THE CALIFORNIA HEALTH INTERVIEW SURVEY (CHIS)

AskCHIS Neighborhood Edition

California Healthography through a web-based dissemination tool

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UCLA Center for Health Policy Research

www.chis.ucla.edu

Presenter disclosure

- **David Grant**

- **The following personal financial relationships with commercial interests relevant to this presentation existed during the past 12 months:**

    No relationships to disclose

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AskCHIS Neighborhood Edition Launch

Today's presentation

- Introduction, Concept, and Implementation

- The Science: Small Area Estimation

- Putting it all together: A live demonstration of AskCHIS Neighborhood Edition

AskCHIS NE: sponsorship

- Funded by

  - Kaiser Permanente

  - The California Wellness Foundation

- With support from

  - The California Endowment (supporting CHIS dissemination)

  - The California HealthCare Foundation (supporting AskCHIS Neighborhood Edition community trainings)

What is AskCHIS Neighborhood Edition?

- A new health information dissemination tool

- Powered by data from the California Health Interview Survey (CHIS) and other sources (ACS)

- Provides health estimates at multiple, granular levels of geography including zip codes, cities, and legislative districts

- Includes powerful visualization tools

AskCHIS NE

- Part of the UCLA Center for Health Policy Research's dissemination strategy—democratizing access to health data and information

- AskCHIS Neighborhood Edition complements:

  - Publications—fact sheets, policy briefs, and reports

  - Public use files (PUFs)—statewide microdata files

  - Health profiles—county level PDFs of key health indicators

  - AskCHIS query system—custom queries at the county level

    - More than 40K registered users

    - Nearly 1M queries

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AskCHIS NE: implementation

- Fall 2012—Concept shopped to several organizations

- Funding provided by Kaiser Permanente and The California Wellness Foundation

- Project kickoff in June 2013

- Beta system testing began in March 2014

- Public launch November 12, 2014

AskCHIS NE: borrowing strength

- Estimates based on a statistical technique called small area estimation (SAE)

- Do not rely on survey data confined to a specific area

- "Borrowing strength":
  - Cross-sectionally—from respondents or areas with similar characteristics
  - With Auxiliary data—population data, contextual data from other sources
  - Spatially from larger and neighboring areas
  - Temporally from past CHIS cycles

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AskCHIS NE: Producing SAEs

- Semi-parametric generalized linear mixed model

- Models built using survey data (CHIS) and contextual data (ACS) for each specific health indicator

- Model coefficients applied to population data to obtain predicted value for everyone in the indicator universe

- Predicted values summarized to target areas

- Variance of the estimates generated through replication

- Quality check, calibration and validation

AskCHIS NE: how does it work?

- SAEs based on modeled CHIS data

  - 13 health topics, with 22 separate health related indicators (CHIS)

  - 9 demographic topics, with 30 separate indicators (ACS)

- SAEs were generated in California for every:

  - Zip code (ZCTA)

  - City

  - Legislative district

    - State Assembly

    - State Senate

    - US Congressional

AskCHIS NE: how does it work?

- Displays estimates, confidence intervals, and populations for geographic units with an indicator universe of 15,000 or greater
    - Smaller areas can be combined or "pooled"
- An easy to use web-based interface allows the user to select health indicators (unlimited), select geography (up to 5), and display the results:
    - Table
    - Choropleth map
    - Bar chart
    - Histogram

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AskCHIS NE: compatibility

- Internet Explorer 9+

- Most recent versions of Google Chrome, Safari, and Mozilla Firefox

More information and in-depth live demo of AskCHIS NE
Booth # 1043 – UCLA Center for Health Policy Research
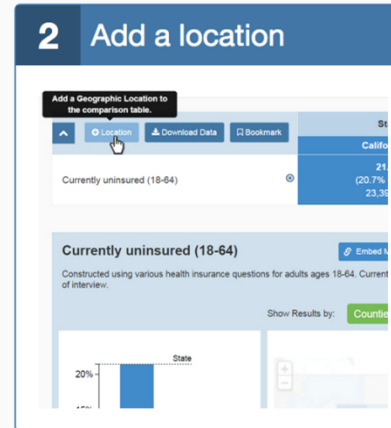Tomorrow (Wed) morning at 9am
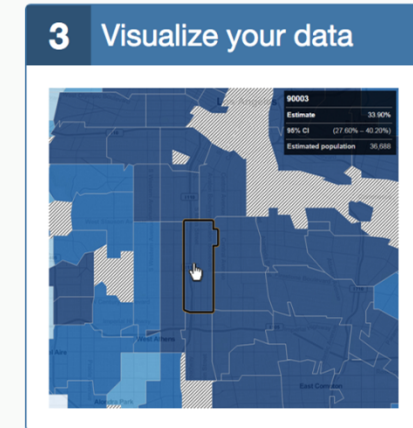
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AskCHIS
Neighborhood Edition

Search topic...

