

# Analyzing & Interpreting Quantitative Data for your Community Health Assessment

CHA/CHIP Demonstration Project  
February 8, 2012

Presented By:  
Lisa Scott McCracken



# Webinar Logistics

- The lines are muted. If you wish to mute/unmute your line to ask/answer a question, please do the following:
- To **unmute** your own line, **press \*7**
- To **mute** your own line, **press \*6.**
  
- Throughout the presentation and during the Q&A session, if you have a question, please use ReadyTalk's 'raise your hand' feature or use the chat box to indicate you have a question. The facilitator will call your name and ask for your question.



# PROJECT REQUIREMENTS: DATA ANALYSIS

Lauren Shirey, NACCHO



# Setting the Gold Standard for CHAs and CHIPs



- Your work will set the standard for others!
- Demonstration Project Key Features:
  - Engaging community members and LPHS partners in a meaningful way.
  - Addressing the social determinants of health.
  - Using QI and quality planning techniques.



# Project Requirements: Data Analysis

## Engage Community Members

“Community members must be engaged in a meaningful and substantive way throughout the CHA and CHIP processes, including indicator selection, data collection, **data analysis**, data presentation and distribution, issue prioritization, CHIP creation, implementation of CHIP, and monitoring of results.”



# Project Requirements: Data Analysis

## Address the Social Determinants of Health

“Assessing the social determinants of health in their jurisdiction and ensuring that they are considered in indicator and data source selection, data collection, and **data analysis...**”



# Project Requirements: Data Analysis

## Required characteristics of the Community Health Profile:

- **Data and analyses** that do the following:
  - Describe the characteristics of the overall population (age distribution, race and ethnicity, socioeconomic status, etc.).
  - Demonstrate the use of a broad set of indicators of community health, well-being, and quality of life and multiple data sources.
  - Consider a range of issues that affect health directly and indirectly.
  - Incorporate data from a variety of sectors that influence health such as housing, education, transportation, etc.
  - Identify community members' definition(s) of health and relationship to cultural needs and values.
  - Identify desired health and health-related outcomes from the perspective of community members.
- Use federal, state, and/or local data as appropriate.
- Use qualitative data as well as quantitative data. Include qualitative data on community perceptions, assets, priorities, and the community health context.

# Project Requirements: Data Analysis

## Required characteristics of the Community Health Profile (cont'd):

- **Data and analyses** that do the following:
  - Demonstrate the use of indicators, data collection methods, and **data analysis techniques that allow for the identification and examination of health inequities**.
    - Choose indicators that represent a broad range of items that community members have indicated, or literature shows, may be inequitable.
    - Use data and data collection methods that can be **analyzed and reviewed for health inequities** (i.e., if a data source already exists for an indicator but the data cannot be analyzed for health inequities, consider using another data source or collecting new data on this indicator to fulfill this need).
    - **Ensure that sample sizes are large enough, when appropriate, to allow for data analysis to examine health inequities between and among sub-populations.**
  - Show that both community assets/strengths and resources as well as needs/gaps were assessed.
  - Compare jurisdiction data with that of neighboring jurisdictions, state, and/or the nation.
  - Include a **review of trends and sub-population specific data when possible** (e.g., if sufficient data are available on health status, risk factors, etc. for different racial or ethnic groups, then the data presented should be stratified by race and ethnicity).



# PHAB CHA-related Requirements: Data Analysis

*\*Be sure to review the standards below to identify the measures and required documentation that PHAB seeks related to data analysis. Details are available within each of the standards and their related measures.*

Standard 1.1: Participate in or Conduct a Collaborative Process Resulting in a Comprehensive Community Health Assessment

Standard 1.2: Collect and Maintain Reliable, Comparable, and Valid Data That Provide Information on Conditions of Public Health Importance and On the Health Status of the Population

Standard 1.3: **Analyze Public Health Data** to Identify Trends in Health Problems, Environmental Public Health Hazards, and Social and Economic Factors That Affect the Public's Health

Standard 1.4: Provide and Use the Results of Health **Data Analysis** to Develop Recommendations Regarding Public Health Policy, Processes, Programs, or Interventions

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# PHAB CHA-related Requirements: Data Analysis

For example...

