



# AskCHIS© and AskCHIS© Neighborhood Edition Training Manual



UCLA Center for Health Policy Research Health DATA Program: Data. Advocacy. Training. Assistance.

Updated: 04/10/2017

#### SUGGESTED CITATION:

PARKS, A, TOY P. AskCHIS© and AskCHIS© Neighborhood Edition, LOS ANGELES: UCLA CENTER FOR HEALTH POLICY RESEARCH, HEALTH DATA PROGRAM, MARCH 2017.

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DEVELOPMENT OF CHIS TOOLS AND TRAINING MATERIALS WAS MADE POSSIBLE THROUGH GRANTS FROM THE CALIFORNIA ENDOWMENT, KAISER PERMANENTE AND THE CALIFORNIA WELLNESS FOUNDATION.



ACKNOWLEDGMENTS:

The authors would like to acknowledge contributions from Ninez Ponce, PhD, Principal Investigator of the California Health Interview Survey (CHIS); Todd Hughes, CHIS Director; and Bogdan Rau, *Ask*CHIS<sup>©</sup> Neighborhood Edition project coordinator; Steven P. Wallace, PhD, Associate Center Director, Chair and Professor, Department of Community Health Sciences, UCLA Fielding School of Public Health; Ying Ying Meng, DrPH, senior research scientist and co-director, Chronic Disease Program, UCLA Center for Health Policy Research and Health DATA Principal Investigator, UCLA Center for Health Policy. We also acknowledge contributions of Center Faculty Associate Roberta Wyn, PhD, and the contributions of Victoria Ojeda, PhD, and Jennifer Erausquin, MPH, who developed the initial *Ask*CHIS<sup>©</sup> Community Workshop curriculum and support received from Community Technology Foundation of California and The California Endowment to develop the first edition of The *Ask*CHIS<sup>©</sup> Community Workshop Training Manual.

## **AskCHIS©** and **AskCHIS©** Neighborhood Edition Training Manual

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## A. Overview of the AskCHIS© and AskCHIS© Neighborhood Edition Training Workbook

## Training Summary:

This training manual is designed to introduce you to the free, easy-to-use Web tools of the California Health Interview Survey (CHIS): <u>AskCHIS©</u> and <u>AskCHIS© Neighborhood Edition</u> (AskCHIS© NE). It also provides activities and instructions on the use of the Internet and computer software to familiarize participants with data and to build critical thinking skills to address data needs. Readers of this manual are also encouraged to take a training workshop with Health DATA Program staff, who can provide technical assistance to help participants apply what they learned in the training session. Learn more about our workshops here: <a href="http://healthpolicy.ucla.edu/programs/health-data/Pages/schedule.aspx">http://healthpolicy.ucla.edu/programs/health-data/Pages/schedule.aspx</a>

## Learning Objectives:

As a result of reviewing this training curriculum, participants will learn how to:

- 1. Understand the benefits and limitations of CHIS survey data.
- Identify which survey tool, AskCHIS<sup>®</sup> or AskCHIS NE<sup>®</sup>, will best address their data inquiry.
- 3. Create, edit and interpret data tables, local small area estimates and customized maps reflecting the health status of their communities.
- 4. Customize and export data displays including charts, graphs, excel tables and PDF document summaries.
- 5. Generate written summaries and documentation reflecting the health of communities based on CHIS results.

## Overview of AskCHIS© and AskCHIS NE© Online Tools:

The goal of this curriculum is for participants to learn:

- Features and functions of AskCHIS<sup>©</sup> and AskCHIS NE<sup>©</sup>.
- Fundamentals of geographic data analysis for local decision making.
- Planning and policy applications of the data.
- The limitations of AskCHIS NE<sup>©</sup> and how to address them.

This is a two module hands-on, step-by-step training curriculum for accessing estimates from CHIS through the original *Ask*CHIS© web tool and the *Ask*CHIS NE© online dissemination tool, which provides population health estimates at the the zip code level for a smaller group of indicators.

The four sections below will help you learn how to construct a query and generate local-level estimates from CHIS. You will also learn how to export and analyze data and create a brief summary of your findings.

## LEARNING MODULE 1: Accessing Data from the AskCHIS<sup>®</sup> Online Data Query System

- 1. Introduction to AskCHIS©
- 2. Using AskCHIS©

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- 3. Understanding the Data
- 4. Advanced AskCHIS Techniques
- 5. Interpreting and Presenting AskCHIS<sup>©</sup> Data

# LEARNING MODULE 2: Accessing Data from the *Ask*CHIS NE<sup>©</sup> Online Data Query System

- 1: Introduction to *Ask*CHIS© NE Online Resources and Login
- 2: Using AskCHIS© NE
- 3: Executing Queries and Retrieving Estimates
- 4: Interpreting and Presenting *Ask*CHIS<sup>©</sup> NE Estimates

#### **Technical Assistance:**

You can receive technical assistance from the Health DATA Program following today's workshop and request one-on-one help with the information presented.

To request technical assistance, contact the Health DATA staff at (310) 794-0983 or email us at <a href="https://www.hdp@ucla.edu">hdp@ucla.edu</a>.

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## **Background of the Health DATA Program:**

The <u>UCLA Center for Health Policy Research</u> conducts research on national, state and local health policy issues. The research, service and education programs of the Center emphasize a community-and population-based perspective to improve health outcomes.

The Center provides training and technical assistance through the **Health DATA**, Data, Advocacy, Training and Assistance Program. The Health DATA (Data, Advocacy and Technical Assistance) program was created in 1997 in response to community needs for data and the skills to effectively apply it. The Health DATA program builds the knowledge and skills of organizations to address community needs by enhancing their capacity to use data to inform their decision-making, planning, policy advocacy and other activities.

#### Background of the California Health Interview Survey (CHIS):

The **California Health Interview Survey (CHIS)**, based at the Center, is the largest ongoing state health survey in the United States. Each year, it collects information from up to 40,000 Californians drawn from every county in the state including adults, teenagers and children. CHIS provides statewide estimates for California's overall population, including important information not previously available on an array of racial/ethnic populations, and local-level estimates for counties with populations of 100,000 or more. CHIS data is used for local planning and for making comparisons across counties. Data is available through Public Use Files and through <u>AskCHIS</u>, an easy-to-use online Web tool.

CHIS telephone surveys are conducted in all 58 counties of California. CHIS may conduct oversampling of specific areas, such as Los Angeles and San Diego, and of specific racial/ethnic groups, such as Koreans and Vietnamese.

View and download a complete list of tables that show the number of people CHIS has interviewed for each county as well as their race/ethnicity during the yearly data collection cycle by visiting <a href="http://healthpolicy.ucla.edu/chis/design/Pages/sample.aspx">http://htt

#### Background of AskCHIS© Neighborhood Edition (AskCHIS© NE):

Based on statistical models powered by CHIS and other demographic data sources, **AskCHIS© NE** offers visualization tools to map, chart and compare health indicators across geographic areas. AskCHIS© NE provides meaningful local health information for Community Health Needs Assessments (CHNAs), Affordable Care Act reporting requirements, local health department accreditation applications and targeted community planning for rural areas and small counties. AskCHIS NE© allows users to select from an initial offering of about 31 key health indicators that can be displayed across multiple geographic areas (zip codes, cities, counties and legislative districts). Using this free, Internet-based tool, users can generate customized estimates and maps of their medical service area based, for example, on one or more pooled zip codes, cities, and more.

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## **B.** Part 1: Strengths and Limitations of CHIS, AskCHIS© and AskCHIS NE©

## Strengths/Benefits and Limitations of CHIS Data:

It is important to evaluate any secondary data source for limitations before you decide to use it. (Secondary data is collected and provided by a third party such as a non-profit, university or government agency). You can do this by thinking about secondary data using the following five evaluation criteria. Since we will be discussing CHIS data today, the examples below apply these evaluation criteria to CHIS.

## Credibility – Who produced the data?

Credibility refers to the source of the data. When considering a data source you may ask yourself, "What is the reputation of the data source?" Can I trust the research entity that produced the data? What is the entity's mission, public image or reputation? Do organizational interests bias the interpretation and presentation of the data?

Data collection sources have varying levels of credibility based on their interest to present data in a certain light. For example, official government statistics are highly credible in comparison to industry group data that always supports their financial interests (e.g. tobacco institute). University research center data are similar to government statistics, in part because they undergo peer review.

Example: CHIS data maintain a high level of credibility because data are collected and produced by the UCLA Center for Health Policy Research, a unit within the UCLA School of Public Health. It is one of the nation's leading health policy research centers and the premier source of health policy information for California. The Center's mission is to improve public health by advancing health policy research, public service, community partnership and education. CHIS is funded by a variety of philanthropic and governmental organizations that promote the well-being of Californians and the knowledge of health issues.

## Specificity – Does the data capture what I want to measure?

Specificity refers to how well the data capture what you want to measure. You may ask yourself, "How do the goals or content of the study relate to my needs? Are the conditions of the study unique to a particular case? How close is the relationship between my needs and the research data?"

Example: CHIS data captures a wide variety of health topics and demographics throughout California. When searching CHIS, you may ask yourself, "Does the data really capture what I want to know?" Be sure to examine each data item to ensure its specificity to the issue you to want to address. Note that it may not provide the data you want.

Below is an overview of the type of information CHIS provides:

- Respondent Characteristics: Age, gender, race and ethnicity, marital status, sexual orientation, language spoken, citizenship/immigration status and country of birth.
- Geography: CHIS data are collected from all 58 counties in California across 44 geographic areas that represent 41 individual counties and three groupings of counties with smaller populations.

• Other CHIS Topics (varies across CHIS cycles): health status, health conditions, mental health, health behaviors, women's health, dental health, food insecurity/hunger, food environment, neighborhood and housing, access to use of health care, health insurance, public program eligibility, parental involvement, child care, employment and income.

## Generalizability – Can you apply data from one population to describe another population?

Generalizability refers to specific data and how well it can be used to describe other populations. You may ask yourself, "What are the characteristics of the secondary data's population/sample? Do the participants provide data that can be applied to similar populations or sub-populations? Do the 'who, what, why, when and where' of the data relate to the 'who, what, why, when and where' of your work?" For example, how well can information collected across California accurately describe the residents of your county?

Example: CHIS data can be generalized at the state and county levels. Rigorous sampling techniques ensure sufficient amounts of data are collected to describe populations throughout the state. For instance, starting in 2001, CHIS data is collected on a continuous survey cycle year via random-dial telephone surveys with over 40,000 to 50,000 California households participating. CHIS sets minimum target numbers for each geographic area to ensure a statistically representative sample of the state's diverse population.

Additionally, CHIS uses many techniques to interview enough people from several ethnic groups to better characterize most major and minor racial and ethnic populations statewide. During each survey cycle, thousands of CHIS interviews are conducted in languages other than English and certain ethnic minority groups, such as American Indian and Asian subgroups, have been oversampled in the past to ensure a representative sample.

## Reliability - How was the data collected?

Reliability refers to the accuracy of the data. You may ask yourself, "Can I trust the data to be accurate? Does the research seem free of bias or error? Have the methods and results been proven? Was the research repeated? If so, did the second study get the same or similar results?"

Example: CHIS data are highly reliable because the highest research practices and standards are applied. Below are a few methods used to ensure data quality:

- A large number of individuals are surveyed to ensure a representative sample of the entire state's diverse population.
- To attain a fair and unbiased sample, computers randomly draw landline and cellular telephone numbers from each geographic area sampled with a minimum number of people included.
- To ensure that public health trends are accurately recorded over time, CHIS selects and surveys unique households during each survey cycle.
- CHIS randomly selects and interviews only one adult per household. Only that selected person can participate.
- If there are children in the household, CHIS also asks questions about an adolescent (ages 12–17) and a child (ages 0–11).
- To ensure the inclusion of California's diverse racial and ethnic populations, thousands of CHIS interviews are conducted in languages other than English, including Chinese (Cantonese and Mandarin), Korean, Spanish, Tagalog and Vietnamese.

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#### Timeliness - When was data collected?

Timeliness refers to when the research was conducted. You may ask yourself, "When or how recently was the data collected? Have major changes occurred in your population of interest, geographic area or disease topic that may not have been captured by this data source? Is it the most recently available data that will suit your needs?"

Example: CHIS data collection cycles occur frequently and are conducted every year with limited annual estimates available. The high frequency of collection and production of CHIS data increases the relevancy and timeliness of data findings and trends.

If you are unsure about the strengths, benefits and limitations of a secondary data source, go to the source and ask them more details, if possible.

No data is perfect. It is up to you to balance the pros and cons of each data source and decide what criteria are more and less important for your needs.

Example: Based on the evaluation criteria reviewed above, CHIS data is very useful for making powerful statements about community health. However, CHIS data does have limitations. Below are examples of questions CHIS can and can *NOT* answer:

#### Example questions that CHIS data can answer:

- What is the estimated number of people in my county with health insurance? (CHIS collects data by county).
- What is the overall health status of my county in comparison to the state overall? (CHIS can compare information between counties and the state).
- Are there differences in the number of people that smoke in my county among different ethnic groups and has it changed over time? (CHIS can compare information across ethnic groups and over time).

## Example questions that CHIS CANNOT answer:

- How has the rate of teens having sex changed over the past 10 years statewide? (CHIS only collects data after 2001 and data is currently available through 2012).
- How does the number of women with breast cancer compare to women from other states and nationally? (CHIS only collects data on California households).

## AskCHIS NE© Data Limitations and Use:

Most health estimates available in AskCHIS<sup>©</sup> NE are model-based on small area estimates (SAEs), such as a zip code. They are created by statistical models of relationships using CHIS data at a larger geographic level and then applying those models to local population data. These complex statistical models use relevant characteristics of populations and geographic areas to predict health conditions for small geographic units (cities, zip codes, for example).

SAEs are <u>not</u> direct estimates (estimates produced directly from survey data, such as those provided through AskCHIS<sup>©</sup>). While direct estimates are produced solely using survey data and design weights, the model-based estimates in AskCHIS<sup>©</sup> NE also rely on secondary data describing characteristics of both geographic regions and populations.

AskCHIS<sup>©</sup> NE users should decide on the appropriateness of using model-based SAEs based on the strengths and limitations briefly discussed below. For more information, methodology documentation is made available through the AskCHIS<sup>©</sup> NE website.