HEALTH TOPIC ⌄

Asthma ▶

Delay in receiving care ▶

Dental visits ▶

Diabetes ▶

Flu vaccine ▶

Food insecurity ▶

Health status ▶

Heart disease ▶

Mental health ▶

Obese/Overweight ▶

Physical activity ▶

Smoking ▶

Uninsured ▶

SOCIO-DEMOGRAPHICS ⌃

1 Select a topic

AskCHIS
Neighborhood Edition

Search topic...

1

HEALTH TOPIC ⌄

Asthma ▶

Delay in receiving care ▶

Dental visits ▶

Diabetes ▶

Flu vaccine ▶

Food insecurity ▶
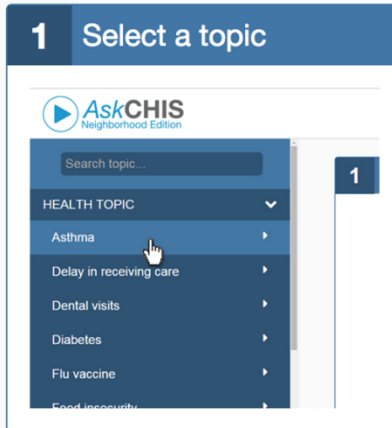
Click on a **topic** to start building your table.

2 Add a location

Add a Geographic Location to the comparison table.

⌃   ⊕ Location   ⬇ Download Data   🔖 Bookmark   St

California

21
(20.7%
23,30

Currently uninsured (18-64)   ⊙

Currently uninsured (18-64)   🔗 Embed M

Constructed using various health insurance questions for adults ages 18-64. Current of interview.

Show Results by: Counties

State

20%

Add up to **5 total locations** to your table.

3 Visualize your data

90003

Estimate   33.90%

95% CI   (27.60% - 40.20%)

Estimated population   36,688

Use the table to create custom charts & maps

About *AskCHIS Neighborhood Edition*

AskCHIS Neighborhood Edition is an online data dissemination and visualization platform that provides health estimates at sub-county geographic regions. With *AskCHIS NE*, you can caccess and visualize authoritative health data at **zip code, city, county,** and **legislative district** levels.

Health estimates are powered by data from the California Health Interview Survey (CHIS) and are created through a sophisticated modeling technique called small area estimation (SAE). For more information about the methodology behind our data, click here.

CHIS   california health interview survey

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Search topic...

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Asthma ▸
Delay in receiving care ▸
Dental visits ▸
Diabetes ▸
Flu vaccine ▸
Food insecurity ▸
Health status
Heart disease ▸
Mental health ▸
Obese/Overweight ▸
Physical activity ▸
Smoking ▸
Uninsured ▸

SOCIO-DEMOGRAPHICS ⌃

1 Select a topic

AskCHIS
Neighborhood Edition

Search topic...
HEALTH TOPIC ⌄
Asthma ▸
Delay in receiving care ▸
Dental visits ▸
Diabetes ▸
Flu vaccine ▸
Food insecurity ▸

1

Adult respondents ages 18-64
with fair or poor health.

...alth (0-17)
ℹ Fair or poor health (18-64)
ℹ Fair or poor health (65+)

2 Add a location

Add a Geographic Location to
the comparison table.

⌃   ⊕ Location   ⬇ Download Data   🔖 Bookmark   St...
Califo...
21
Currently uninsured (18-64)   ◉   (20.7%
23,30...

