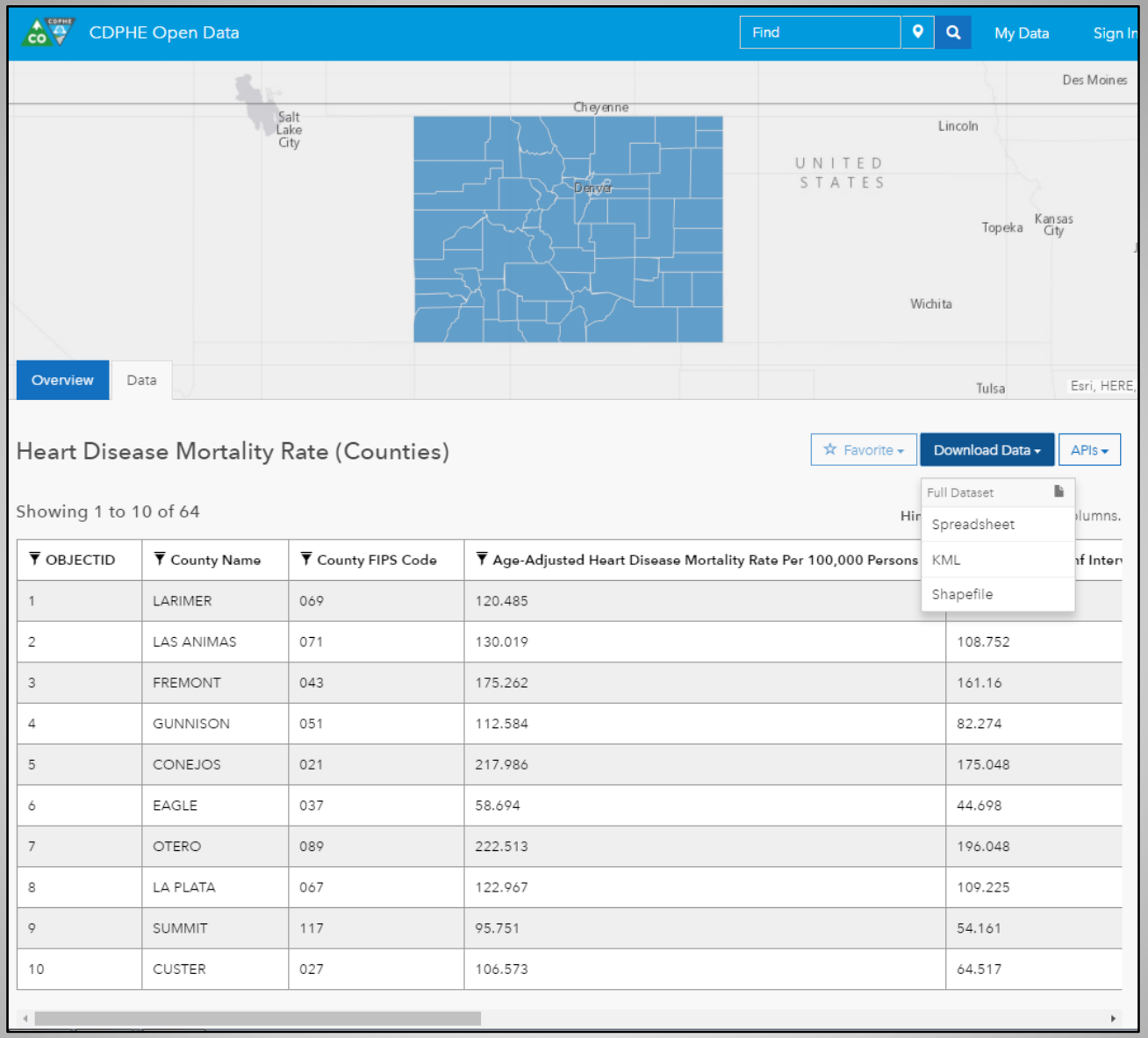

OBJECTID	County Name	County FIPS Code	Age-Adjusted Heart Disease Mortality Rate Per 100,000 Persons	
1	LARIMER	069	120.485	
2	LAS ANIMAS	071	130.019	108.752
3	FREMONT	043	175.262	161.16
4	GUNNISON	051	112.584	82.274
5	CONEJOS	021	217.986	175.048
6	EAGLE	037	58.694	44.698
7	OTERO	089	222.513	196.048
8	LA PLATA	067	122.967	109.225
9	SUMMIT	117	95.751	54.161
10	CUSTER	027	106.573	64.517