In developing final local-level estimates, data from CHIS were used as the primary data source for modeling. Area-level data providing contextual information was provided by the Census Bureau's American Community Survey (ACS). Population characteristics were provided by Nielsen-Claritas Pop-Facts (Claritas) data.

Like all estimates, the health estimates in AskCHIS<sup>©</sup> NE are subject to errors that can impact data accuracy. These include sampling error and non-sampling error of the input data, and model error.

#### Sampling Error

Sampling errors occur because inferences about the entire population are based on information obtained from only a sample of that population. If the sample is representative of the target population, as with CHIS, then sampling error is reduced. The models for AskCHIS© NE health estimates are built on data samples of California residents from CHIS and ACS instead of information from all members of the California population.

#### **Non-Sampling Error**

Non-sampling errors include coverage errors, measurement errors (respondent, interviewer, questionnaire or collection method), non-response errors and processing errors. CHIS and ACS data, as with all survey data, are subject to these errors. Non-sampling errors are partially corrected through post-collection data cleaning and weighting processes. Claritas data are based on Census data and administrative data, and thus also subject to non-sampling errors.

#### Model Error

Generally, model errors occur when the statistical model does not account for all the information contributing to variation of the dependent variable. In *Ask*CHIS© NE, model error is reduced by borrowing strength from several data sources to inform the statistical models.

#### Notice Regarding Demographic Variables

Socio-demographic variables available in *Ask*CHIS<sup>©</sup> NE were produced using data from the American Community Survey (ACS). These data were adjusted to match the CHIS population, which excludes populations living in group quarters (such as prisons, hospitals or dormitories). The demographic variables are included in *Ask*CHIS<sup>©</sup> NE to provide additional context to health estimates and may not be generalized to the entire population of California.

*Ask*CHIS<sup>©</sup> NE is a public health surveillance tool, not an official source of demographic information. Demographic information available in *Ask*CHIS<sup>©</sup> NE is not meant to replace data from the U.S. Census.

#### Liability Disclaimer:

Your use of estimates, data and features from *Ask*CHIS© NE signifies agreement that the Regents of the University of California, UCLA, the UCLA Center for Health Policy Research and

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The California Health Interview Survey shall not be liable for any activity involving these data, estimates or features of them for any purpose.

## **B.** Part 2: Review of specific CHIS Indicators available in AskCHIS<sup>®</sup> NE

## Learning Objectives:

- Identify the type of data CHIS provides and the subset of health and socioeconomic indicators provided in AskCHIS<sup>®</sup> NE.
- Review where to locate additional resources and information on specific health indicators.
- Review age limitations for indicators included.

## Introduction to CHIS Data and the Data Landscape:

What is data? Data is factual information that can be used for decision-making. Data can take many forms and can be categorized into four major categories: *quantitative/qualitative* data and *primary/secondary* data.

- *Quantitative* data is numerical (e.g., the number of health care facilities in a city).
- *Qualitative* data is textual/words (e.g., an individual's observations and experiences of a particular health care facility).
- *Primary* data is collected and analyzed directly by individuals, communities and researchers (e.g., a survey developed, administered and analyzed by hospital staff that rates the quality of patient care).
- Secondary data is collected and provided by a third party such as a non-profit, university or government agency (e.g. US Census).

The matrix below provides examples of data in each of the four categories (i.e., quantitative/qualitative and primary/secondary). The matrix draws a distinction between *how* data is collected (i.e., primary vs. secondary data) and *what* data describes (i.e. qualitative vs. quantitative). The matrix is titled *Data Landscape* because every type of data fits within and can be described by the four categories presented.

		DATA LANDSCAPE	
		What data describes	
ed		Qualitative Textual/words data	<b>Quantitative</b> Numerical data
How data are collect	<b>Primary</b> Data collected and used directly by individuals, communities and researchers	<ul> <li>Data collected by hospital staff via a focus group on patient's opinions of care quality</li> <li>Case study conducted by community members on resident's experiences with financing health insurance</li> </ul>	<ul> <li>Hospital staff count and analyze the number of HIV positive patients admitted</li> <li>Community members record the number of traffic fatalities on major streets</li> </ul>

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Secondary Data collected and provided by a third party such as a non- profit, university or government agency	<ul> <li>Report published by a non-profit organization that provides testimonials on immigrants' experiences accessing health care in the United States</li> <li>Case studies produced by a university that highlight emergency room best practices</li> </ul>	<ul> <li>AskCHIS</li> <li>U.S. Census data</li> <li>Scorecards produced by non-profit organizations</li> </ul>
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AskCHIS<sup>©</sup> NE provides estimates based on secondary data because it is collected and produced by a third party, the UCLA Center for Health Policy Research. AskCHIS<sup>©</sup> NE provides health estimates for California's diverse population at the local level (zip codes and cities). With AskCHIS<sup>©</sup> NE, you can obtain estimates on leading health indicators for your zip code, city, county and legislative district.

Please see Appendix A: The Health DATA Toolkit for additional information on different types of data, how they are collected and how they can be used.

## Health Indicators and Socioeconomic Indicators in AskCHIS© NE:

An easy-to-use Internet-based query system, AskCHIS© NE enables users to customize searches, compare and "pool" geographic areas and map and chart their results. AskCHIS© NE covers a wide range of health topics, including rates of health insurance, chronic conditions like asthma and diabetes, and behaviors like smoking and physical activity; quality of children's health; and access to health care and mental health care; and much more.

AskCHIS© NE is a service of the Center's renowned California Health Interview Survey, the nation's largest state health survey. An existing companion web tool, AskCHIS©, allows users to find health data at the county, region and state levels. AskCHIS© NE allows users to drill down deeper than AskCHIS© to quickly explore health disparities across specific cities or legislative districts. Using the system's pooling feature, hospitals can build health profiles of their service areas, combining ZIP codes or cities. Community groups can decide which programs to offer at parks based on a neighborhood's specific health needs. Journalists can compare obesity rates in neighborhoods to add depth to their stories.

## Health Indicator Definitions for Indicators Available in AskCHIS© NE:

## <u>Asthma</u>

- Ever diagnosed with asthma (18+): Adult respondents ages 18+ who were ever diagnosed with asthma by a doctor.
- Ever diagnosed with diabetes (1–17): Child and teen respondents ages 1–17 who were ever diagnosed with asthma by a doctor.

## **Dental visits**

• Visited dentist (2–11): Dental visits in the past year for children ages 2–11 who have teeth.

## **Diabetes**

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- Ever diagnosed with diabetes (18+): Adult respondents ages 18+ who were ever diagnosed with diabetes by a doctor.

## Delay in receiving care

- Delayed prescriptions/medical services (18+): Adults ages 18+ delayed or not getting needed prescription drugs or medical services in the past 12 months.
- Delayed prescriptions/medical services (0–17): Children or teens ages 0–17 delayed or not getting needed prescription drugs or medical services in the past 12 months.

## Food insecurity

 Low-income food insecurity (18+): Provides information on whether the respondent has consistent ability to afford enough food. Asked of adults ages 18+ with an income < 200% federal poverty level. Those not asked are considered to be food secure.

## Flu vaccine

- Received flu vaccine (6m–11): Children ages 6m–11 years who had a flu vaccine in the past 12 months.
- Received flu vaccine (65+): Older respondents ages 65+ who had a flu vaccine in the past 12 months.

## <u>Health status</u>

- Fair or poor health (0–17): Child and teen respondents ages 0–17 with fair or poor health.
- Fair or poor health (18–64): Adult respondents ages 18–64 with fair or poor health.
- Fair or poor health (65+): Older respondents ages 65+ with fair or poor health.

## <u>Heart disease</u>

• Ever diagnosed with heart disease (18+): Adult respondents ages 18+ who were ever diagnosed with heart disease by a doctor.

## Mental Health

Serious psychological distress (18+): Constructed using the Kessler 6 series for adults ages 18+ who reported serious psychological distress in the past 12 months (K6 score ≥ 13).

## Obese/Overweight

- Overweight for age (weight ≥ 95th percentile) (2–11): This variable assigns overweight for age to children and is constructed using sex, age (in months) and weight (does NOT factor in height). For more information, see <u>http://bit.ly/wtageinf</u> and <u>http://bit.ly/wtage</u>.
- Overweight or obese (BMI ≥ 85th percentile) (12–17): Teen respondents ages 12–17 who ranked higher than the 85th percentile in the CDC 2010 recommendations on assigning body mass index (BMI).
- Obese (BMI ≥ 30) (18+): 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.

## **Physical Activity**

- Regular physical activity (5–17): Children and teens ages 5–17 who engaged in at least 60 minutes of physical activity daily in the past week, excluding physical education.
- Walked at least 150 minutes (18+): Adults ages 18+ who walked for transportation or leisure for at least 150 minutes in the past week.

## Smoking

• Current smoker (18+): Adult respondents ages 18+ were asked a series of smoking-related questions to obtain a current smoker status.

## **Uninsured**

- Currently uninsured (0–17): Constructed using various health insurance questions for children & teens ages 0–17. Currently uninsured at time of interview.
- Currently uninsured (18–64): Constructed using various health insurance questions for adults ages 18–64. Currently uninsured at time of interview.

## Socio-Demographic Indicator Definitions for Indicators Available in AskCHIS© NE:

## **Education**

 Less than high school (18+): Adults ages 18+ who did not graduate high school or receive a general educational development, or GED. For more information, visit: <u>http://bit.ly/B15001</u>.

## **Ethnicity**

- Hispanic or Latino (0–17): Children and teens ages 0–17 who identify their origin as Hispanic, Latino, or Spanish, may be of any race. For more information, visit: <u>http://bit.ly/B010011</u>.
- Hispanic or Latino (18+): Adults ages 18+ who identify their origin as Hispanic, Latino, or Spanish, may be of any race. For more information, visit: <u>http://bit.ly/B010011</u>.
- Non-Hispanic White only (0–17): Children and teens ages 0–17 who are White alone, not Hispanic or Latino. For more information, visit: <u>http://bit.ly/B010011</u>.
- Non-Hispanic White only (18+): Adults ages 18+ who are White alone, not Hispanic or Latino.. For more information, visit: <u>http://bit.ly/B010011</u>.

## <u>Gender</u>

- Female (0–17): Children and teens ages 0–17 who are female.
- Female (18+): Adults ages 18+ who are female.

## Language at Home

• English only (18+): Adults ages 18+ who only speak English (and no other language) at home. For more information, visit: <u>http://bit.ly/B16007</u>.

## **Mobility**

• Lived in same home 1 year ago (18+): Adults ages 18+ who did not move during the past year. For more information, visit: <u>http://bit.ly/B07001</u>.

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- Moved within U.S. (18+): Adults ages 18+ who moved within the United States in the past year. For more information, visit: <u>http://bit.ly/B07001</u>.
- Moved from abroad (18+): Adult ages 18+ who moved to the United States from a foreign country, including Puerto Rico, American Samoa, Guam, Northern Marianas or the U.S. Virgin Islands. For more information, visit: <u>http://bit.ly/B07001</u>.

## Nativity/Citizenship

- Born U.S. citizen (0–17): Children and teens ages 0–17 who were U.S. citizens at birth. For more information, visit: <u>http://bit.ly/0B05003</u>.
- Born U.S. citizen (18+): Adults ages 18+ who were U.S. citizens at birth. For more information, visit: <u>http://bit.ly/0B05003</u>.
- Naturalized U.S. citizen (0-17): Children and teens ages 0-17 who were not U.S. citizens at birth but became U.S. citizens by naturalization. For more information, visit: <u>http://bit.ly/0B05003</u>.
- Naturalized U.S. citizen (18+): Adults ages 18+ who were not U.S. citizens at birth but became U.S. citizens by naturalization. For more information, visit: <u>http://bit.ly/0B05003</u>.
- Non-citizen (0–17): Children and teens ages 0–17 who are not U.S. citizens. For more information, visit: <u>http://bit.ly/0B05003</u>.
- Non-citizen (18+): Adults ages 18+ who are not U.S. citizens. For more information, visit: http://bit.ly/0B05003.

## Poverty

- Living in poverty (<100% FPL) (0–17): Children and teens ages 0–17 living in poverty (<100 percent federal poverty level) in the past 12 months. The Census Bureau uses a set of dollar value thresholds that vary by family size and composition to determine who is in poverty. For more information on poverty thresholds, visit: http://bit.ly/pvtthreshld.
- Living in poverty (<100% FPL) (18+): Adults ages 18+ living in poverty (<100 percent federal poverty level) in the past 12 months. The Census Bureau uses a set of dollar value thresholds that vary by family size and composition to determine who is in poverty. For more information on poverty thresholds, visit: <u>http://bit.ly/pvtthreshld</u>.

## Race

- Asian only (0–17): Children and teens ages 0–17 who are Asian alone, having origins in any of the original peoples of the Far East, Southeast Asia or the Indian subcontinent. For more information, visit: <u>http://bit.ly/B01001D</u>.
- Asian only (18+): Adults ages 18+ who are Asian alone, having origins in any of the original peoples of the Far East, Southeast Asia or the Indian subcontinent. For more information, visit: <u>http://bit.ly/B01001D</u>.
- Black only (0–17): Children and teens ages 0–17 who are Black alone, having origins in any of the Black racial groups of Africa. For more information, visit: <u>http://bit.ly/0B05003</u>.
- Black only (18+): Adults ages 18+ who are Black alone, having origins in any of the Black racial groups of Africa. For more information, visit: <u>http://bit.ly/B01001B</u>.

- Other only / Mixed (0–17): Children and teens ages 0–17 who are American Indian and Alaska Native alone, Native Hawaiian and other Pacific Islander alone, some other race alone or two or more races.
- Other only / Mixed (18+): Adults ages 18+ who are American Indian and Alaska Native alone, Native Hawaiian and other Pacific Islander alone, some other race alone or two or more races.
- White only (0–17): Children and teens ages 0–17 who are White alone. For more information, visit: <u>http://bit.ly/B01001A</u>.
- White only (18+): Adults ages 18+ who are White alone. For more information, visit: <u>http://bit.ly/B01001A</u>.

## Working Status

- Working (18+): Civilian adults ages 18+ who either (1) were "at work" or (2) "with a job but not at work." For more information, visit: <u>http://bit.ly/B23001</u>.
- Not working (18+): Adult ages 18+ who were either unemployed or were not classified as members of the labor force (including students, homemakers, retired workers and institutionalized people). For more information, visit: <u>http://bit.ly/B23001</u>.