Currently uninsured (18-64)   🔗 Embed ...
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CHIS california health interview survey

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Mental health ▸
Obese/Overweight ▸
Physical activity ▸
Smoking ▸
Uninsured ▸

SOCIO-DEMOGRAPHICS ⌃

	State
⌃ ⊕ Location ⬇ Download Data 🔖 Bookmark	California ⊗
Fair or poor health (18-64) ⊗	17.9% (17.2% - 18.6%) 23,392,900
Ever diagnosed with heart disease (18+) ⊗	6.3% (6.0% - 6.7%) 27,796,500
Obese (BMI ≥ 30) (18+) ⊗	24.8% (24.1% - 25.5%) 27,796,500
Walked at least 150 minutes (18+) ⊗	33.3% (32.5% - 34.1%) 27,796,500
Ever diagnosed with diabetes (18+) ⊗	8.4% (7.9% - 8.8%) 27,796,500

Ever diagnosed with diabetes (18+)   🔗 Embed Map   ⬇ Download

Adult respondents ages 18+ who were ever diagnosed with diabetes by a doctor.

Show Results by: Counties ⌄

State

8%

6%

[+]
[−]

AskCHIS
Neighborhood Edition

My Account ⌄

HEALTH TOPIC ⌄

Asthma ▸

Delay in receiving care ▸

Dental visits ▸

Diabetes ▸

Flu vaccine ▸

Food insecurity ▸

Health status ▸

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Obese/Overweight ▸

Physical activity ▸

Smoking ▸

Uninsured ▸

SOCIO-DEMOGRAPHICS ⌃

Search topic...

Add a Geographic Location to the comparison table.

⌃   ⊕ Location   ⬇ Download Data   🔖 Bookmark

	State
	California ⊗
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Ever diagnosed with diabetes (18+)

     🔗 Embed Map   ⊕ Download

Adult respondents ages 18+ who were ever diagnosed with diabetes by a doctor.

Show Results by: **Counties** | ⌄

State

8%

6%

➕

➖

Search topic...

