



Acquiring and utilizing data in Public Health: A step-by-step interactive workshop

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IPHA, 78th Annual meeting

September 2019



Objectives

- By the end of the session, participants will be able to:
- Explain the best practices for study design, data collection and analysis.
- Identify the key steps in data collection and evaluation.
- Design a study with the appropriate process for data collection and evaluation on community projects.

The 5Ws and the H of Study Design

The WHAT study question?

- Too ambitious?



The “Why” Question

The why leads you to the type of study you are embarking on:

1. Assessment
2. Intent to intervene assessment
3. Other types of assessment
4. Evaluation





The “Whos” question

1. The collectOR and the collected (ways to minimize bias)
2. Think wide
3. Demographics
4. If future intervention, think of possible harm to participants
5. Avoid convenience sampling if possible

The “Where” Question

- Location
- All locations simultaneously?
- Locations one after the other?
- Records? Where to find what?





The “When” Question

- Define start, define finish line (Jan - June)
- Timeframe (6 months data)
- Intervals (0-3month, 3-6months, 6-9months etc.)
- Seasonality (Flu, high & low season)
- Pre-post/Before-After (3 months pre intervention & 3 months post)



The “How” Question

1. The tool
2. And don't forget these:
 - Define and operationally define (if needs be)
 - Create the time and group column
 - In worse case, make your own

Sketch your “Data”?

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“After analyzing all your data, I think we can safely say that none of it is useful.”



“I think you’ll find that mine is bigger...”

Then comes your dictionary: very crucial





Key data collection & evaluation steps

- List your variables and create a column for each
- Demographics column
- Collector column. Beware of conflict of interest issues
- Create a column for time
- Create a location column in your excel sheet. note location where BMIs will be found
- Create a column for each question in your questionnaire

Evaluation/Analysis

- Comparison strategies
- Tables
- Crosstabs
- Graphs
- Sophisticated statistics
- P-values



“If you don't reveal some insights soon, I'm going to be forced to slice, dice, and drill!”



Conclusion: the “Always”

- Always talk to a statistician before you start designing your study
- Always sketch your data
- Always write a proposal
- Always create your variable table
- Always create a data dictionary
- Always protect study participants



Questions / Comments



Workshop session



Case 1

You are the program coordinator of an after-school program and you are interested on whether or not your ZOMBIE activity is working

Identify the attributes of ZOMBIE and capitalize on its weaknesses to design your evaluation. E.g. after school program: quick programs: kids are in and out. What is the best way to evaluate the effectiveness of your program?

- What are the barriers?
- Knowledge assessment, skill assessment
- Will Pre/post?



Case 1 key components

Barriers

- Time
- Money
- population stability

Seasonality effect?

Seasonality effect happens when it is nearly impossible to capture anything near the truth in a single shot. Collect over time

Qualitative data

Qualitative data is also very important instead of simply likert scale questionnaire



Case 2

You are the director of a community center. You receive a 25k grant to improve the health of your community

Where do you start?

What is the current state of the health of the community?



Case 2 key components

- True effectiveness will be captured in an intend-to-treat
- Let's all work on what kind of intervention you want to do
- Zooming in on a few diseases?
- Using that info, you can design an appropriate evaluation to capture



Case 3

You just received a grant to propose and implement a stem program for kids ages 5-14.



Case 3 key components

- Assess all STEM subjects individually, perhaps collectively
- What is the current STEM state of your district?
- Anytime you are about to start something, always document the pre-state before you start. Why?