**Standard 1.1.1 T/L: Participate in or conduct a collaborative process resulting in a comprehensive community health assessment.**

Required Documentation 2: Through regular meetings, the LHD must document that the partnership meets or communicates on a regular basis to consider new data sources, review newly collected data, consider changing assets and resources, and conduct additional **data analysis**. [Guidance: meeting agenda, meeting minutes and copies of emails could provide this documentation.]

**Standard 1.1.2 T/L: Complete a Tribal/local community health assessment**

Required documentation 1.c: A general description of health issues and specific descriptions of population groups with particular health issues. [Guidance: A narrative description of the health issues of the population and the distribution of health issues, based on the analysis of data (see guidance for required documentation 1.a)].

# Webinar Objectives

**At the completion of the session, participants will be able to do the following:**

1. Re-state the CHA/CHIP demonstration site project requirements for quantitative data analysis.
2. Describe the related required documentation from PHAB Standards and Measures Version 1.0.
3. Discuss basic foundations of quantitative data analysis.
4. Describe the capacities in their LPHS for quantitative data analysis.
5. Name technology helpful for quantitative data analysis.
6. Name at least two techniques for analyzing quantitative data that will ensure consideration of health inequities.
7. Interpret basic quantitative data.
8. Discuss what types of quantitative data analyses they would like to see for their CHA.
9. Determine what, if any, CHA/CHIP project quantitative data analysis-related technical assistance from which their site would benefit.



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# Additional Presenter Goals

- The current needs across sites are varied; the goal is to provide feedback on specific areas suggested via the pre-webinar questions to each site.
- Given that some sites are completing this step now, sharing of lessons learned is strongly encouraged!
- An interactive session is going to be most beneficial for attendees, so the presenter may at times pose questions back to those on the call.



# GETTING STARTED

*Quantitative Data Analysis*



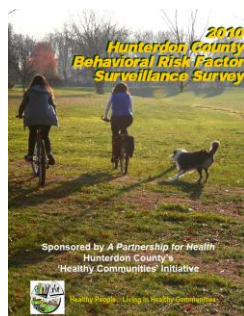
# Getting Started

- Being organized and having a strategy for tackling the data is key
- No need to feel overwhelmed!
- Break the information down into “chunks” if that would be helpful
- While the goal is to have the most valid, informative data possible, do not put undue pressure on yourself....no study is 100% perfect
- Be aware of limitations and be up-front about them
  - Use limitations to go back and fill in gaps
  - Consider limitations when analyzing data
  - Mention limitations in reporting
- What resources do you have internally or among partners?
  - Technical advisors?

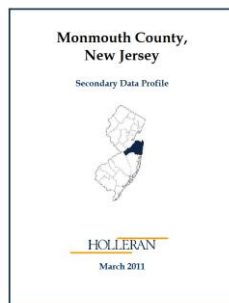


# Organizing The Data

- Break into “chunks” or separated reports based on “type” or source of data; then integrate into summary report



Primary Data

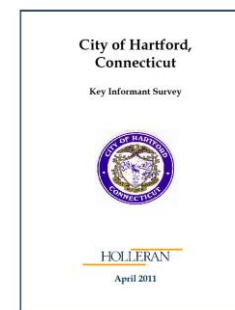


Secondary Data

NYSDOH and Public Health System Performance Assessment  
Summary of Performance Scores by LPHSA and Indicators  
for December 2007/08

Indicator	Score
0201.0: Statist Health System	10.00
01.0 Population Based Community Health Profile	10.00
01.01: Community health assessment	10.00
01.02: Access to community health services	10.00
01.03: Access to community health services	10.00
01.04: Access to community health services	10.00
01.05: Access to health care services	10.00
01.06: Access to health care services	10.00
01.07: Access to health care services	10.00
01.08: Access to health care services	10.00
01.09: Access to health care services	10.00
01.10: Access to health care services	10.00
01.11: Access to health care services	10.00
01.12: Access to health care services	10.00
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01.38: Access to health care services	10.00
01.39: Access to health care services	10.00
01.40: Access to health care services	10.00
01.41: Access to health care services	10.00
01.42: Access to health care services	10.00
01.43: Access to health care services	10.00
01.44: Access to health care services	10.00
01.45: Access to health care services	10.00
01.46: Access to health care services	10.00
01.47: Access to health care services	10.00
01.48: Access to health care services	10.00
01.49: Access to health care services	10.00
01.50: Access to health care services	10.00