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Delay in receiving care ▸

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SOCIO-DEMOGRAPHICS ⌃

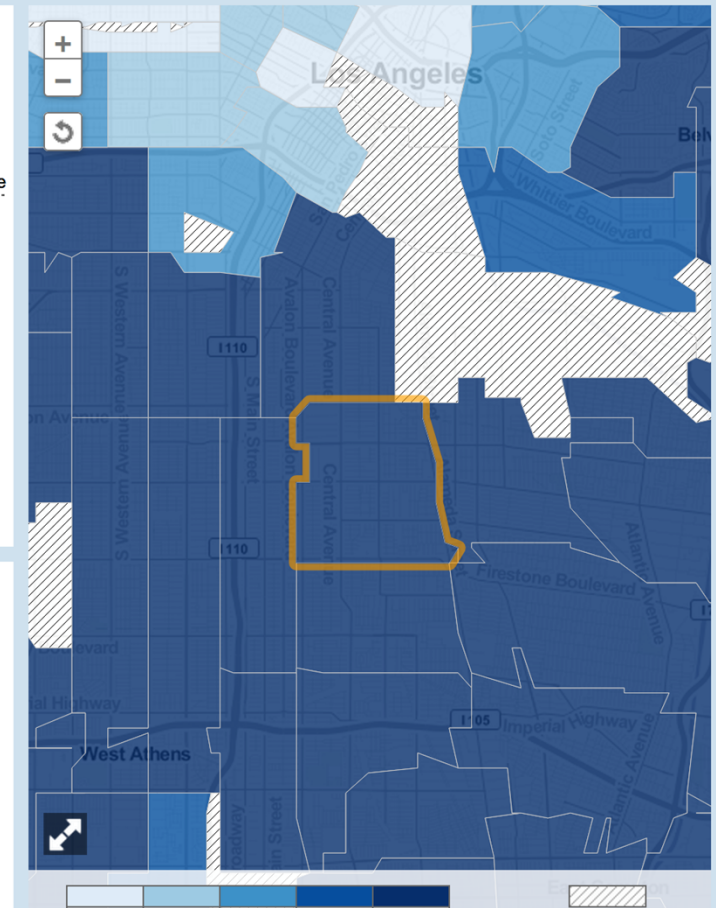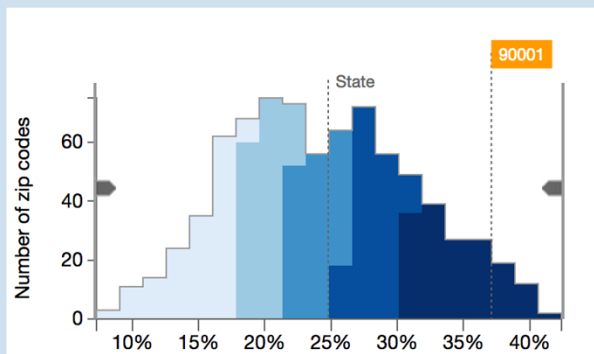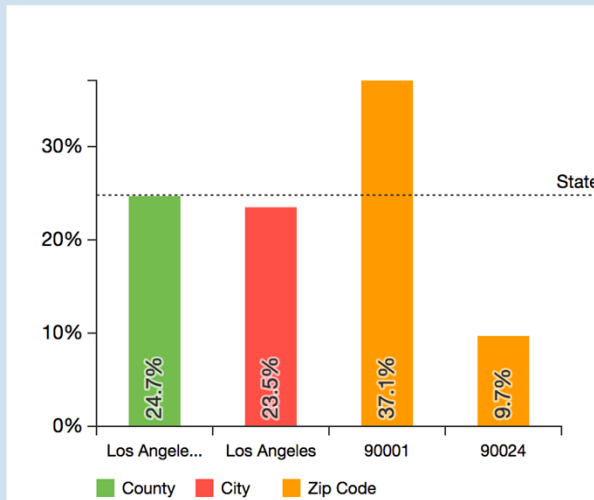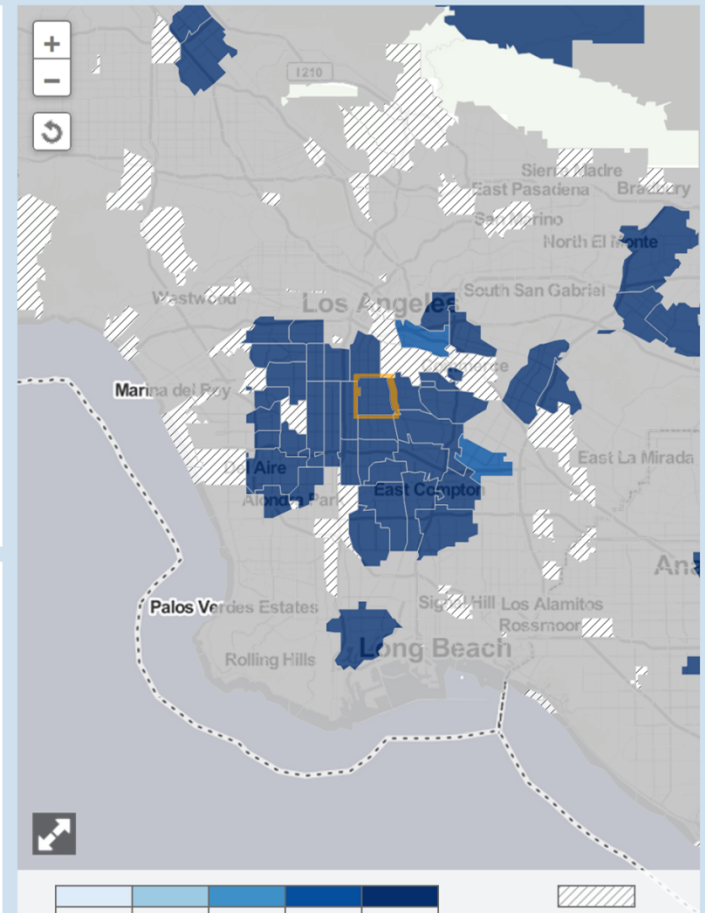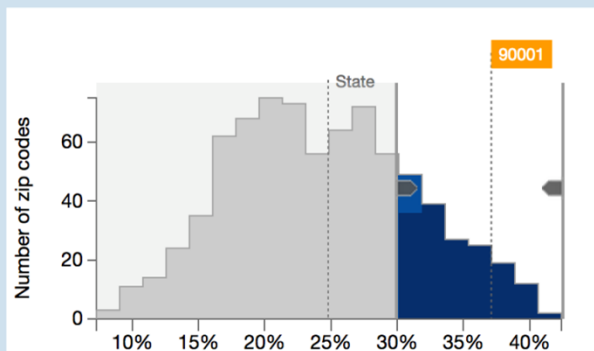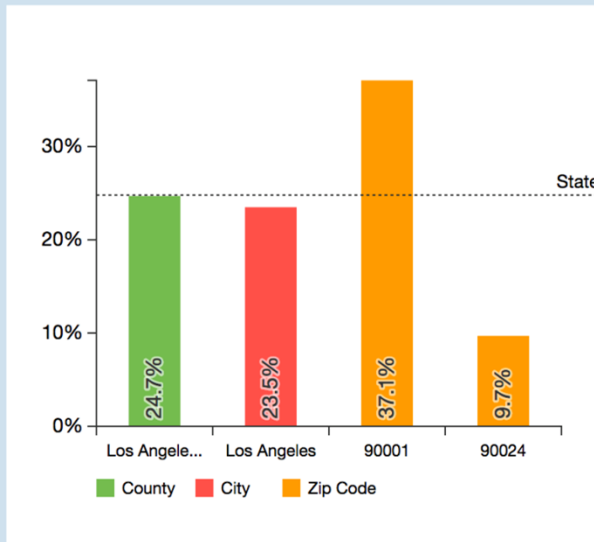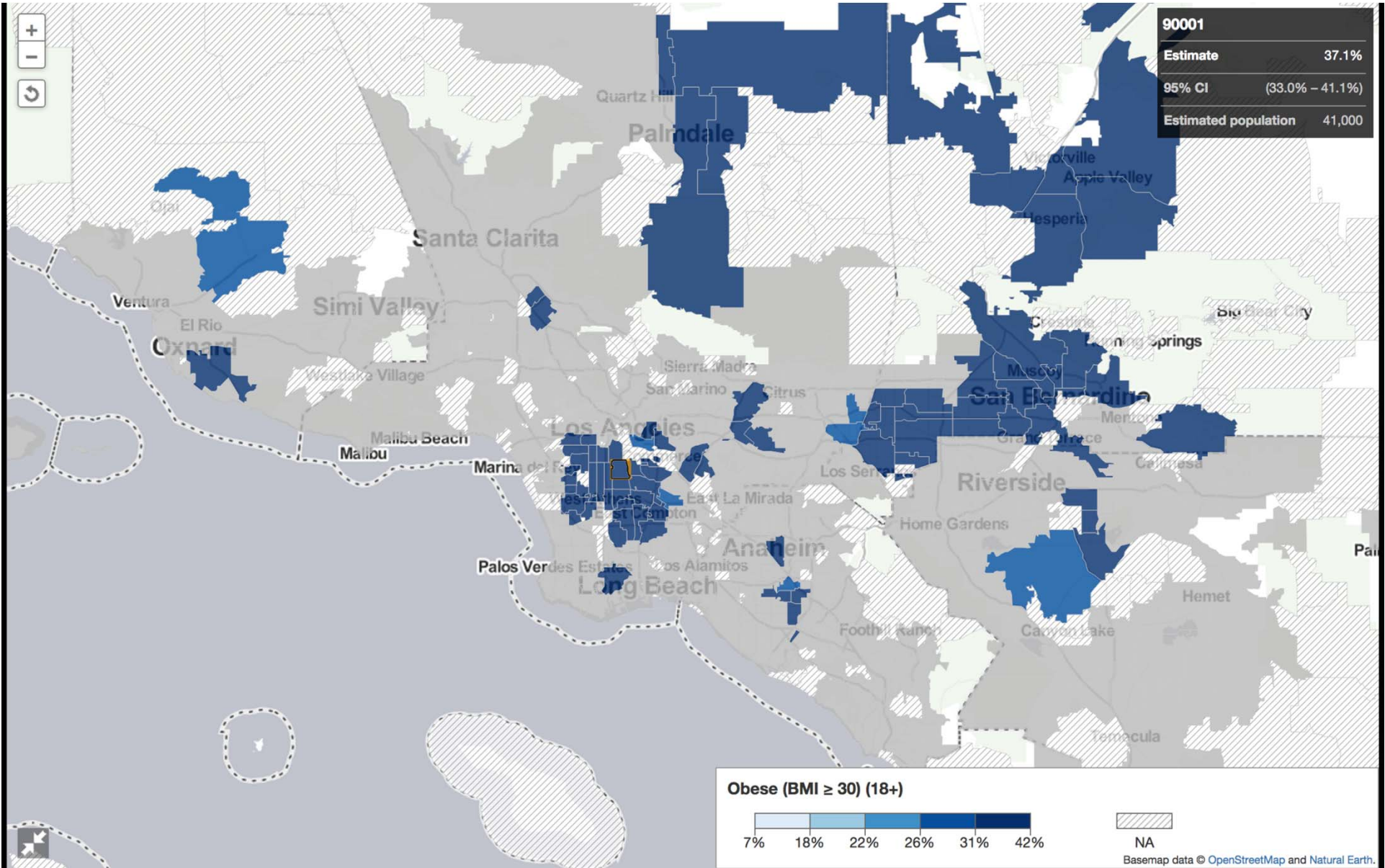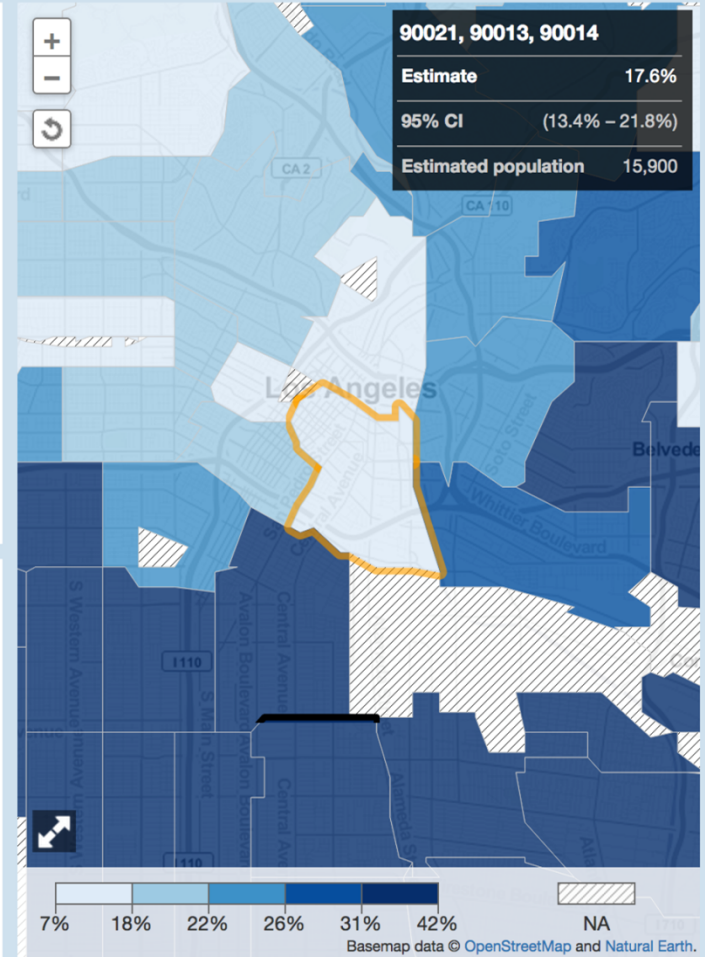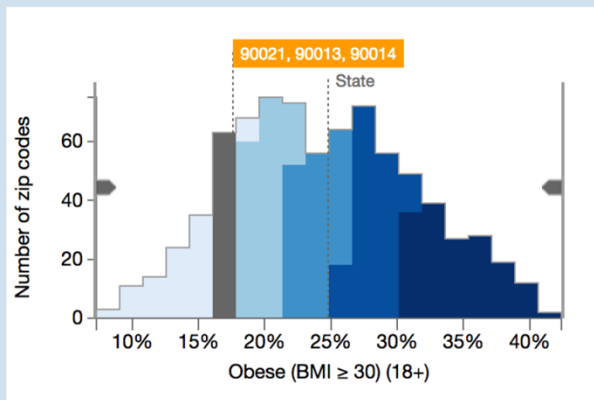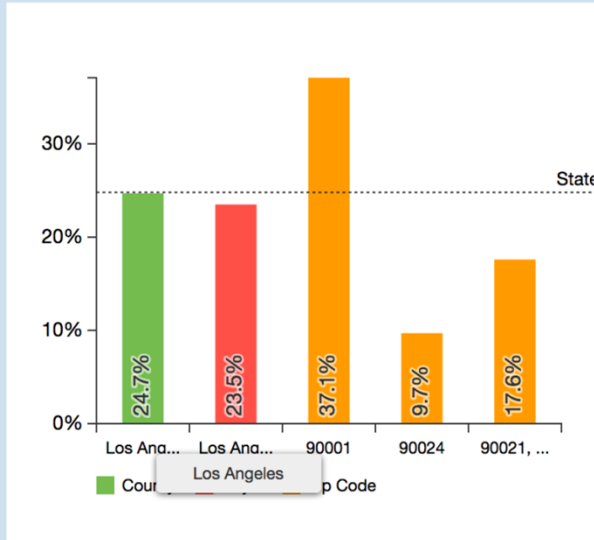|	State	Counties	Cities	Zip Codes	