## C. LEARNING MODULE 1:

# Accessing Data from the *Ask*CHIS© Online Data Query System

This section focuses on accessing data from the California Health Interview Survey using an online tool called *Ask*CHIS<sup>©</sup>. There are five parts to this section:

- 1. Introduction to *Ask*CHIS©
- 2. Using AskCHIS©
- 3. Understanding the Data
- 4. Advanced AskCHIS Techniques
- 5. Interpreting and Presenting AskCHIS<sup>©</sup> Data

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## C. LEARNING MODULE 1: Accessing Data from the *Ask*CHIS© Online Data Query System

## Part 1: Introduction to AskCHIS

## Learning Objectives:

- Understand a query.
- Understand how *Ask*CHIS© can help you access data about Californians.
- Become familiar with using *Ask*CHIS<sup>©</sup>.

## What is a query?:

## Query: a search or inquiry.

Many people use the Internet to access information. When you use an Internet search engine such as Yahoo or Google to request information and then obtain some results, you are performing a **query**. You are searching for data that someone else has collected. This session will introduce you to one system for internet-based data queries, *AskCHIS*<sup>©</sup>. In our workshop you will create a query that will supply the data you seek.

*Ask*CHIS<sup>©</sup> is an online data query system and a resource for data about California, its people and their health. There are many other online data query systems, and you will find that the concepts and skills learned with *Ask*CHIS<sup>©</sup> translate to other data sets and query systems.

## CHIS Data Highlights:

• CHIS randomly selects up to 40,000 households, drawn from every county in California, for its random-digit dial telephone survey.



- CHIS has provided data to the public in a two year data cycle since 2001. Beginning in 2011, CHIS began continuous sampling, gathering data more slowly over a longer period of time. Continuous data collection allows CHIS to generate one-year estimates in addition to the two year data, which is released during the summer every other year. These new one-year estimates are available at the state level and for some heavily populated areas within the state, but not for smaller geographic areas. Because of the smaller sample size of the one-year data, the Center will release these estimates through select Center products, including publications as well as through the Center's easy-to-use Health Profiles fact sheets. There are no Public Use Files (PUF) available for one-year data nor will one-year data be available on <u>AskCHIS©</u>. For more information on the continuous sampling method, visit: <a href="http://healthpolicy.ucla.edu/newsroom/press-releases/pages/details.aspx?NewsID=121">http://healthpolicy.ucla.edu/newsroom/press-releases/pages/details.aspx?NewsID=121</a>.
- CHIS over-samples certain population groups. Over-sampling is a technique that helps researchers ensure small population groups are represented in the sample. For example, in CHIS 2001, American Indian/Alaska Natives (AIAN) were over-sampled (raising their total sample size from 440 to 800) to examine important differences between AIAN living in urban and rural areas.
- CHIS is conducted in several different languages. Surveys were conducted in 6 languages (English, Spanish, Chinese-Mandarin and Cantonese, Tagalog, Korean and Vietnamese).
- CHIS interviews one adult in each household. In households where there is a child, parents are asked to provide information about one child. In households where there is an adolescent, the adolescent is asked to participate by being interviewed.
- CHIS interviewed over 40,000 adults and 4,000 adolescents (ages 12–17). In addition, over 9,000 parents provided information about their children ages 11 years and younger.
- Researchers applied a statistical formula to the data collected to create **population estimates**. The results you receive using *Ask*CHIS© are population estimates based on the geographical and population characteristics (such as age and gender) you select. For example, based on the number of <u>adults in the survey</u> who reported having diabetes, we were able to estimate how many <u>adults in California</u> have diabetes.

## CHIS data can be accessed in multiple ways:

- **AskCHIS**<sup>©</sup>—the online data query system that is the focus of this workshop.
- Data Access Center—located at the UCLA Center for Health Policy Research.
- Public Use Files—available online through the AskCHIS© website.
- **Requests** can be made to UCLA Center for Health Policy Research for larger data analysis projects. For more information, please email Brandon Traudt: btraudt@ucla.edu.

## C. LEARNING MODULE 1: Accessing Data from the *Ask*CHIS© Online Data Query System

## Part 2: Using AskCHIS

## 1. Find the AskCHIS Website:

Go to the CHIS website <u>http://ask.chis.ucla.edu/</u> and see the *Ask*CHIS© login home page shown below.



## 2. <u>Register to use AskCHIS© (or login, if you've already registered)</u>:

The first time you use AskCHIS©, you'll need to register as a user. You need an email address to register. Click on the green box that says, "Not registered? Create an account" (See the arrow in the above image). Complete the registration form and create a username and password you can easily remember (if you forget, an email reminder will be sent to you). The information you provide is kept in strictest confidentiality and only collected to help identify who uses the site and what CHIS information/sections are used most often. The information gathered helps to determine what enhancements are needed to better serve our users. After you first register, you can use your username and password to log in each time your access AskCHIS©.

AskCHIS



The login screen is the first step to using AskCHIS<sup>©</sup>.

## 3. Find Data Using AskCHIS©:

AskCHIS allows you to quickly and easily obtain data from the California Health Interview Survey. Advance through four steps: <u>Geographic Area</u>, <u>Topic</u>, <u>Compare Topic</u>, and <u>Population</u> to receive the results of your query.

► As	Clean/Start New Query     My I       Geographic Area     Topic     Compare Topics     Limit Population     Years       State     required     optional     optional     required		My Library Sign Out			
Geographi	ic Area	Торіс	Compare Topics	Limit Population	Years	13 Get Data
State	1	required	optional	optional	required	

#### 3.1. Select a Geographic Area for Your Results

First, select your geographic area of interest (the entire state of California, a county or group of counties). When selecting specific geographic areas other than the entire state, click <u>Next.</u>

## 3.2 Select a Topic for Your Results

There are a number of basic topic categories provided. The easiest way to search for variables to select for your query is a Keyword Search. Type a key word in the box (see the arrow in the image below). For practice, type "asthma" and click <u>Search</u>.

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● AskCHIS			Clean/Start New Query	My Library Sign Out
Geographic Area Topic	Compare Topics	Limit Population	Years	13 Get Data
State     Search     Search for a topic	optional	optional	required	
Select a Topic .				
Search Select a Category				
Search for a topic				Search
			N	

Once you enter a keyword, such as "asthma," your search results will look similar to the example below. Notice the <u>Select</u> button to the left of the topic name.

Search	Select a Category
Se	arch for a topic asthma
• 🔇	Had asthma symptoms within past 12 months (diagnosed asthma) Multiple years up to: 2009 Age groups: Child Teen Adult
0	Wheezing may be related to other breathing condition Data year: 2003 Age groups: Adult
Θ	Work days missed due to asthma in past 12 months Multiple years up to: 2005 Age groups: Adult
0	Got information on how to recognize asthma attacks Data year: 2001

Once you select the topic, a list of details related to that topic will display.

Sear	h for a topic asthma Search
•	Had asthma symptoms within past 12 months (diagnosed asthma) Multiple years up to: 2009 Age groups: Child Teen Adult
	Years: 2005, 2007, 2009 Age groups included: Child Teen Adult
	Results are displayed for the following levels: Experienced symptoms in past 12 months Did not experience symptoms in past 12 months

Clicking the **Next** button will add this topic to your query. You will immediately return to the query design page and will be prompted to choose a comparison demographic or trait. The topic you chose will be displayed at the top of the page.

## Select a Topic .

Search	Select a Category	
s	ch for a topic asthma	
	Had asthma symptoms within past 12 months (diagnosed asthma) Multiple years up to: 2009 Age groups: Child Teen Adult	
	Years: 2005, 2007, 2009 Age groups included: Child	
	Taan Adult	< Pre

#### 3.3 Select a Compare Topic Group

Now you have the option to select a demographic topic or particular trait to <u>**Compare Topic**</u>. If we select a <u>**Compare Topic**</u> group, our results generated by the query will include a two-way table with details based on this comparison (two-way tables are explained in detail in **Part 3: Executing Queries and Retrieving Data** on page 46). If you do not want to group the example based on any trait or indicator, skip this section by clicking on the next section labelled <u>**Population**</u>.

**Note**: Adding a <u>Compare Topic</u> group is a way you can filter your data into categories. For our example, let us say we would like to categorize our data by age. We can search by keyword or we can click on the categories shown on below. First, click on the Demographics heading and then age name (see the yellow arrow in the image below).

Compare a To	pic 🛛			
Common Comparisons Sea	arch Select a Category			
Health Status Health Conditions (not Cancer) Cancer and Cancer Prevention Health Behaviors	Demographic Age.8.Gender	Gender listed under: Demographic / Age & Gender Multiple years up to: 2015 Age groups: Child Teen Adult		
Women's Health Oral Health Access & Utilization	Family & Marital Status Education Employment	Age groups - 9 categorical levels listed under: Demographic / Age & Gender Multiple years up to: 2015 Age groups: Child Teen Adult		
Health Insurance Mental and Emotional Health Public Program Participation	Income & Poverty Residency in US Sexual Orientation	Age groups - 4 categorical levels listed under: Demographic / Age & Gender Multiple years up to: 2015 Age groups: Child Teen Adult		
Demographic			< Previous	Skip

This opens an additional section allowing you to choose from a variety of ways to categorize by age or gender. To select your preferred Topic to Compare Topic simply click the round radio button and then the next button (see the yellow arrow in the image below).

Health Status	Demographic	0	Gender		
Health Conditions (not Cancer)			listed under: Demographic / Age & Gender		
Cancer and Cancer Prevention	Language		Age groups: Child Teen Adult		
Health Behaviors	Race/Ethnicity				
Women's Health	Family & Marital Status	0	Age groups - 9 categorical levels listed under: Demographic / Age & Gender		
Oral Health	Education		Multiple years up to: 2015		
Access & Utilization	Employment		Age groups. Child leen Adult		
Health Insurance	Income & Poverty		Age groups - 4 categorical levels		
Mental and Emotional Health	Residency in US		listed under: Demographic / Age & Gender		
Public Program Participation	Sexual Orientation		Age groups: Child Teen Adult		
Demographic	Military Service		Years: 2001, 2003, 2005, 2007, 2009, 2011, 2012, 2013, 2014, 2015		
Place of Residence			Age groups included:		
Injury & Violence Prevention			Child Teen		
Child Care/Parental Involvement			Adult		
					Next >
				1/	

#### **3.4** Select a Population for Your Results

In this section we can select results based on age, race, gender, and percent of FPL. Now we select our population of interest. Let's limit the results to include only females. In the Gender box, select **<u>Female</u>** (see the arrow in the image below).

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Geograp	hic Area	>	Торіс	Compare	Topics	Limit Pop	ulation	$\rangle$	Years		🖪 Get	Data
tate	1	Had asthma symptoms with months (diagn	● ♪ ⊗ hin past 12 osed asthma)	Age groups - 4 categorical levels	0/0	Gender ( Female )	10	2009	1			
_imit	Popu	lation	0									
Age in ye	ears		6	Race - OME	3/Departr	nent of Finance	0	Federal	Poverty Lev	el - Con	tinuous	6
Include a Select an age From	all ages ge range: , To			<ul> <li>include all m</li> <li>Latino</li> <li>White (no</li> <li>African Au</li> <li>American</li> <li>Asian (no</li> </ul>	aces n-latino) merican (no -Indian/Alas n-latino)	n-latino) ka Native (non-latino)	)	include     Select a FP     From	all FPL L range:			
Gender				<ul> <li>Native Ha</li> <li>Two or M</li> </ul>	wallan/Pac ore Races (	fic Islander (non-latino non-latino)	D)					
<ul> <li>include t</li> <li>Male</li> <li>Female</li> </ul>	ooth genders	I										

Click "Get Data" to get your result.

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## C. LEARNING MODULE 1: Accessing Data from the *Ask*CHIS© Online Data Query System

## Part 3: Understanding the Data

## Learning Objectives:

- Understand the type of data *Ask*CHIS© can provide.
- Assess the availability and appropriateness of data in *Ask*CHIS©.
- Prepare the data query for *Ask*CHIS©.

## What data can AskCHIS provide?:

Surveys such as CHIS allow data users to describe the population numerically, including frequencies of their characteristics, certain health-related behaviors and other aspects of their relationships with institutions such as health care and insurance systems, the labor market or public benefits (e.g., Aid for families with dependent children or food stamp programs).

Let's take a look at the questions you provided in the earlier session, "Determining the Data You Need." These questions should be quantifiable, or measurable, and answerable by **statistics**, **frequencies**, averages and counts.

**Note:** It is important to look for and consult the technical documentation that often accompanies an online data source before conducting any query. Consulting these resources can save time, resources and frustration (especially if data that you are looking for is not available).

## <u>Resources to assess the availability and relevance of data in AskCHIS© to your data</u> <u>needs include</u>:

- <u>The AskCHIS© questionnaire topic fact sheets</u> Fact sheets display general topic items and populations for whom data was collected (i.e., adults, adolescents and/or children). <u>http://healthpolicy.ucla.edu/chis/design/Pages/survey-topics.aspx</u>
- <u>The data dictionary</u> (also known as the codebook) Methodology reports describe how questions were asked, the response categories available and how variables were created. <u>http://healthpolicy.ucla.edu/chis/design/Pages/methodology.aspx</u>

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3. <u>Questionnaires</u>

These documents provide the questions asked of CHIS survey respondents. Questionnaires are available in Child, Adolescent and Adult versions. <u>http://healthpolicy.ucla.edu/chis/design/Pages/questionnairesEnglish.aspx</u>

 <u>The AskCHIS© Keyword Search tool (online)</u> This tool allows you to type in the term(s) of your choice and search for variables related to or containing that term. You must be logged in to AskCHIS© to use this tool.

## Defining the Data Query & Population and Preparing the Data Query:

- Refer to <u>AskCHIS© Survey Topics fact sheets</u> by year (visit: <u>http://healthpolicy.ucla.edu/chis/design/Pages/survey-topics.aspx</u>) and look for the subject heading where your data of interest may be located.
- In *Ask*CHIS©, go to the <u>Select a Topic</u> page. Use the keyword search tool to verify the variable(s) available in *Ask*CHIS© for that topic. Type a word in the box and click **Search**.

					- Icuro	
štate	required		optional	optional optional		
Select a	Topic	•				
Search fo	a topic					Search

- Some people like finding the variables from a list of topic categories. You can do this by clicking on any of the categories listed on the left side of the page (See the arrow on the left in the image above.)
- Record the variable(s) of interest to you on Worksheet 1. (An additional copy of the worksheet can be found in Appendix C of this workbook.)