LPHSA or other MAPP Assessments



Key Informant Survey

- Alternative: Combine all into one report up-front organized by health indicator or category



# STEPS IN DATA ANALYSIS

*Basic analysis considerations & reporting tips*



# Basic Steps In Analyzing Quantitative Data

- Secondary Data: Are all clear on standards? Is data valid and reliable?
- Primary Data:
  - Be organized up-front with data entry (survey numbers; labeling questions logically)
  - Stats package ideal (SPSS, SAS); Excel or other databases an option if others unavailable
  - Prior to running any statistics, make sure data is “cleaned up”
  - Is weighting of the dataset necessary? (This can be very complex; Rely on statisticians to assist with this.)
  - Recoding of data (e.g. age; “how often” questions)
  - Tests of significance will be important (comparing to previous assessments; state benchmarks; national benchmarks)
  - If online survey, often statistics are determined through pre-set reporting (check ability to download the raw data)

# What Statistics Are Best to Calculate?

- Pros & cons of various numbers:
- Percentages
- Counts
- Rates
- Averages
- Notations of Significance (p values)
- Correlations (be careful with misuse of this term)



*Keep in mind the end reader!! You can have a very valid assessment that is statistically robust without torturing your audience with a stats-heavy report!*

# Potential Barriers



- I have a small sample size with our primary data, what can I do?
- Our numbers are small with our secondary data, some are simply counts, what is the most effective way to analyze/report this?
- What sample size is large enough? How many surveys do I really need for the data to be valid? *(Will provide Excel file as resource)*

95%confidence level		
Error rate=(fill in)	0.032	
Sample =(calculated)	938	
Adjusted for finite population		
Population=(fill in)	350000	
Sample=(calculated)	974	

Sample size=(fill in)	473.00	
Error rate=(calculated)	0.045	



# Potential Barriers (cont.)



- We had a number of people say “don’t know” or simply didn’t answer a question on our survey, do we report that information?
- All of our overall data shows very few opportunities, what do I do with this? How can I make it more meaningful?
- How do I deal with data across multiple years (from different sources)?
- I only have single-point data with no historical comparisons. Is this still useful information?
- I am struggling to find local data, only regional. What do I do?
- I have data at different local levels (county, census tract, etc.), what is the best way to make this meaningful?
- Even if I’m outsourcing the analysis, what things do I need to be educated about?



# Importance of “Digging Deeper”

## Identifying Health Inequities & Focusing on Social Determinants:

- Crosstabulating Data by age, gender, race, income, etc.
- Don't forget about over-laying questions upon one another (e.g. health insurance coverage by various health conditions/behaviors)
- If working with secondary data, go to source to see if overall figures can be broken out further
- If not able to fully understand health inequities, you might want to consider filling in gaps with further data gathering/collection



# COMMUNICATING/REPORTING DATA

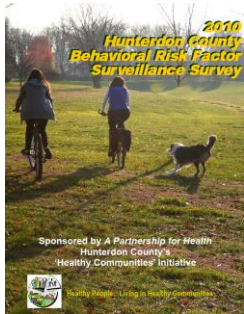


# Tips on Reporting Quantitative Data

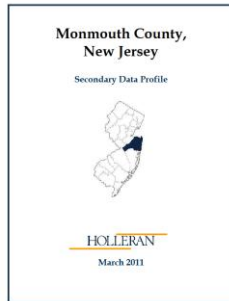
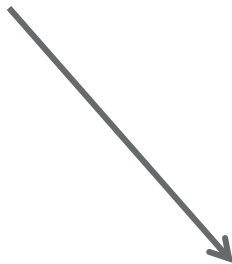
- Note: This topic will be covered in more detail at onsite meeting
- Suggest a mix of narrative and tables, graphs, etc. No one wants to read an 85 page word document!
- Be clear on audience and goal of the report (A final report to the Steering Committee is going to be very different than a PowerPoint presentation to the community at large)
- Telling Your Story is important....you want your numbers to be compelling, not boring!
- Symbols and quick visuals helpful (e.g. apple, magnifying glass, plus/minus symbols, sun, rain cloud, etc.)