⌃ ⊕ ⬇ 🔖	**California** ⊗	**Los Angeles County** ⊗	**Los Angeles** ⊗	**90001** ⊗	**90024** ⊗
Ever diagnosed with diabetes (18+) ⊕	8.4% (7.9% - 8.8%) 27,796,500	**8.8%** (8.0% - 9.5%) 7,402,100	**8.8%** (7.9% - 9.7%) 2,906,700	**12.8%** (10.5% - 15.0%) 41,000	**3.3%** (2.1% - 4.5%) 34,500
Fair or poor health (18-64) ⊕	17.9% (17.2% - 18.6%) 23,392,900	**21.4%** (20.2% - 22.7%) 6,305,200	**21.7%** (20.0% - 23.4%) 2,498,000	**31.5%** (28.3% - 34.8%) 37,400	**7.8%** (5.3% - 10.3%) 28,600
Ever diagnosed with heart disease (18+) ⊕	6.3% (6.0% - 6.7%) 27,796,500	**5.9%** (5.4% - 6.3%) 7,402,100	**5.7%** (5.1% - 6.2%) 2,906,700	**4.6%** (3.6% - 5.6%) 41,000	**5.5%** (4.7% - 6.2%) 34,500
Obese (BMI ≥ 30) (18+) ⊕	24.8% (24.1% - 25.5%) 27,796,500	**24.7%** (23.5% - 26.0%) 7,402,100	**23.5%** (21.9% - 25.2%) 2,906,700	**37.1%** (33.0% - 41.1%) 41,000	**9.7%** (7.0% - 12.4%) 34,500
Walked at least 150 minutes (18+) ⊕	33.3% (32.5% - 34.1%) 27,796,500	**35.0%** (33.5% - 36.4%) 7,402,100	**37.3%** (35.2% - 39.4%) 2,906,700	**34.6%** (30.5% - 38.6%) 41,000	**42.8%** (35.5% - 50.1%) 34,500