You may not find exactly the data you need. If this is the case, you have two options:

- 1. Refine your data query so that it can be answered by the type of data available in *Ask*CHIS© in that general subject area, or
- 2. Identify a new data query.

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## C. LEARNING MODULE 1: Accessing Data from the *Ask*CHIS© Online Data Query System

## Part 4: Advanced AskCHIS Techniques

## Learning Objectives:

- Understand what one-way and two-way tables are and how to interpret them.
- Develop one-way and two-way tables.
- Assess the reliability of the results obtained.

## Review of the key steps for using AskCHIS©:

- 1. Go to the CHIS webpage, <a href="http://www.askchis©.com">http://www.askchis©.com</a> and click on AskCHIS©
- 2. Register (or login, if you've already registered).
- 3. Select a geographic area for your results.
- 4. Select topic for your results.
- 5. Select a population for your results.
- 6. Default to the most recent year or select a different timeframe.
- 7. Review the results in the data table.

## **GETTING RESULTS**

To see your results, click <u>Get Data</u> at the top of this same page (see the arrow in the image below).

Geographic Area	Topic Compa	re Topics Limit Popula	ition Yea	ars	13 Get Data
Ever diagno asthma	sed with 0 🔊 🖲 Age groups - 4 categorical leve	€ ≠ ⊚ optional Is	2015	1	
nit Populatior	l 0				
ge in years	Race - Ol	MB/Department of Finance	Federal Po	verty Level - Conti	nuous 💿
include all ages elect an age range: From _ To	include a     Latino     White     Africar     Amerin     Asian	III races (non-latino) n American (non-latino) can-Indian/Alaska Native (non-latino) (non-latino)	include all     Select a FPL r     From	FPL ange: To	
nder	Native     Two o	Hawaiian/Pacific Islander (non-latino) r More Races (non-latino)			
clude both genders Male					

A result page will generate with a two-way table displayed. For example, what percentage of <u>females in California</u> has been diagnosed with asthma? (See the arrow in the image shot below).

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Geographic Area	Торіс	Compa	re Topics 🔪 L	imit Populatio		Years		🗗 Get 🛙	Data		
State 🖋	Ever diagnosed with 0 🕫 👁 asthma	Age groups - 4 categorical level	€ & ම Gender Is	(Female) 🖋	⊗ 2015	1					
<b>t</b> ⊒Your Da	ita Results							•			
Data Charts	Trends					Ema	ail Results	Export	Print		
					Co	mpare Geography •	Adjus	t layout 🗸			
			Age groups - 4 categorical levels								
	Ever diagnosed with asthma	Child (0-11) 🖨	Adolescent (12-17) 🗢	Adult (18-64) ≎	Senior (65+) 🖨	All \$					
	Has asthma	10.6% ( 6.0 - 15.1 ) 291,000	19.7% ( 8.8 - 30.6 ) 284,000	17.4% (15.6 - 19.1) 2,094,000	17.0% (11.9 - 22.1) 477,000	16.5% (14.6 - 18.4) 3,146,000					
	Does not have asthma	89. <b>4%</b> ( 84.9 - 94.0 ) 2,464,000	80.3% (69.4 - 91.2) 1,161,000	82.6% ( 80.9 - 84.4 ) 9,971,000	83.0% (77.9 - 88.1) 2,325,000	83.5% ( 81.6 - 85.4 ) 15,922,000					
	Total	<b>100.0%</b> 2,755,000	<b>100.0%</b> 1,445,000	<b>100.0%</b> 12,065,000	<b>100.0%</b> 2,802,000	<b>100.0%</b> 19,068,000					

## Introduction to One-Way Tables:

#### What are they?

- The term one-way table refers to a table that organizes the data in a way that is easy to understand.
- The table provides the answer to a data query that only focuses on <u>one health topic or</u> <u>characteristic</u>.
- These are also known as univariate tables.

## What do they look like?

One-way tables have several components:

- One variable (known in *Ask*CHIS© as <u>**Topic**</u>), and
- The demographic factors that define the population of interest (known in *Ask*CHIS© as **Population**).

Here is an example of a query that produces a one-way table:

• How many young adults in California (or what percentage) have <u>health insurance</u>?

This is a one-way analysis because only one variable (health insurance) is required to obtain the statistic, that is, the percentage of young adults in California with health insurance.

## When are they used?

One-way tables are used when a person is interested in answering a broad question, such as, "How many people have a certain characteristic?"

## What types of data do they provide?

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In *Ask*CHIS©, one-way data tables provide percentages, population estimates and confidence intervals.

Now we'll practice a simple query using a previously created data query as a guide. Our results will be a one-way table. As the trainer leads you through the steps, you can make selections for **Geography**, **Topic** and **Population** that relate to your work and interests. (See Example One on the next page.) After this exercise, you will have additional time to practice queries for one-way tables.

## **Discussion Questions:**

Try to interpret your findings.

- What do these results mean?
- What population(s) was included in the results? Describe the population by:
  - ➢ Geographic region
  - > Age
  - > Gender
  - Income, and/or
  - Race / ethnicity (as needed)

Geogra	aphic Area	Торіс	c	Compare Topics	Limit Popu	lation	Years	t3 Get
State	1	Currently insured	<b>₿</b> ∮⊗	optional	Age in years ( 18 - 24	) ፆ⊗ 2015	1	
<b>t</b> ]Yo	our Da	ta Resu	lts					
Data	Charts	Frends					Em	ail Results Export
							Compare Geography	<ul> <li>Adjust layout</li> </ul>
				Currently insured	Ali 🗢			*
				Currently insured	86.6% (83.2 - 90.0) 3,225,000			
				Not currently insure	13.4% ( 10.0 - 16.8 ) 499,000			
				Total	<b>100.0%</b> 3,724,000			
* statis	tically unstable							
95% cc	onfidence interval	s displayed in table						

**Note:** On the results page we can clearly see all selected criteria listed in the top portion of the screen (See the arrow in the image above).

## **Interpretation of Data Results – Example 1**

- In 2015, 86.6 percent of adults in California ages 18–24 had health insurance.
- In 2015, 13.4 percent of adults in California ages 18–24 did not have health insurance.

## Introduction to Two-Way Tables:

#### What are they?

- Two-way tables build on the analysis conducted earlier. They answer more complex questions because two variables (rather than one) are being analyzed.
- Two-way tables are also known as bivariate tables.
#### What do they look like?

- A two-way query is made up of two variables (a **<u>Topic</u>** and a <u>**Compare Topic**</u> variable that you will use for comparison) plus the demographic factors that define the population.
- Two-way tables differ from one-way tables because they add a second variable to the analysis. When using AskCHIS© the <u>Compare Topic</u> option is provided to make it easy to create a two-way table.

#### Here are a few examples:

- We might ask, "Does the percent of uninsured adults differ between those with diabetes and those without?"
  - This query allows us to explore two AskCHIS© variables at the same time. The two-way results table will allow us to look at the distribution of uninsured among diabetic and non-diabetic adults.
- We might ask, "Does the percentage of adults diagnosed with heart disease differ between normal weight and obese adults?"
  - This query allows us to explore two AskCHIS<sup>®</sup> variables at the same time. The two-way results table will allow us to look at the distribution of heart disease diagnosis across weight categories.

#### When are they used?

Two-way tables are used when a person is interested in finding out how one *Ask*CHIS© variable (such as current insurance) is distributed across the levels of a second variable (such as income).

Geogr	aphic Area	>	Торіс	Compare Topics	Limit Population	> Ye	ears	😫 Get D
State	1	Ever diagn asthma	osed with 0 2 0 Ra	ice - 0 🗸 🕲	Race - OMB/Department 🖋 🖲 of Finance ( Latino, African American (non-latino) ),	2015	1	
t]Y	our Dat	a Re	esults					
Data	Charts T	rends					Email Res	sults Export
						Compa	re Geography 🔻	Adjust lavout 🕶
						Compa	re Geography -	
					Race - OMB/Department of Financ	e		
			Ever diagnosed with a	asthma Latino 🖨	African American (non-latino) 🗢	All \$		
			Has asthma	18.6% (11.0 - 26.1) 326,000	29.1% ( 12.9 - 45.4 ) 50,000	19.5% (12.7 - 26.3) 376,000		
			Does not have asth	81.4% ( 73.9 - 89.0 ) 1,430,000	70.9% (54.6 - 87.1) 122,000	80.5% (73.7 - 87.3) 1,552,000		
			Total	<b>100.0%</b> 1,756,000	<b>100.0%</b> 172,000	100.0% 1,928,000		
95% c	onfidence intervals	displayed i	n table					
Source	e: 2015 California H	Health Inter	view Survey					

# Interpretation of Data Results – Example 2

- In 2015, 18.6 percent of Latinos in California ages 18–24 have been diagnosed with asthma.
- In 2015, 29.1 percent of African Americans in California ages 18–24 have been diagnosed with asthma.

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#### Empty Cells and Unstable Estimates:

In some queries, especially those limited to a small population subset, *Ask*CHIS© may either (1) not report any information (through empty cells) or (2) report an unstable estimate (marked by a red star).

- <u>Unstable estimates</u>, characterized by Asterisks (\*) in *Ask*CHIS©, are of concern to data users because they reflect percentages based on a small sample size.
- <u>Empty cells</u>, characterized by a dash (--) in *Ask*CHIS©, are of concern because the data were not reportable due to either lack of responses to a certain question or small sample sizes (i.e., cell has a population estimate <500 individuals).
- If the query produces a table with values that are asterisked, the UCLA Center for Health Policy Research and CHIS Team <u>do not</u> recommend using these values for purposes of policy development, program planning and advocacy, among other uses.
- Consideration should be given to the use of unstable data. For example, you may choose not to plan a program or secure funding based on a small sample of Californians. Small samples may not accurately reflect the behaviors, health conditions or health services issues of the population. This may result in inappropriate allocation of limited resources.
- Nearly all query systems should give an indicator of data that are unstable, unusable or not available because of issues of sample size.
- To avoid unstable estimates or missing data in your results, do not limit the population too narrowly. Try removing or changing the demographic variables that define your subset. In other words, broaden your query to include a larger population segment. For example, include a larger geographic area, larger age range, males and females and all race/ethnicities.

#### **Refining your data query:**

Now refine your query. If you had no unstable estimates the first time, practice limiting your population to see what happens to the results. If you had unstable estimates the first time, practice expanding your population subset.

#### **Discussion Questions:**

Try to interpret your findings.

- What do these results mean?
- Did you obtain unstable estimates or empty cells?
- If so, what could you do to refine your query and produce usable data?

Additional Options for AskCHIS© Results:

TYour Data Results

There are several additional options for your results in *Ask*CHIS© including the ability to change the geographic area, time period and table layout.

• **Export to Excel:** Data tables can be exported to Excel for further analysis. (See the arrow in the image below).

				Compar	e Geography 🕶	Adjust layout -
		1	Race - OMB/Department of Financ	e		2
	Ever diagnosed with asthma	Latino 🗢	African American (non-latino) 🗢	All \$		
	Has asthma	18.6% ( 11.0 - 26.1 ) 326,000	29.1% (12.9 - 45.4) 50 <mark>,</mark> 000	19.5% ( 12.7 - 26.3 ) 376,000		
	Does not have asthma	81.4% ( 73.9 - 89.0 ) 1,430,000	70.9% (54.6 - 87.1) 122,000	80.5% (73.7 - 87.3) 1,552,000		
	Total	100.0% 1,756,000	<b>100.0%</b> 172,000	<b>100.0%</b> 1,928,000		

 Adjust table layout: You can change the layout of the table by clicking on the <u>Adjust</u> <u>Layout</u> tab (see the arrow in the image below). This option includes transposing and collapsing columns.

# ti>Your Data Results

a	Charts	Trends					Email	Results Export
						Compare	e Geography 🕶	Adjust layout -
				1	Race - OMB/Department of Financ	Transpo Collapse	andard Error se Topics e Topic	
			Ever diagnosed with asthma	Latino 🖨	African American (non-latino) 🗢	All \$	Collapse	Compare Topic
			Has asthma	18.6% ( 11.0 - 26.1 ) 326,000	29.1% ( 12.9 - 45.4 ) 50,000	19.5% (12.7 - 26.3) 376,000		
			Does not have asthma	81.4% ( 73.9 - 89.0 ) 1,430,000	70.9% (54.6 - 87.1) 122,000	80.5% (73.7 - 87.3) 1,552,000		
			Total	100.0% 1,756,000	100.0% 172,000	100.0% 1,928,000		

• **Changing time frames and comparing data:** One important option is the ability to change in the time period to incorporate more data from various years or trend over

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time. We can select <u>Years</u> and then choose to view data for individual years, compare multiple years or pool data together.

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Geographic Area	Торіс	Compare Topics	Limit Population	Years	🕄 Get Data
State & Ever dia asthma	agnosed with 🛛 🕈 💿	Race - 0 ✔ OMB/Department of Finance	Race - OMB/Department & of Finance (Latino, African American (non-latino)),	Comparing: 2014, 2015 🖋	
Choose a Time	e Period	0			
Multi-year options:	Compare	Pool			
		2009			
2014		2007			
2013		2005			
□ 2012		2003			
2011		2001			

If we would like to see the estimate for Latinas diagnosed with asthma trended with data from all the available CHIS surveys, we simply click the <u>**Trends**</u> icon above the data table and a trend graph will populate in place of the data table (See the arrow in the image below). *Ask*CHIS© will ask you for which group would you like to trend the data.



# ₽¥Your Data Results

• Bar graphs/visuals: You can view your results in graphical form by clicking on <u>Pie Chart</u> and <u>Bar Graph.</u>

A bar graph and pie chart will display as shown in the image below example.

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#### **Refining your data query:**

Now refine your query. Explore your options for narrowing your population in *Ask*CHIS©. In the query above, for example, you can narrow the population to include only adults who live in a household where someone smokes. Do the asthma rates change when you refine the query?

40%

50%

9.5%

30%

20%

10%

80.5%

709

39

Explore your options for comparison variables. In the query above, we compared by race. What do you find when you change the comparison variable to number of doctor visits in the last 12 months?

Now work on refining your own query. *Ask*CHIS© will prompt you to make a change if the variables selected for topic, comparison variable and characteristics (narrowing the population) are not ALL available for the same year (2001, 2003, 2005, 2007, 2009, 2011, 2013, 2014, 2015).