# Assimilating Results Across Sources



Primary Data



Secondary Data

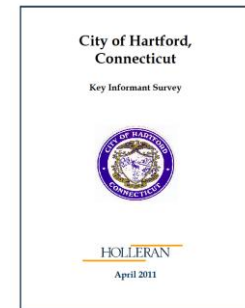


MDPH Level Public Health System Performance Assessment Instrument  
Summary of Performance Scores by LPHSA and Indicators  
December 2010

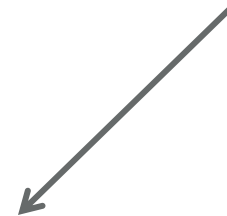
Measure	Score
EPHS 1: Measure Health Status	18.81
U1: Population Based Community Health Profile	18.81
U1.1: Community assessment health assessment?	18.81
U1.2: Complete data sets community health profile?	18.81
U1.3: Access to community assessment data available?	18.81
U1.4: Access to community assessment data available?	18.81
U1.5: Access to health status and quality data?	18.81
U1.6: Access to quality of life data for the community?	18.81
U1.7: Access to individual risk factor for the community?	18.81
U1.8: Access to community environmental health indicators?	18.81
U1.9: Access to social determinants health data?	18.81
U1.10: Access to assessment of self health data?	18.81
U1.11: Access to health status quality data?	18.81
U1.12: Access to community disease data?	18.81
U1.13: Access to community disease data?	18.81
U1.14: Community status of health assessment or CSD data prepared?	18.81
U1.15: Access to and utilization of Current Evidence	18.81
U1.16: Access to data on readiness to support readiness?	18.81
U1.17: Access to prepared health data?	18.81

Source: MDPH Health System Performance Assessment Instrument  
Data: Hunterdon County Health Department  
Report: Hunterdon County Health Department  
Date: December 2010  
Page: 18 of 18

LPHSA or other MAPP Assessments



Key Informant Survey



**Final Community Health Profile**



# Examples of Organizing Profile

Multiple ways to organize (HP Indicators, etc.)











I. Reading the Results.....	3
II. Basic Demographic Statistics.....	4
A. Population Statistics.....	4
B. Household Statistics.....	8
C. Income Statistics.....	11
D. Employment .....	14
E. Education Statistics.....	18
III. Health Status/Indicators .....	20
F. Mortality Statistics-Adults.....	20
G. Mortality Statistics-Children.....	23
H. Infectious/Communicable Diseases.....	24
I. Cancer Incidence.....	26
J. Maternal Health .....	27
K. Mental Health.....	29
L. Environmental Health .....	29
M. Injury and Violence Prevention.....	30
N. Crime .....	31
IV. Conclusions.....	32

I. Reading the Results.....	3
II. Demographic Statistics.....	4
III. Death, Disease & Chronic Conditions.....	8
IV. Infectious Disease.....	15
V. Modifiable Health Risks.....	28
VI. Access to Healthcare.....	36
VII. Conclusions.....	45