Walked at least 150 minutes (18+)

🔗 Embed Map   ⬇ Download

Adults ages 18+ who walked for transportation or leisure for at least 150 minutes in the past week.

Show Results by: **Zip Codes** ⌄

40%

State

＋
－

90001	
Estimate	37.1%
95% CI	(33.0% – 41.1%)
Estimated population	41,000

Obese (BMI ≥ 30) (18+)

7% 18% 22% 26% 31% 42%

NA

Basemap data © OpenStreetMap and Natural Earth.

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Adult respondents ages 18+ who had a body mass index (BMI) of 30.0 or above. BMI was calculated using respondent's self-reported weight and height.

Show Results by: Zip Codes

HEALTH TOPIC

Asthma
Delay in receiving care
Dental visits
Diabetes
Flu vaccine
Food insecurity
Health status
Heart disease
Mental health
Obese/Overweight
Physical activity
Smoking
Uninsured

SOCIO-DEMOGRAPHICS

90021, 90013, 90014	
Estimate	17.6%
95% CI	(13.4% – 21.8%)
Estimated population	15,900

Bar chart values: 24.7%, 23.5%, 37.1%, 9.7%, 17.6%
State

Los Ang...   Los Ang...   90001   90024   90021, ...

Los Angeles

90021, 90013, 90014   State

Number of zip codes — Obese (BMI ≥ 30) (18+)

10% 15% 20% 25% 30% 35% 40%

Map legend: 7% 18% 22% 26% 31% 42%   NA

Basemap data © OpenStreetMap and Natural Earth.