#### **Discussion Questions:**

Try to interpret your findings.

- What do these results mean?
- Did you obtain unstable estimates or empty cells?
- If so, what could you do to refine your query and produce usable data?

#### Summary and Discussion of the AskCHIS© Data Query Process:

• Review the major steps involved in developing queries and generating one-way and two-way tables.

Handouts and worksheets are in your packets as references for self-paced analyses. Support is available from Health DATA following workshops or via email: <u>hdp@ucla.edu</u>.

# C. LEARNING MODULE 1: Accessing Data from the AskCHIS© Online Data Query System

# Part 5: Interpreting and Presenting AskCHIS<sup>©</sup> Data Findings

#### Learning Objectives:

- Understand how transposing items in the table changes the results.
- Identify whether the results answer the initial question.
- Understand how to localize data.
- Write key message statements and interpretation of findings.

#### <u>Review</u>:

- What is the purpose of one-way tables?
  - A one-way table describes a single behavior or characteristic within a population of interest.
- What is the purpose of two-way tables?
  - A two-way table describes how a behavior or characteristic is distributed among ranges or levels of a second characteristic.

#### Interpreting and Applying Data Results:

- Using the data results obtained from your *Ask*CHIS© query, follow the worksheet to identify your audience, the goal of the analysis, interpretation of the results and your key message based on the findings.
- Those of you who have participated in other Health DATA workshops may consider how these results may be applicable to media advocacy or to a community assessment strategy.

#### Identifying Solutions for Stabilizing Estimates in Small Populations:

#### "Localizing" data

Sometimes data is limited or unavailable for the population you need. In these cases, you can *localize data*, or take existing data and apply it to your population of interest. These methods include:

- Making your own estimate.
- Painting a picture.
- Asking a researcher.

#### Make Your Own Estimate

Obtain data from a credible source that resembles or approximates the data you need.

Consider the timeliness of the data and whether you can generalize the data to other populations.

Note the similarities and differences between the demographics of the data and the demographics of your constituents.

- Do the differences affect the applicability of the data to your constituents? If no, you can probably make your own estimate.
- Using several data sources, you then "piece together" data to arrive at an estimate for your target population. Remember to protect your credibility when you create an estimate.
- What will the estimate be used for? Is it appropriate to estimate in certain instances?
- Sometimes no number is better than a bad one; sometimes a fuzzy one is better than none. You must decide.
- Be prepared to defend the information you use and your methods for generating the data.

#### Paint a Picture

- Is it possible to piece together data from several sources to illustrate your point?
- Do you have personal information, anecdotal or statistical, that can complement this information?
- Might it be possible to "paint a picture" of the problem using a combination of personal stories and statistics from several sources?

#### Ask a Researcher

- If you find a particularly helpful study, it might be possible to contact the researcher to find out more.
- Expect that it will take time. Many researchers have moved on to their next discovery by the time data from their last experiment becomes available to the public.
- When you do get data this way, pay attention to any caveats the researcher places on the data. These caveats may be the reason the researcher did not publish that information, even if he/she found it interesting.
- Seek out those sources of information that provide ongoing support or technical assistance.

#### Presenting AskCHIS© Data Using Graphs:

How you present data can be almost as important as understanding and using it. Your audience must be able to comprehend what you are saying. Visual aids such as graphs and charts are some of the most widely used and effective ways of reinforcing the audience's understanding of the information.

The presentation of data depends on audience and application of data. There are numerous ways of presenting the results of your data queries:

- Numerical (data tables)
- Text or narrative
- Graphical

Graphical depictions include:

#### Pie Graph

• Use when you have simple percentages and the "slices" of the pie are not too numerous.

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- Ideal for depicting the size of each part as a percentage of the whole.
- Too many pie "slices" can lead to confusion.
- Best when visual is displayed in color—it is difficult to discern between "slices" if using grayscale to represent different groups.

#### Bar Graph

- Good for comparing quantities—simple bar lines are easy to read and compare.
- Avoid comparing things that are of different scales—uneven scales can lead to confusion for your audience.

### Chart/Table

- Suitable for providing simple numeric information.
- Best used for side-by-side comparison of numbers and data for various variables or groups.

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#### Creating and Saving Pie and Bar Graphs with AskCHIS©:

- 1. Return to the simple query we did in Example One (use the query you saved).
- 2. Click Get Results.
- 3. To see a pie graph, click **<u>Pie graph.</u>**
- 4. To see a bar graph, click **Bar graph.**
- 5. The easiest way to save the graphs is to move the mouse arrow over Export. Choose one of the three options.
- 6. Is a pie graph or bar graph better for your results? Why?
- 7. Repeat steps 1–5 for the more complex query we did in Example Three (use the query you saved).

Geographic Area	Торіс	Compare Topics	Limit Population	Years	t⊒ Get Data
State 🥒	Ever diagnosed with ● 🖋 ⊚ asthma	Race - 0 ≠ ⊚ OMB/Department of Finance	Race - OMB/Department 🖋 🖲 of Finance ( Latino, African American (non-latino) ),	2015	
t⊒Your Dat	ta Results				
Data Charts	Trends				Email Results Export Print
Bar Chart O P	Pie Chart				
	Ever diagnos	ed with asthma compared Source: UCLA Center for	by Race - OMB/Departme r Health Policy Research	nt of Finance	
					<ul> <li>Has asthma</li> <li>Does not have asthma</li> </ul>
Lat	tino	796		81.4%	
	-				
				70.9%	
African American (non-lati	ino)	29.1%			
	All	59/		80.5%	
	0% 10% 20%	30% 40%	50% 60% 709	6 80% 90%	

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# D. LEARNING MODULE 2:

# Accessing Data from the AskCHIS© Neighborhood Edition Online Data Query System

This section focuses on accessing data from CHIS using an online tool called AskCHIS© Neighborhood Edition (AskCHIS© NE).

There are four parts to this section:

- Part 1: Introduction to *Ask*CHIS<sup>©</sup> NE Online Resources and Login
- Part 2: Using AskCHIS© NE
- Part 3: Executing Queries and Retrieving Estimates
- Part 4: Interpreting and Presenting *Ask*CHIS<sup>©</sup> NE Estimates

# D. LEARNING MODULE 2: Accessing Data from the *Ask*CHIS<sup>©</sup> Neighborhood Edition Online Data Query System

# Part 1: Introduction to AskCHIS<sup>©</sup> NE Online Resources & Login

#### Learning Objectives:

- Understand a query.
- Understand how AskCHIS<sup>©</sup> NE can help you access data about Californians.
- Become familiar with the basic steps of using AskCHIS© NE.

#### What is a query?:

#### Query: <u>a search or inquiry.</u>

Many people use the Internet to get information. When you use an Internet search engine such as Yahoo or Google to request information and then obtain some results, you are performing a **query**. You are searching for information collected by someone else. This session introduces you to a system for internet-based data queries, **AskCHIS© NE**. You will also work on creating a query that will give you the information that you need.

*Ask*CHIS© NE is an online data query system and a resource for local health information in California, the people who live there, and their health. There are many other online data query systems, including the original *Ask*CHIS© system, and you will find that many of the concepts and skills learned with *Ask*CHIS© NE translate to other data sets and query systems.

#### CHIS Data Highlights:

- From 2001–2009 CHIS randomly selected up to 50,000 households over a 2-year period, drawn from every county in California, for its random-digit dial telephone survey.
- CHIS provided data to the public in two year data cycles from 2001 to 2009. Beginning in 2011, CHIS conducted continuous data collection, completing interviews more slowly over a longer period of time. What does this mean for CHIS data users?
- Collecting continuous data each year allows CHIS to generate one-year estimates, which are released during the summer of the following year as available. One-year estimates are also available for analysis through the Center's Data Access Center (DAC) beginning with the 2013 data year. Learn more about how to apply to use confidential data by visiting the UCLA Center for Health Policy Research website. For more information about the continuous sampling method, visit: <a href="http://healthpolicy.ucla.edu/newsroom/press-releases/pages/details.aspx?NewsID=121">http://healthpolicy.ucla.edu/newsroom/press-releases/pages/details.aspx?NewsID=121</a>.
- CHIS oversamples certain population groups. Oversampling is a technique that helps researchers ensure small population groups are represented in the sample. For example, in CHIS 2001 American Indian/Alaska Natives (AIAN) were oversampled (raising their total sample size from 440 to 800) to examine important differences between AIAN living in urban and rural areas.
- CHIS conducts surveys in five languages: English, Spanish, Chinese, Korean and Vietnamese, with Tagalog added in 2014.

- CHIS interviews one adult in each household. In households where there is a child, parents are asked to provide information about one child. In households where there is an adolescent, the adolescent is asked to participate by being interviewed.
- CHIS interviews between 40,000 and 50,000 adults over a 2-year data collection cycle.
- To create **population estimates**, sampling weights are available to apply to the data collected. The estimates provided by *Ask*CHIS© and *Ask*CHIS© NE are population estimates based on the geography and population characteristics (such as age and gender) that you select. For example, based on the number of <u>adults in the survey</u> who reported having diabetes, we are able to make an estimate of how many <u>adults in California</u> have diabetes.

#### CHIS data can be accessed in multiple ways:

**AskCHIS NE**— is an online tool for accessing city, zip code and legislative district-level data for a select set of CHIS indicators.

- General Application & Data Information: *Ask*CHIS© NE is an online data dissemination and visualization platform that provides population health estimates at sub-county geographic regions. With *Ask*CHIS© NE, you can access and visualize authoritative health data at the zip code, city, county and legislative district geographic levels.
- Small area estimates: Estimates are powered by CHIS data and are created through a sophisticated modeling technique called small area estimation (SAE). Before using estimates from *Ask*CHIS© NE, we recommend reading more about our methodology and data limitations. Small area estimates allow public health experts to understand health insurance trends specific to a city, such as Los Angeles, or by legislative district.
- System Compatibility: AskCHIS© NE is compatible with most modern web browsers, including Internet Explorer 9 and up, Google Chrome, Mozilla Firefox and Safari. Users with Internet Explorer 8 or below need to download and install a newer browser, including any of those listed here. If you feel that some features are not working as expected, please contact us to report an issue.

**AskCHIS**<sup>©</sup>—the online data query system that provides a larger selection of indicators for county, region and state level data [Los Angeles Service Plan Areas (SPAS) and San Diego County Health Regions are also available].

Data Access Center-located at the UCLA Center for Health Policy Research

Public Use Files—available online via the AskCHIS© website.

**Requests** can be made to the UCLA Center for Health Policy Research for larger data analysis projects.

#### <u>Resources to assess the availability and relevance of data in AskCHIS© to your data needs</u> include:

1. <u>The AskCHIS© questionnaire topic fact sheets</u>

Fact sheets display general topic items and populations for whom data was collected (i.e., adults, adolescents and/or children). http://healthpolicy.ucla.edu/chis/design/Pages/survey-topics.aspx

- <u>The data dictionary</u> (also known as the codebook) Methodology reports describe how questions were asked, the response categories available and how variables were created. <u>http://healthpolicy.ucla.edu/chis/design/Pages/methodology.aspxQuestionnaires</u> These documents provide the questions asked of CHIS survey respondents. Questionnaires are available in Child, Adolescent and Adult versions. <u>http://healthpolicy.ucla.edu/chis/design/Pages/questionnairesEnglish.aspx</u>
- <u>The AskCHIS© Keyword Search tool (online)</u> This tool allows you to type in the term(s) of your choice and search for variables related to or containing that term. You must be logged in to AskCHIS© to use this tool.

# D. LEARNING MODULE 2: Accessing Data from the *Ask*CHIS© Neighborhood Edition Online Data Query System

## Part 2: Using AskCHIS© NE

#### Learning Objectives:

- Understand the type of data *Ask*CHIS© NE can provide.
- Assess the availability and appropriateness of data in *Ask*CHIS© NE.
- Prepare the data query and visualize the data in *Ask*CHIS© NE.

#### What data can AskCHIS© NE provide?:

Surveys such as CHIS allow data users to describe the population numerically, including frequencies of their characteristics, certain health-related behaviors and other aspects of their relationships with institutions such as health care and insurance systems, the labor market or public benefits (e.g., Aid for families with dependent children or food stamp programs). Not all CHIS Indicators are available in *Ask*CHIS© NE.

Consider what questions you might ask when trying to determine the health status of a population. Your questions should be quantifiable, or measurable and answerable by **statistics, frequencies, averages and counts.** It is important to look for and consult the technical documentation that often accompanies an online data source before conducting any query. Consulting these resources can save time, resources and frustration (especially if data that you are looking for is not available).

#### How does CHIS Create Small Area Estimates?—Methodology Brief:

#### AskCHIS© NE uses three data sources to create these estimates:

- 1. Survey Data: The California Health Interview Survey (CHIS) is the nation's largest state health survey (over 40,000 adult, child and teen respondents) and has been conducted every other year from 2001 through 2009, and every year since 2011. CHIS provides important information on the health, health behaviors and access to health care services of Californians. Conducted and disseminated by the UCLA Center for Health Policy Research (the Center) since 2001, CHIS data and analytic results are used extensively in California in policy development, service planning and research, and it is recognized and valued nationally as a model population-based health survey. The current *Ask*CHIS© NE estimates are based on CHIS 2011–2012 and 2013–2014 data.
- 2. Population data: Nielsen Claritas. These data consist of projected population data provided by Nielsen, a San Diego-based private marketing research firm. Total population and household estimates are based on estimates produced by the Census Bureau, as well as information from state and local agencies. The Claritas data has been augmented using modeled distributions of income-to-poverty ratios in CHIS 2011-2012. The resulting dataset was further adjusted to multiple CHIS weighting dimensions using proportional-iterative-fitting so that it represents the population of the CHIS sample design.
- 3. Contextual data: American Community Survey (ACS). Publicly available ACS 2008-2012 5-year summary tables were downloaded at the census tract level. We used 236 variables and classified them into 22 socio-demographic categories. A statistical procedure to bring out trends in data sets called "Principal component analysis" was conducted on each of the 22 sets of variables. The first principal components of each set were used for a second principal component analysis, and two principal components with the largest variance were eventually used as contextual variables in the model for health estimates.

#### **Modeling Health Indicators:**

To create the small area estimates (SAEs) displayed in *Ask*CHIS<sup>©</sup> NE, statistical models are first built using both survey data from CHIS and contextual data from ACS. For more information about the SAE statistical modeling, please reference the online materials available through *Ask*CHIS<sup>©</sup> NE.