Download Entire or Filtered Datasets

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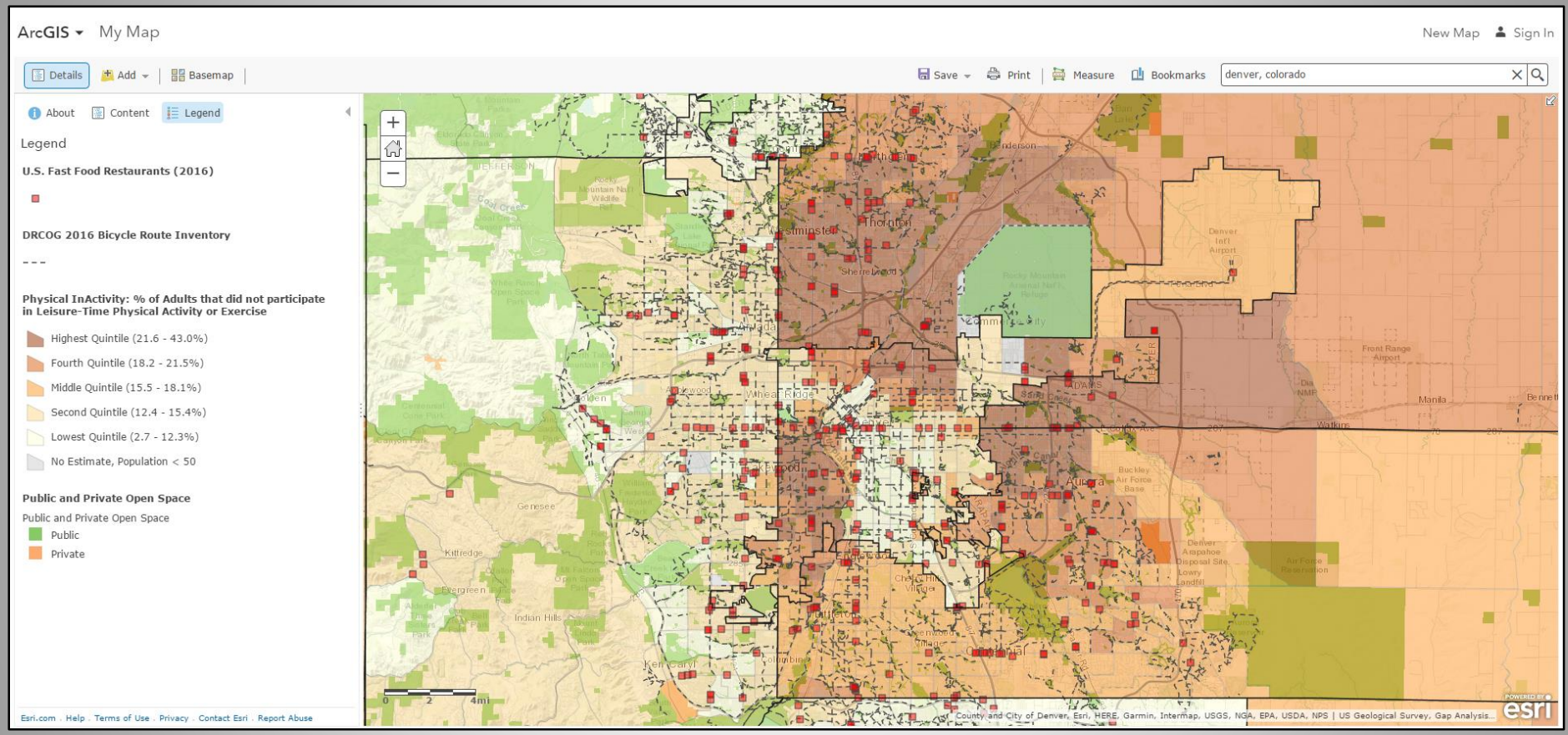

Explore Maps on Your Own!

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We are here to help you find and utilize data

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