AskCHIS
Neighborhood Edition

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Search Location | Pool Locations | **Find Legislative District**

×

Enter your full address or 9-digit zip code (ex. 90024-3702) to find your legislative districts and specific legislators for State Assembly, State Senate, and US Congressional Districts.

10960 Wilshire Blvd, Los Angeles, CA 90024   🔍

Assembly District 54   ⊕ Add to Table ⌄

State Senate District 26   ⊕ Add to Table ⌄

33rd Congressional District   ⊕ Add to Table ⌄

Current Selection (max. 5)
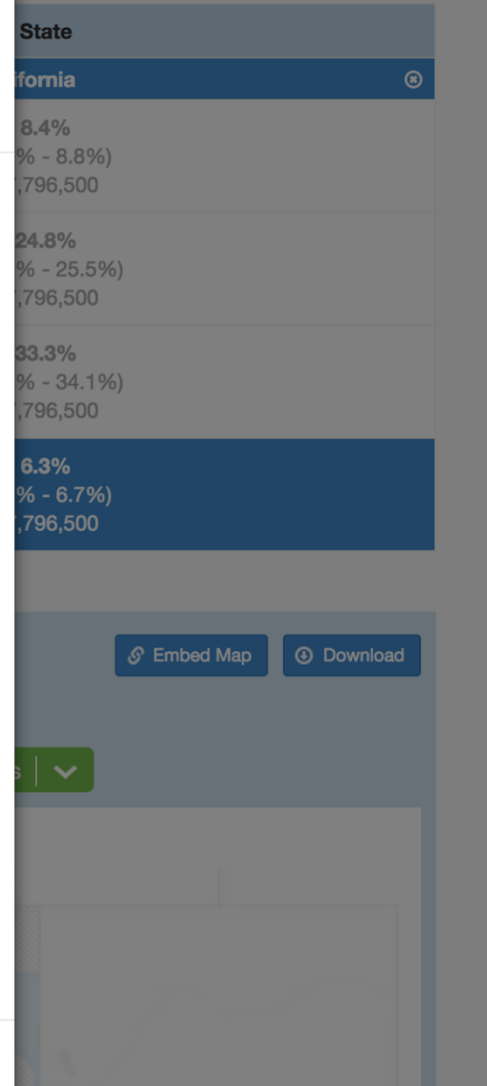
California ⊗

Create Table | Close

HEALTH TOPIC ⌄

Asthma ▸
Delay in receiving care ▸
Dental visits ▸
Diabetes ▸
Flu vaccine ▸
Food insecurity ▸
Health status ▸
Heart disease ▸
Mental health ▸
Obese/Overweight ▸
Physical activity ▸
Smoking ▸
Uninsured ▸

SOCIO-DEMOGRAPHICS ⌃

State
ifornia   ⊗

8.4%
% - 8.8%)
,796,500

24.8%
% - 25.5%)
,796,500

33.3%
% - 34.1%)
,796,500

6.3%
% - 6.7%)
,796,500

🔗 Embed Map | ⊙ Download

Show Results by: Counties ⌄

State
6%
5%
4%
3%

+
−

AskCHIS
Neighborhood Edition

Search topic...

HEALTH TOPIC ⌄

Asthma	▶
Delay in receiving care	▶
Dental visits	▶
Diabetes	▶
Flu vaccine	▶
Food insecurity	▶
Health status	▶
Heart disease	▶
Mental health	▶
Obese/Overweight	▶
Physical activity	▶
Smoking	▶
Uninsured	▶

SOCIO-DEMOGRAPHICS ⌃

	State	Assembly	Senate	Congress
	California ⊗	Assembly District 54 ⊗	State Senate District 26 ⊗	Congressional District 33 ⊗
Ever diagnosed with diabetes (18+) ⊗	8.4% (7.9% - 8.8%) 27,796,500	8.1% (7.0% - 9.2%) 371,800	6.0% (5.1% - 6.8%) 773,800	6.1% (5.2% - 6.9%) 571,000
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Obese (BMI ≥ 30) (18+)

🔗 Embed Map   ⏱ Download

Adult respondents ages 18+ who had a body mass index (BMI) of 30.0 or above. BMI was calculated using respondent's self-reported weight and height.

Show Results by: **US Congressional Districts** ⌄

Bakersfield

State

20%

15%