#### Stability and Pooling:

The coefficient of variation is defined as the ratio between the standard error of the point estimate and the point estimate. The coefficient of variation (CV) was calculated for each estimate to assess statistical stability. A point estimate with  $CV \ge 30$  percent is considered unstable. Unstable estimates and estimates for areas with a population universe of less than 15,000 are suppressed.

For unstable estimates, or estimates for areas with a population universe of less than 15,000, geographic locations may be combined to produce stable estimates or to achieve a sufficiently large population. The pooled point estimate and variance are population-weighted averages of the original point and variance estimates. The confidence intervals and coefficient of variations are adjusted accordingly.

#### 1. <u>Find the AskCHIS© Website</u>:

Go to the *Ask*CHIS<sup>©</sup> NE site at <u>http://www.askchisne.ucla.edu/</u> and the *Ask*CHIS<sup>©</sup> NE login page shown in the image below will appear:



# 2. Register to use *Ask*CHIS© NE (or <u>login</u>, if you've already registered for *Ask*CHIS© or *Ask*CHIS© NE):

The first time you use *Ask*CHIS© NE, you'll need to register as a user unless you have already created a user login and password for the original *Ask*CHIS© system. Login information used to access data through the *Ask*CHIS© system or public use files will also work for accessing *Ask*CHIS© NE.

To register as a new user, you will need an email address. Click on the blue box that says, "Not registered? Create an account" (See the arrow in the image below). Complete the registration form, and create a username and password you can easily remember (if you forget, CHIS can send an email reminder). The information you provide is kept confidential and is collected to help identify who uses the site and what CHIS information/sections are most popular with users. The information gathered helps determine what enhancements may be needed to better serve our users and to advise users in the event of an error. After you register, you can use your username and password to login each time your access *Ask*CHIS© NE, *Ask*CHIS© or the CHIS Public Use Files (PUF).

The login screen is the first step to using AskCHIS<sup>©</sup> NE:



#### 3. Find Data Using AskCHIS© NE:

*Ask*CHIS© NE allows you to quickly and easily access local data from CHIS. There are three steps required to generate results: **Select a Topic**, **Add a Location**, and **Visualize Your Data**.



#### 3.2. Select a Topic for Your Results

First, select your topic area of interest. There are a number of basic health topics listed in the dark blue left column of the AskCHIS NE home page. The easiest ways to search for variables are to peruse the topics or use the Keyword Search function. Type a key word in the box (see the arrow in the image below). For practice, type "asthma" and hit enter on your keyboard.

For more detailed information about the health topics and variables, click on <u>Help</u> icon—always available at the top of the page—and select <u>Indicator Information</u> from the blue banner of options.



At the top of the listing there is an <u>Environmental Factors</u> category, which includes the CalEnviroScreen followed by a list of health indicators, for example, asthma or diabetes. If you scroll down to the bottom of the list of health topics on the left hand side, you will notice there is an option for socio-demographic indicators as well. Clicking on <u>Socio-Demographics</u> will display a list of socio-demographic indicators and hide the health topics (see image below).

AskCHIS Neighborhood Edition				
Search topics				
ENVIRONMENTAL FACTORS	^			
HEALTH TOPIC	~			Neighborhood Edition
Asthma	•			Search topics
Delay in receiving care	<b>^</b>			ENVIRONMENTAL FACTORS
Dental visits	^			
Diabetes	•			
Flu vaccine	<b>^</b>			SOCIO-DEMOGRAPHICS
Food insecurity	•			Education
Health status	•			Ethnicity
Heart disease	<b>^</b>			Gender
Mental health	<b>_</b>	<		Gini
Obese/Overweight	<b>_</b>			Language at Home
Physical activity				Mobility
Smoking				Nativity / Citizenship
Surger Drinke	-			Poverty
Sugar Drinks				Race
Uninsured	^			Work Status
SOCIO-DEMOGRAPHICS				
			⁄ر	

**3.2 Add a Location for Your Results** 

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The next step is to add a location (a county or group of counties, a city, zip code or legislative district). An estimate for the entire state of California is displayed once you select a health topic or sociodemographic topic. Click the <u>+ Location</u> button to add your location.

O location A		State		
		California		0
© Ever diagnosed with asthma (12) (2014)		<b>13.9%</b> (13.2% - 14.7%) 28,539,200		
Embed Map     Download      Ever diagnosed with asthma (1      Adult respondents ages 18+ who were ever diagno	(8+) sed wit		California	13.9% State : 0% 2% 4% 6% 8% 10% 12%

The location selection screen will appear:

<b>€</b> Search Location	• Combine Locations	♥ Find Legislative District	×					
Search for a location to add to your table. AskCHIS NE provides data at county, legislative district, city, and zip code level. You can add up to 5 total to your table.								
Search for a Location		C	2					
Current Selection (n	nax. 5)							
California 8								
	Cancel Create Ta	ble						

The State of California populates as the default selection. There are three options to select a specific the location.

 Search Location: You may choose the search location option by typing in a location name or zip code. By adding locations using the <u>Search Location</u> screen, you will create data tables in which each location has its own estimates stratified into separate cells in each data table. If you wish to compare and contract multiple locations, you should use the <u>Search Location</u> option. See the example below of a location search for "Los Angeles":

<b>€</b> Search Location	Combine Locations	s ♀ Find Legislative District
Search for a location to add district, city, and zip code	to your table. AskCHIS NE p level. <b>You can add up to 5 t</b> e	rovides data at county, legislative otal to your table.
Los Angeles		Q
Counties		
Los Angeles Coun	ty	
Cities		
East Los Angeles		
Lake Los Angeles		
Los Angeles		
Current Selection (n	nax. 5)	
California 🛛 🙁		
	Cancel Create	Table

Once you type in a location, such as "Los Angeles", your search results will look similar to the listing above. Clicking on a location listed will add that location to the "Current Selection" box at which point you will need to click <u>Create Table</u> to filter the data to this location. Users can search and add multiple locations using the same screen.

When a location is added using the <u>Search Location</u> option, CHIS creates a separate cell in the data table for each location added. In the example below, the City of Los Angeles has been added.



2. Combine Locations: The <u>Combine Locations</u> option allows users to add multiple locations to pool the data into one sample and one cell in the data table. To do so, you much first click on the blue <u>Combine Locations</u> button. Next, use the keyword search option to search for specific locations. Once you choose locations, the dialogue box will change to display as below. Any locations added will be pooled together into one estimate with the ability to compare and contrast to other locations.

igodoldoldoldoldoldoldoldoldoldoldoldoldol	oine Locations	♥ Find Legislative District	×
To combine multiple locations, search for add to your current selection. You may or only combine zip codes with other zip cod	locations and add nly combine same des).	them to your current pool. When dor level geographic regions (ie. you car	ne, 1
Search for a Location	Q ( No poo	Locations have been selected for ling.	
Current Selection (max. 5) California			
Can	cel Create Ta	ble	

Once you perform a keyword search, you may add different locations to your "Current Pool." Adding a location is as simple as clicking once on the name.

€ Search Location	• Combine Loc	ations	♥ Find Legislative District	¢
To combine multiple location: add to your current selection only combine zip codes with	s, search for locations . You may only combi other zip codes).	s and add t ine same-le	them to your current pool. When done, evel geographic regions (ie. you can	,
Los Angeles	Q	Citie	S East Los Angeles <b>G</b>	
Counties			ake Los Angeles	
Citico		L	os Angeles 🕴	
East Los Angeles >				
Lake Los Angeles >				
Los Angeles >			Add to Current Selection	
Current Selection (m	uar 5)			
Current Delection (il	ian. 9)			
California 😢				
	Cancel	Create Tab	le	

We can also search by zip code. Once all locations are added to the <u>Current Selection</u> box, click <u>Create Table</u>.

59

<b>€</b> Search Location	Combine Lo	cations	<b>♀</b> Find Le	gislative Dist	rict			
Search for a location to add to your table. AskCHIS NE provides data at <b>county, legislative</b> district, city, and zip code level. You can add up to 5 total to your table.								
90024					Q			
Zip Codes 90024								
Current Selection (n	nax. 5)							
California S Los	Angeles 8	Los Angeles C	County	90024	0			
	Cancel	Create Table	$\Leftrightarrow$					

3. Find Legislative District: The third option to select a location is to search and find a specific legislative district. Users can search by 9-digit zip code or full street address to determine the legislative district. Because legislative areas cross zip codes, cities and even county boundaries, a 9-digit zip code or full address is required to identify the correct legislative district. Results of a legislative district include the Assembly, State Senate and Congressional Districts as shown below.

<b>Q</b> Search Location	• Combine 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		<u>م</u>			
Assembly District 54		Add to Table			
State Senate District	26	• Add to Table			
33rd Congressional I	District	Add to Table			
Current Selection (m	nax. 5)				
	Cancel Create Tab	le			

**3.5 Visualize Your Data:** The third and final step is visualizing the data in the form of data tables, graphs and maps. Once a topic and location(s) are selected, the data table, map and histogram will display as seen below:



You may choose to view data at the city, county, zip code or legislative district in the maps; however, the maps will default to the cell location in the table you most recently clicked on or created.

Clicking the **Demographics** button in the map will display local statistics on whatever region you hover over in the map as shown below:

62





*Ask*CHIS© NE maps are interactive and can be exported (using the <u>Download</u> button displayed above the map) or embedded (using the <u>Embed Map</u> button displayed above the map) into your own web page. Clicking on a specific geographic area will display the estimate, 95 percent confidence interval, and estimated population universe for that location. You can also hover over other geographic locations to see the estimate for other areas displayed on the map. See more in **Part 3: Executing Queries and Retrieving Data.** 

Once the map is displayed, you can also change the geographic level displayed using the "Show Results by:" option, located at the top of the page

If you still have additional questions about selecting indicators, selecting locations or visualizing your data, please visit the **Help** section at the top of the page.

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			Cities		
8		Los Angeles			8
	12.1%				

# D. LEARNING MODULE 2: Accessing Data from the *Ask*CHIS<sup>©</sup> Neighborhood Edition Online Data Query System

# Part 3: Executing Queries & Visualizing Your Data

#### Learning Objectives:

- Navigate the AskCHIS<sup>©</sup> NE online data query system to execute queries.
- Access data using AskCHIS© NE.
- Understand what data is displayed, available and appropriate for use.
- Assess the reliability of results obtained.

#### Review of the key steps for using AskCHIS©:

- 1. Go to the CHIS webpage, <u>http://www.askchisne.ucla.edu.</u>
- 2. Register (or login, if you've already registered).
- 3. Select a Topic.
- 4. Add a location.
- 5. Review the results in the data table.
- 6. Visualize your data in a map or detailed histogram format.

#### SPOTLIGHT: Use the Legislative Lookup Function to Find your Legislative District



Use the Legislative Lookup tool to search for your address and identify your legislative district (U.S. Congressional, Assembly, and Senate), and your specific legislator. You can then add those districts to your table.

Click on the (+) Location button located in the topleft corner of your table. Click on the Find Legislative District tab.



Enter your **FULL ADDRESS** in the search box, making sure to include your city and zip code. Click on the search icon.



To add a specific legislative district to your current selection, click on **Add to Table**.

To view the legislator for any legislative district in your search results, click on the district.

Click the **<u>Create Table</u>** button to obtain estimates at your desired locations.

<b>Q</b> Search Location	Ocombine L	ocations	♥ Find Legislative Dis	trict
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 Ave Los Ar	ngeles, CA 90024			Q
Assembly District 54			Add to Table	•
State Senate District	26		Add to Table	•
33rd Congressional	District		Add to Table	•
Current Selection (m	ax. 5)			
California 8 Asse	embly district 54	8 Stat	e Senate district 26	
33rd congressional district	8			
	Cancel	Create Tab	le	

#### Data visualization:

Once you have selected a topic and a location, legislative district or other geographic level, it is time to see your results. The map and histogram will load after you have selected a location. If you have selected multiple geographic levels (such as city and zip

code), click on the cell in the data table that you would like mapped—this becomes the "active cell"— and the map will display the active cell.

AskCHIS Neighborhood Edition			📢 Give us feedback	La Export ← Share C Help My Account ~
Search topics	∧ O Location ± □	State		Cities
ENVIRONMENTAL FACTORS		California	0	Los Angeles 🔘
HEALTH TOPIC	Ever diagnosed with asthma (18+)	13.9% (13.2% - 14.7%) 28.539.200		12.1% (10.4% - 13.8%) 2.971.500
Asthma	Grand Embed Map     O Download			State :
Delay in receiving care	Fyer diagnosed with asthma	(18+)		California 13.9%
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The example above is based on the default of the State of California as well as the City of Los Angeles. If you select a specific geographical area, that area will be outlined in a different color on your map for comparison purposes as shown below.

**Note:** The color outline is green for counties, red for cities, yellow/orange for zip codes and purple for legislative districts.



#### Let's review by performing an example using zip code and county level data:

#### Step 1: Select a topic

Select a **Topic** from the left side menu or perform a keyword search.



Note: Remember socio-demographic indicators are available. To access, expand the socio-demographic option at the bottom of the screen.

#### Step 2: Add Locations

Add locations by clicking the add **Location** option.


### An Introduction to CHIS, AskCHIS© and AskCHIS© Neighborhood Edition

€ Search Location

Search for a Location...

California 🛛 🙁

**Current Selection (max. 5)** 

Combine Locations

Search for a location to add to your table. AskCHIS NE provides data at county, legislative

district, city, and zip code level. You can add up to 5 total to your table.

Cancel

You have the ability to choose <u>Search Location</u> to search for locations and add them as discrete cells in your data table for comparison or to choose <u>Combine</u> <u>Locations</u> to pool locations together.

You can search using a county, city, zip code or legislative district.

Let's search for a few different locations.

Search and add the locations to create a data table with multiple

locations included. Double click each location to add and then click **<u>Create Table</u>** button.