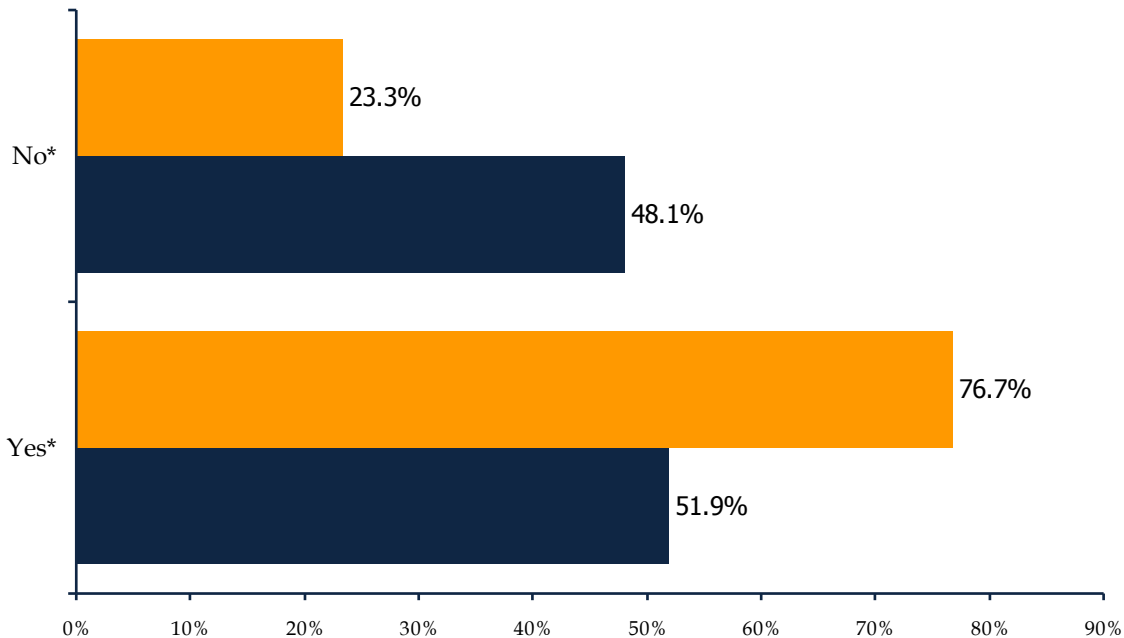
# Final Profile Report

- Consider a summary of key themes from various individual reports
- Does not need to be a total regurgitation of the hundreds/thousands of data points you gathered
- What are the key strengths and opportunities?
- Make other, detailed reports available for those interested in the “nitty gritty” statistics
- How to determine key themes?

	CHSA	2 <sup>nd</sup> Data	Key Informant Survey	FOC
Teen pregnancy				
Tobacco use				
Crime/ violence				
Transportation				

# Some Examples...

During the past 30 days, have you had at least one drink of any alcoholic beverage such as beer, wine, a malt beverage or liquor?



\*Statistically different from United States.

■ United States ■ Health District

# Some Examples...

## Pregnancy Characteristics (2010)

	United States	Massachusetts	County	1998 CHNA (1995 Data)	HP 2020
Prematurity (less than 37 weeks gestation)	12.3%	8.8%	6.9%		11.4%
White, non-Hispanic	11.4%	8.5%	7.2%		
Black, non-Hispanic	18.1%	10.6%	NA		
Hispanic	12.2%	9.4%	NA		
Asian/Pacific Islander	10.8%	8.0%	NA		
Low birth weight (less than 2500 grams)	8.2%	7.8%	6.6%	5.6%	
White, non-Hispanic	7.3%	7.1%	6.3%		
Black, non-Hispanic	13.9%	11.0%	7.8%		
Hispanic	7.0%	8.2%	NA		
Asian/Pacific Islander	8.1%	8.4%	17.1%		
Multiple Births	3.4%	4.5%	4.0%		
White, non-Hispanic	NA	5.1%	4.3%		
Black, non-Hispanic	NA	4.0%	0.0%		
Hispanic	NA	3.0%	NA		
Asian/Pacific Islander	NA	3.1%	NA		
Gestational Diabetes	NA	4.0%	1.4%		
White, non-Hispanic	NA	3.5%	1.1%		
Black, non-Hispanic	NA	4.6%	NA		
Hispanic	NA	4.1%	NA		
Asian/Pacific Islander	NA	7.8%	NA		

# Questions and Discussion



# FEEDBACK ON COST-TRACKING REPORTS



## Last Word

The next CHA/CHIP training webinar will be on:

*‘Collecting and Analyzing Qualitative Data in Your  
Community Health Assessment’*

*Presenter:* Lisa Scott McCracken

**Monday, 2/27/12 at 2:30 PM ET**

**Please complete the evaluation before  
logging off the webinar.**

**NACCHO**  
National Association of County & City Health Officials