<b>€</b> Search Location	Combine Locatio	ons <b>9</b> Find Legis	alative District							
Search for a location to add to your table. AskCHIS NE provides data at county, legislative district, city, and zip code level. You can add up to 5 total to your table.										
A You have reached the m	aximum of 5 geographic e	ntities to compare.								
Search for a Location			Q							
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	LICLA Center for Health I	Policy Research								

Health DATA Program--Data, Advocacy, Training, Assistance

Q

♥ Find Legislative District

## An Introduction to CHIS, AskCHIS© and AskCHIS© Neighborhood Edition

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<ul> <li>Less than high school (18+)</li> </ul>	18.0%	22.2%	20.0%	28.8%		8.0%	
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### An Introduction to CHIS, AskCHIS© and AskCHIS© Neighborhood Edition

#### Step 3: Visualize Your Data

Once a location is selected, the map will populate with detail at the level (county, city, zip code or legislative district) of the cell currently active. The geographical level corresponding to the cell you have selected will be color-coded separately corresponding to the type of geographic selection (green for counties, purple for legislative districts and orange for zip codes). The dark areas in the map below indicate higher concentrations of individuals in Los Angeles County who did not graduate high school, an indicator which has been linked to several adverse health outcomes.



#### **Discussion Questions:**

Try to interpret your findings.

- What do these results mean?
  - What population(s) was included in the results? Describe the population by:
    - Geographic region
    - > Age
    - > Gender
    - Income, and/or
    - Race / ethnicity (as needed)

#### **Empty Cells and Unstable Estimates:**

In some queries, especially those limited to a small population subset (such as those for children only), *Ask*CHIS© NE may not report any information. <u>Empty cells</u>, characterized by "NA" in *Ask*CHIS© NE, are of concern because the data were not reportable because of statistical instability or small sample sizes (i.e., population universe is less than 15,000).

#### **Discussion Questions:**

Try to interpret your findings.

- What do these results mean?
- Did you obtain unstable estimates or empty cells?
- If so, what could you do to refine your query and produce usable data?

#### Additional Features for Results in AskCHIS© NE:

There are several additional options for your results in *Ask*CHIS including the ability to export data to excel and save your results:

**Export to Excel:** Data tables can be exported to Excel for further analysis. (See the arrow in the screen shot below).



**Export graphs & maps:** Graphs, maps and data tables can also be exported separately for further analysis. (See the arrow in the screen shot below).

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	State		Counties		Cit	I Table			Zip C	odes	
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Less than high school (18+)	18.0% 28.539.200		<b>22.2%</b> - 7.577.300		20. € Print 354,600			_3.8%		8.0% - 26,700	
Embed Map     O Download  Less than high school (18+)						Los Angel	California es County	18.0%	5%	Sta 10% 15%	ite 20%

You can also download the map using the **<u>Export</u>** button immediately above the map (see the arrow in the image below).

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A Direction	State	Counties	Cities
	California 🛛 🛞	Los Angeles County 🛛 🛞	Long Beach 🛞
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S Embed Map O Download	28,539,200	7,577,300	354,600

The **<u>Share</u>** function allows you to email the information to a friend or coworker or share via social media. You have the option to email a link or the actual data file.

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State		Counties	Cities			⊠ E-mail CSV				
California	8	Los Angeles County 🛛 🛞	Long B	each	۲	🗞 E-mail a Link			90807	C
18.0%		22.2%	20	.0%		Share	on Facebook		8.0%	
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Once you click <u>Map</u> or <u>Bar Chart</u> to download an item from either of the above export options, the item will download and open as a PNG file (see example below):



**Embedding maps:** Maps can be embedded on your own web page. Click the <u>Embed Map</u> option and copy the custom HTML code for pasting into your website or content management system.

	State		Counties		Cities		Zip Codes				
	California	0	Los Angeles County	۲	Long Beach	۲	90806	0	9	0807	C
Less than high school (18+)	28,539,200		22.2% - 7,577,300		20.0% 354,600		28.8% - 31,200			8.0% - 26,700	
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**Saving a Data Table:** You can also click the <u>Bookmark</u> button to save the table to your library within *Ask*CHIS<sup>©</sup> NE. Later, you can access your query, tables and maps by clicking on <u>My Account > My</u> <u>Library</u>.

Save this table to your library		<b>r</b> ⊄ Give us
	State	Counties
	California 🛞	Los Angeles County 🛛 🛞
Eess than high school (18+)	<b>18.0%</b> - 28,539,200	<b>22.2</b> % - 7,577,300
Sembed Map O Download		

**Manipulating a Histogram to Change Data and Map Views:** Move the vertical axis on the detailed histogram to change the map view. See below. As you move to the right or left, you remove shading for areas with a lesser value (if moving from the left) or higher value (if moving from the right). The areas you remove will become a shade of gray. In the example below, only the areas with a high percentage of individuals with a less than a high school education remain shaded blue.



When you move the vertical access further right into the histogram, the interactive data display and map will update accordingly

### D. LEARNING MODULE 2: Accessing Data from the *Ask*CHIS<sup>©</sup> Neighborhood Edition Online Data Query System

### Part 4: Interpreting and Presenting *Ask*CHIS<sup>©</sup> NE Data Results

#### Learning Objectives:

- Understand how visualizing your data can impact your results.
- Identify whether the results answer your initial question.
- Understand how to localize data and perform geographic comparisons.
- Write key message statements and an interpretation of your results.

#### **Interpreting and Applying Data Results:**

- Using the data results obtained from your *Ask*CHIS© NE query, follow the worksheet to identify your audience, the goal of the analysis, an interpretation of the results and your key message based on findings.
- Those of you who participated in other Health DATA workshops may consider how these results may be applicable to media advocacy or to a community assessment strategy.

#### **Solutions for Stabilizing Estimates in Small Populations:**

- Made your sample larger by pooling two or more years of data.
- Can you enlarge your sample?
- Remove population filters the more you filter, the narrower your results, the more unstable your estimates will be.
- Ask a researcher for advice.

#### Keep in mind...

- Obtain data from a credible source that resembles or approximates the data you need.
- Consider the timeliness of the data and whether you can generalize the data to other populations. Note the similarities and differences between the demographics of the data and the demographics of your constituents.
  - Do the differences affect the applicability of the data to your constituents? If not, you can probably make your own estimate.
- Using several data sources, you then, "piece together" data to arrive at an estimate for your target population. Remember to protect your credibility when you create an estimate.
  - > What will the estimate be used for? Is it appropriate to estimate in certain instances?
  - Sometimes no number is better than a bad one; sometimes a fuzzy one is better than none. You must decide.
  - > Be prepared to defend the information you use and your methods for obtaining it.

#### **Paint a Picture**

• Is it possible to piece together data from several sources to illustrate your point?

- Do you have personal information, anecdotal or statistical, that can complement this information?
- Might it be possible to "paint a picture" of the problem using a combination of personal stories and statistics from several sources?

#### Ask a Researcher

- If you find a particularly helpful study, it might be possible to contact the researcher to find out more.
- Expect that it will take time. Many researchers have moved on to their next discovery by the time data from their last experiment becomes available to the public.
- When you do get data this way, pay attention to any caveats the researcher places on the data. These caveats may be the reason the researcher did not publish that information, even if he/she found it interesting.
- Seek out those sources of information that provide ongoing support or technical assistance.

#### Presenting AskCHIS<sup>®</sup> NE Data Using Graphs & Maps:

How you present data can be almost as important as understanding and using it. Your audience must be able to comprehend what you are saying. Visual aids such as graphs, charts and maps are some of the most widely used and effective ways of reinforcing the audience's understanding of the information.

The presentation of data depends on audience and application of data. There are numerous ways of presenting the results of your data queries:

- Numerical (data tables)
- Text or narrative
- Graphical

#### Graphical depictions include:

#### Maps

- Using a map works best when comparing and contrasting different geographical regions within the state of California.
- Using a map works best when trying to portray a statement of need for a specific geographical region.
- Maps are ideal for depicting differences and for showcasing data for legislative districts.
- Maps are best when visually displayed in color—it's difficult to discern between lighter and darker shades if using grayscale to print the map for sharing.



#### **Bar Chart & Histogram**

- Good for comparing quantities—simple bar charts are easy to read and compare.
- Avoid comparing things that are on different scales. Uneven scales can confuse your audience.
- The histogram presents the distribution of an estimate across the State of California with a dotted vertical line showing the State estimate and the estimate of the "active cell" (zip code 90025 in the example). The comparisons created by the histogram will allow you to see exactly where your community fits in the distribution of locations and severities.



#### Chart/Table

- Suitable for providing simple numeric information.
- Best used for side-by-side comparison of numbers and data for various variables or groups.

# Appendices

- Appendix A: Health DATA Toolkit Combining Quantitative & Qualitative Data In Focus: Confidence Interval What to Do When the Data You Need is *Not* Available
- Appendix B: AskCHIS© & AskCHIS© NE Worksheets and Examples
- Appendix C: Data Resources
- Appendix D: GIS Information

# **Appendix A:**

Health DATA Toolkit Combining Quantitative & Qualitative Data In Focus: Confidence Interval What to Do When the Data You Need is *Not* Available

# Health DATA Toolkit

### **SECTION I: TYPES OF DATA**

**A. Qualitative Data:** Data that is usually measured and expressed in the form of words, concepts, themes or categories rather than numbers. Qualitative data are often used to gain a in-depth understanding of a particular incident or phenomenon—they answer how or why something is occurring.

Qualitative techniques include, but are not limited to:

- **Observation:** Noting and recording information about a subject or group of subjects. The observer gathers information by watching and listening to the subject or subjects in their natural environment and strives not to intrude or disrupt the action.
- Ethnography: The study and subsequent recording of information about human culture.
- **Case study:** A study based on an intensive observation of one (or a few) cases or examples, such as organizations or events.
- **Open-ended interview\*:** Gathering information by speaking with an individual using questions that cannot be fully answered with a "yes" or "no" response.
- **Focus group:** A group of individuals led through a structured discussion of a particular topic or event. Focus groups are often used to assess social needs, develop hypothesis and survey questions, investigate the meaning of survey results and assess the range of opinions.

**B.** Quantitative Data: Data that is usually measured and expressed in the form of numbers or statistics and which usually answer the "who, what, when and where" questions of a research problem.

Quantitative techniques include, but are not limited to:

- **Census:** A complete enumeration of the population.
- **Survey\*:** A systematic way of collecting information from a defined population, usually by means of interviews or questionnaires administered to a sample of the population.
- **Questionnaire\*:** A method of collecting data by asking participants identical questions about a particular issue or issues. Questions may be open-ended (the answer is completely left up to the respondent) or close-ended (where respondents are presented with a limited number of options to reply, such as yes/no, true/false or Likert-scale responses.
- **Close-ended interview\*:** Using a structured set of "yes" or "no" questions to gather information from an individual about a specific area of study.

## **Combining Quantitative and Qualitative Data**

	Quantitative	Qualitative
Description	<ul> <li>Measured and expressed in the form of numbers or statistics</li> <li>Also called numeric data</li> <li>Can answer the who, what, when and where of an issue</li> </ul>	<ul> <li>Measured and expressed in the form of words, concepts or categories</li> <li>Also called anecdotal data</li> <li>Can answer the how or why</li> <li>Can explore issues more in-depth</li> </ul>
Data Collection Methods	<ul> <li>Secondary data</li> <li>Surveys</li> <li>Interviews</li> </ul>	<ul> <li>Observations</li> <li>Focus groups</li> <li>Surveys</li> <li>Interviews</li> </ul>
Benefits	<ul> <li>Can demonstrate cause and effect</li> <li>Can "represent" a community by capturing the perspectives of many respondents</li> <li>Usually easier to interpret</li> </ul>	<ul> <li>Richer, more in-depth information about the topic being studied</li> <li>Can provide data from a respondent in their own words</li> <li>Can collect new data and new ideas in a dynamic and unstructured way</li> </ul>
Drawbacks	<ul> <li>Unable to provide rich, in-depth data</li> <li>Cannot collect new ideas or responses; restricted to the data that has already been collected</li> </ul>	<ul> <li>Cannot demonstrate cause and effect</li> <li>Usually not able to "represent" a community</li> <li>Can be difficult to interpret</li> </ul>

\* NOTE: Interviews, Questionnaires, and Surveys can be quantitative if using a close-ended format, or they can be qualitative if an open ended format is used.

## SECTION II: GLOSSARY OF USEFUL DATA TERMS BY TOPIC

#### TOPIC A: METHODOLOGY - "HOW DID YOU GET THE DATA?"

The following terms are useful when describing *how* data were collected. The terms can apply to both qualitative and quantitative data.

**Anecdote (or anecdotal data):** A particular incident or noteworthy fact used to illustrate a situation. Often, a descriptive story or information gained from day-to-day experiences, but not systematically.

**Bias:** Any factor that prevents research from providing a representative sample for the population being studied.

**Cross-sectional:** A cross-sectional research design is one in which all data are collected at one point in time. The purpose is to easily identify whether there is an association between two variables.

**Estimate:** A number drawn from a sample that is intended to describe the population from which the sample is drawn.

**Likert-scale:** A research design that utilizes scaled responses such as strongly agree, agree, neutral, disagree and strongly disagree to elicit participant feelings about a research topic.

**Longitudinal:** A study in which data from the same population are gathered at two or more distinct points in time. This allows the researcher to identify trends and changes over time and more closely determine if there is a cause and effect association between two variables.

**Methodology:** A structured approach used to answer specific questions or test the hypothesis in a study, also called the "science of finding out."

**Population:** Entire group of individuals, who are logically related in some way, about which information is desired.

**Random selection:** A method of research that assigns every member of a group the same chance of being chosen to be a respondent. (Note: Choosing every 10<sup>th</sup> person from an alphabetized list is not random since some ethnicities will have names that cluster in a few letters, while others will be spread throughout; in contrast, picking names out of a hat is random.)

**Random Assignment or randomization:** Assignment of research subjects by chance into a study or survey. Randomization helps to eliminate potential bias.

**Response rate:** The proportion of subjects who were asked to participate in the study that completed the survey. Poor response rates may indicate some bias because those who chose to respond may be different in important ways from those who did not respond.

**Sample:** The subset of a population selected for study. Because it is often costly to interview a whole population (for example, the entire population of California), a sample of Californians are interviewed

who represent the whole population. They are usually selected based on the criteria (variables) essentially to answering the research question.

**Triangulation:** Determining the applicability of data gathered from a variety of sources, using differing research methods, to answer a particular research question.

**Variable:** Any characteristic of a research participant that can be expressed as a number. Variables are often in the form of attributes such as sex, age, employment status or income.

#### **TOPIC B: DATA INTERPRETATION – "WHAT DO THE NUMBERS MEAN?"**

These terms are important when describing the *message* that the data contain. After data have been collected, these terms communicate what the data suggest or prove. These terms are used to interpret numerical data; therefore, they are used to describe quantitative data.

**Average:** The value that is intended to represent the general value, or central tendency, of a set of unlike numbers. It is computed by adding the values of all the cases and dividing by the total number of cases. The term average is synonymous with the term "mean."

**Cause:** The reason something happens.

**Confidence Interval:** A confidence interval is a range around a measurement that conveys the precision of the measurement. See the "IN FOCUS Handout" for a comprehensive explanation.

**Correlation:** Two events that change in concert with each other. A correlation does not mean cause and effect. For example, early in the AIDS epidemic it was noticed that the more often people used "poppers" (the stimulant amyl nitrate) the more likely they were to get AIDS. While these two were "correlated," it turned out that poppers were not the cause of AIDS, but were most commonly used by gay men during sex.

**Incidence:** The number of NEW cases during a period of time (e.g., the number of people newly diagnosed with HIV in the year). This number is useful to tell you about changes in the number of people affected by the condition.

**Indicator:** A measure that is closely associated with or a component of a condition you are studying. For example, mortality is a "health indicator." Higher death rates are taken to mean that a population is less healthy even though death is a very crude way to measure "health."

Mean: See average.

**Median:** The value in a distribution of numbers that falls directly in the middle, such that 50 percent of the values lie below and 50 percent of the values lie above that value.

Mode: The most frequent value in a distribution, sometimes termed "probability average."

**Percentage:** A proportion where the denominator is expressed as 100; ¼ is 25/100, expressed as 25 percent. (See proportion)

**Prevalence:** The number of EXISTING cases at a point in time (e.g., the number of people living with HIV at this moment).

**Proportion:** The number of persons (or events) of interest divided by the total number of persons in the population (or events). If 100 persons have a disability in a community of 400, then ¼ are disabled.

Range: The true upper limit in a distribution minus the true lower limit. It is measure of variability.

**Rate:** Indicates the frequency of a given event (e.g., 100 births per 1,000 adults). It is a way of knowing the proportion of a population, possessing a particular variable, to compare areas or groups of different sizes.

**Standardized rate**: Populations often differ in characteristics related to the health issue under consideration, such as birth rates that vary with age. A younger population will have a higher birth rate than an older population. Standardizing portrays rates "as if" the characteristics of the two populations were the same (for birth and death rates it is often called age adjusted rates).

**Statistical significance:** The characteristic of an association that is not likely due to chance. In statistical terms, data are statistically significant if they meet certain criteria, often that the probability of error (p) is less than 5 out of 100 (p < .05).

## **IN FOCUS: Confidence Interval**

#### Statistical Definition (www.cirem.org.uk/definitions.html):

"A confidence interval is an interval used to estimate the likely size of a population parameter. It gives an estimated range of values (calculated from a given set of sample data) that has a specified probability of containing the parameter being estimated. Most commonly used are the 95 percent and 99 percent confidence intervals that have .95 and .99 probabilities respectively of containing the parameter. The width of the confidence interval gives some indication about how uncertain we are about the unknown population parameter. Confidence intervals are more informative than the simple results of hypothesis tests (where we decide 'reject the null hypothesis' or 'don't reject the null hypothesis') because they provide a range of plausible values for the unknown parameter."

#### What is a Confidence Interval? (<u>http://www.health.state.ny.us/nysdoh/chronic/confint.htm</u>)

"A confidence interval is a range around a measurement that conveys how precise the measurement is. For most chronic disease and injury programs, the measurement in question is a proportion or a rate (the percent of New Yorkers who exercise regularly or the lung cancer incidence rate). Confidence intervals are often seen on the news when the results of polls are released. This is an example from the Associated Press in October 1996:

The latest ABC News-Washington Post poll showed 56 percent favored Clinton while 39 percent would vote for Dole. The ABC News-Washington Post telephone poll of 1,014 adults was conducted March 8-10 and had a *margin of error of plus or minus 3.5 percentage points*. (Emphasis added).

Although it is not stated, the margin of error presented here was probably the 95 percent confidence interval. In the simplest terms, this means that there is a 95 percent chance that between 35.5 percent and 42.5 percent of voters would vote for Bob Dole (39 percent plus or minus 3.5 percent). Conversely, there is a 5 percent chance that fewer than 35.5 percent of voters or more than 42.5 percent of voters would vote for Bob Dole.

The precise statistical definition of the 95 percent confidence interval is that if the telephone poll were conducted 100 times, 95 times the percent of respondents favoring Bob Dole would be within the calculated confidence intervals and five times the percent favoring Dole would be either higher or lower than the range of the confidence intervals.

Instead of 95 percent confidence intervals, you can also have confidence intervals based on different levels of significance, such as 90 percent or 99 percent. Level of significance is a statistical term for how willing you are to be wrong. With a 95 percent confidence interval, you have a 5 percent chance of being wrong. With a 90 percent confidence interval, you have a 10 percent chance of being wrong. A 99 percent confidence interval would be wider than a 95 percent confidence interval (for example, plus or minus 4.5 percent instead of 3.5 percent). A 90 percent confidence interval would be narrower (plus or minus 2.5 percent, for example)."

#### What does a confidence interval tell you?

The confidence interval tells you more than just the possible range around the estimate. It also tells you about how stable the estimate is. A stable estimate is one that would be close to the same value if the survey were repeated. An unstable estimate is one that would vary from one sample to another. Wider confidence intervals in relation to the estimate itself indicate instability. For example, if 5 percent of voters are undecided, but the margin of error of your survey is plus or minus 3.5 percent, then the estimate is relatively unstable. In one sample of voters, you might have 2 percent say they are undecided, and in the next sample, 8 percent are undecided. Although the difference in percentage of undecided voters may seem large, both samples have values within the margin of error of the initial survey sample.

On the other hand, narrow confidence intervals in relation to the point estimate tell you that the estimated value is relatively stable; in other words, repeated polls would give approximately the same results.

## Technical Assistance Series: What to Do When the Data You Need Is Not Available

Sometimes the data you need may be limited or unavailable for your specific population. In these cases, you can try to localize data, or take existing data and show how it applies to your population of interest. The following approaches can help you localize data:

- A. Use proxy measures
- B. Make estimates using existing data
- C. Paint a picture
- D. Ask a researcher

#### A. Use Proxy Measures

Proxy measures are information that can substitute for the data you need because it relates closely to your issue. For example, if you need up-to-date poverty data for people in your neighborhood, you could take the number of people receiving Medi-Cal —since Medi-Cal is limited to low-income persons—as an indicator or proxy of the poverty level of people in the neighborhood. Note that this would be an undercount since not all low-income people are enrolled in Medi-Cal. This data does not give you a precise number or rate of your problem, but it provides useful comparisons between communities; for example, "The rate of poverty in our neighborhood may be much higher than the city average, as shown by our higher rate of people receiving Medi-Cal."

A major advantage of this approach is its low cost. The data can be relatively easy and inexpensive to collect. However, there are some concerns with bias. Your estimates may be biased because they are not able to capture actual rates or precise numbers.

#### B. Make Estimates Using Existing Data

Extrapolating involves taking a national, state or county pattern of a problem and applying that pattern to your local area. Diabetes, for example, is a condition that needs on-going medical care. We know that there are large differences by race and age in the rates of diabetes. To estimate the number of persons with diabetes in your community based on national trends (or state or county data if you have access to it), you can take the following steps:

 Identify the diabetes rate (proportion of people with diabetes) using the national data source. Obtain the rate for subgroups where there is variation (e.g. race, sex, age or income). For example, the diabetes rate for Latinos nationally is .02 for ages 18–44, .143 for ages 45–64, and .203 for ages 65 and over.

[Source: National Health Interview Survey, Table 8, available at: <u>http://www.cdc.gov/nchs/fastats/pdf/sr10\_209.pdf</u>]

- 2. Identify the number in the population for the same subgroups locally. For example, say your community has the following:
  - a. 30,000 Latinos ages 18-44
  - b. 11,000 Latinos ages 45-64
  - c. 2,000 Latinos ages 65 and over

3. Multiply the national rates by the local numbers and sum them.

	RATE	х	POPULATION in your community
Ages 18-44	.02	х	30,000 people = 600
Ages 45-65	.143	х	11,000 people = 1,573
Ages 65 and over	.203	х	2,000 people = 406
	·		

There are an estimated 2,600 Latinos with diabetes in your community.

Note: This method does not provide precise data on your topic, but it offers a way to generate estimates that can be useful in your program planning and policy advocacy work.

#### C. Paint a Picture

If you are unable to find the exact numbers you need to describe the impact of a health issue in your community, you can paint a picture with the information you do have. With this approach, you piece together data from several sources to illustrate your argument.

First, think about whether other communities or other issues are similar to your community and your health issue. If the available data does not apply to your intended population, health issue or region, perhaps you could show that other communities or issues are similar. Data from other communities and issues can help you describe the demographics and issues in your community.

Next, try rethinking your search for data. How else can you approach the problem or issue you want to address? What can you do to support your argument with the data you do have?

Finally, choose a few pieces of data that are most relevant and organize the data you have to make a convincing argument.

#### D. Ask a Researcher

If you find a particularly helpful study, it might be possible to contact the researcher to find out more. Expect that it will take time to get a response, since many researchers have moved on to a new project by the time results from a particular study become available to the public. When you do get data this way, pay attention to any limitations the researcher mentions about the data. These limitations may be the reason the researcher did not publish that information, even if he or she found it interesting. Seek out those sources of information that provide ongoing support or technical assistance.

Appendix B:

AskCHIS© & AskCHIS© NE Worksheets and Examples

## WORKSHEET 1:

## DEFINING THE DATA QUERY & POPULATION AND PREPARING THE DATA QUERY

# Step 1: What question are you trying to answer? Or, what topic(s) are you interested in studying?

For example: *What percentage of adults in California has health insurance?* Write your own research question(s) below.

Step 2:	Review list of topic categories available in <i>Ask</i> CHIS <sup>©</sup> NE, or use the keyword search
	tool (on the left side tool bar in AskCHIS© NE) to check the availability of health topics.

#### Step 3: Identify the health topic(s) you are interested in studying.

- For each topic selected, use the <u>Keyword Search</u> tool (or review the topics on the left hand side) to find the variables related to the research question you identified in Step 1.
- For example, someone interested in health insurance issues may chose the variable "Currently insured."
- Write out the best variable for your query below.

#### Health insurance

Topic of interest: \_\_\_\_\_

**Currently insured** 

Best CHIS Variable: \_\_\_\_\_

Step 4:Choose the location(s) included in your results. In other words, what locations will<br/>your data query describe? Will these locations be pulled together or selected<br/>separately under the "Select Location" window and compared?<br/>Select one or more options from each of the location options—State, County, City, Zip<br/>Code or Legislative District. This information will be used to create and submit your data<br/>query.

## WORKSHEET 2:

### **INTERPRETING AND APPLYING THE DATA RESULTS**

Step 1: Who will use the data obtained from your query?

#### **Possible Audiences**

Media
Community Members
Program Planners
Advocates
Policy Makers
Health Care Providers
Grant Writers/ Fundraising/Development

Others? (List below)

#### Step 2: What do you hope to accomplish with the data?

*Example:* Our organization seeks to obtain funds to provide a health promotion program in the community.

#### Step 3: Below, write your summary of the results.

Fill in the blanks below (not all demographic items are required):

In	,% of		/		have/are	
Region	Percent Poverty from <i>AskCHIS</i> Level	Race/Ethnic, Group	Gender,	Ages,	Topic.	

#### Step 4: Write your key message.

What is the significance or relevance of the data to each of the audiences you identified?

*Example: The data support the need for increased outreach and interventions for this health condition in the community.* 

**Step 5:** Identify possible methods for presenting the data (for example, tables, graphs and/or text).

# **APPENDIX C:**

AskCHIS© METHODOLOGY BRIEF

## AskCHIS© NE GIS Information

#### **GIS Information**

AskCHIS© NE produces thematic web maps using standard shapefiles provided by the U.S. Census through the TIGER/Line<sup>®</sup> service. To create an on-screen map, 2013 TIGER/Line shapefiles for the state of California, counties, cities, ZIP code tabulation areas, as well as State Assembly, State Senate and the 113th U.S. Congressional Districts were used (released August 22, 2013).

#### ZCTA vs. ZIP Code

Five-Digit ZIP Code Tabulation Areas (ZCTAs) are approximate representations of U.S. Postal Service 5-digit service areas. The Census Bureau defines ZCTAs by allocating each block that contains addresses to a single ZIP Code Tabulation Area, usually to the ZCTA that reflects the most frequent occuring ZIP code for the addresses within that tabulation block. *Ask*CHIS© NE provides data at the ZCTA level.

#### What does it mean for my ZIP code?

Some census blocks do not contain addresses but are completely surrounded by a single ZCTA are assigned to the surrounding ZCTA. This means that residents in a specific ZIP code may have been distributed to a ZCTA different from their actual ZIP code. Per the recommendation of the U.S. Census, data users should not use ZCTAs to identify the official USPS ZIP code for mail delivery as there may be ZIP codes that are primarily non-residential that may not have a corresponding ZCTA. The USPS makes periodic changes to ZIP codes to support more efficient mail delivery.

#### **Legislative Districts**

*Ask*CHIS© NE provides data at both state (senate and assembly) and federal legislative districts. State legislative districts are the areas from which members are elected to the state legislature. In California, the upper state legislative district is the California Senate, and the lower district is the California Assembly. At the federal level, the application provides estimates for California based on the 113th U.S. Congressional districts.

#### **Legislative Lookup**

Determining your legislative district can sometimes be difficult as all three district types (senate, assembly, and congressional) have boundaries that cross cities and ZIP codes. *Ask*CHIS© NE provides a legislative look-up tool to quickly and easily determine legislative districts. To use this feature, enter a **full address, including ZIP code (5 or 9-digit)**.

Note: if you simply enter a ZIP code or city, the tool will not yield any results.

#### **Combining Locations**

AskCHIS<sup>©</sup> NE provides users the ability to combine same-type geographic entities into larger geographic areas. This feature is particularly useful when searching for health estimates in geographic areas where the population is below 15,000 or estimates are statistically unstable. When combining geographies, CHIS automatically recalculates the point estimate, 95 percent

confidence interval, as well as the total population universe. The map also updates to show one continuous geographic entity.

**Note**: Users can also combine non-contiguous same-type geographic entities.