Data Collection for Program Evaluation

By Dornell Pete & Kevin English
Albuquerque Area Southwest Tribal Epidemiology Center
Presentation Objectives

• Making the Connection between Program Evaluation and Data
• Data Collection Methods
• Data Collection Tools
• Data Collection Quality Control
• Data Analyses
Making the connection between Program Evaluation and Data
Roadmap

• Where are we going?
• How will we get there?
• *What will show that we’ve arrived?*
• *How will you define success?*
Making the Data Connection

Example:
Number of dietitians hired to develop and implement a cooking class is an input. Number of youth 13-17 years old who participated in a cooking class is an output. Percentage of youth who are able to prepare healthier meals is an outcome.
Process/Outcomes Measures

• **Process**
  focuses on what activities were implemented, the quality of the implementation, and the strengths and weaknesses of the implementation.

• **Outcomes**
  assesses the immediate, intermediate and long term effects of your program on the target population.
Why include Process Measures?

• Helps you determine whether or not your program is operating as intended.

• Focuses on:
  – what activities were implemented
  – quality of the implementation
  – strengths and weaknesses of the implementation.
Sample Process *Measures*

- Number of workshops held
- Meetings held
- Materials produced & distributed
- Program participation rates
- Participant satisfaction
- # of assessments conducted
- # of health education activities completed

*Others??*
Outcomes Measures

– Determines whether or not the program contributed to beneficial effects on your specific target population.

– Assesses the immediate, intermediate and long term effects of your program on the target population.
Sample Outcomes Measures

- Changes in knowledge, attitudes & beliefs
- Behavior Change
  - Nutrition
  - Physical activity
- Improvement in clinical measures
  - BMI
  - Blood pressure/ Cholesterol
  - HgA1c
- Changes in services & systems (i.e. new policies & protocols)

Others??
Example

**Participation**
- Number & characteristics of people reached; frequency of contact

**Reactions**
- Degree of satisfaction with program; level of interest; feelings toward activities and methods

**Learning**
- Changes in knowledge, attitudes, skills

**Actions**
- Changes in behaviors and practices

**Impacts**
- Net effects, final consequences, what extent can changes be attributed to the program?

**Data Indicators**
- # Staff
- # Partners
- # Sessions held
- #, % attended per session
- #, % demonstrating increased knowledge/skill
- Additional outcomes
- #, % demonstrating changes
- Types of changes
- #, % demonstrating improvements
- Types of improvements
Approaches to collecting data

Data Collection

Quantitative
- Survey/Questionnaire
- Pre-/Post-Tests

Qualitative
- Interviews
- Focus Groups
- Community Forum
- Photovoice
- Digital Storytelling

Mix method
What data collection method shall I use?

• There is no **simple** answer

• There is no **ONE** best method

• It all depends...
Survey/Questionnaire

• Definition: way of collecting information that represents the views of the community or the group in which you are interested.
<table>
<thead>
<tr>
<th>You are starting or evaluating a project or activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>You need a quick and efficient way of getting information</td>
</tr>
<tr>
<td>You need to reach a large number of people</td>
</tr>
<tr>
<td>The information you need isn’t readily available through other means</td>
</tr>
<tr>
<td>You need statistically valid information about a large number of people</td>
</tr>
</tbody>
</table>
Steps for Conducting Survey/Questionnaire

1. Purpose
2. Audience/target population
3. Select method:
   a. Face-to-face
   b. Mail
   c. Telephone
   d. Internet
   e. Email
4. Write your questions
5. Pilot test and refine
6. Administer
7. Analyze the data and plan for action
Survey/Questionnaire – Design Tips

• Writing effective survey questions
  – Remember survey’s purpose
  – If in doubt, throw it out
  – If a question can be misinterpreted, it will be
  – Include only one topic per question
  – Consider alternative ways to ask sensitive questions
  – Keep open-ended questions to a minimum
  – Avoid leading questions
  – Find a balance in the number of questions to include
Survey/Questionnaire – Design Tips

• Plan carefully
  – What variables to measure
  – What relationships might exist
  – What data type(s) to use

• What analyses will you conduct
  – Descriptive analysis (numbers/frequency, proportions, percentages)
  – Multivariate or In-Depth analysis (statistical testing)
Survey/Questionnaire – Design Tips

• Survey/questionnaires lend best to closed questions:
  – List (nominal)
  – Categorical (nominal)
  – Ranking (ordinal)
  – Scale (interval)
## Example – Data Types

<table>
<thead>
<tr>
<th>Category</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>Continuous</td>
<td>Age, 44, 45, 56, 76...</td>
</tr>
<tr>
<td>Discrete</td>
<td>Number of times a week you went running</td>
</tr>
<tr>
<td>Ordinal</td>
<td>Very satisfied, satisfied, dissatisfied</td>
</tr>
<tr>
<td>Nominal</td>
<td>Physical activity: run, walk, Zumba, aerobics</td>
</tr>
<tr>
<td>Interval</td>
<td>After learning about Zumba, how likely are you to consider Zumba as a</td>
</tr>
<tr>
<td></td>
<td>physical activity: Very likely - 1, 2, 3, 4, 5 - Least Likely</td>
</tr>
<tr>
<td>Open</td>
<td>Describe barriers to not engaging in physical activity</td>
</tr>
</tbody>
</table>
Survey/Questionnaire – Pilot Testing

• After developing your questionnaire
  – Ask a small sample to complete it
  – Examine their responses to see if they interpreted it and answered it correctly
  – Analyze the data
  – Revise or look for another pre-tested question
Pre-Post-Tests

- Definition: tests that are administered upon a “beginning point” and “end point” among participants (youth, parents) in a program for knowledge testing.
### Pre-Post Tests – Why?

| Establish a base measure of knowledge and understanding of a topic |
| Determine if the activities or curriculum has had an impact |
| Understand which concepts were well taught and which ones need additional time |
| Quantify the extent of any changes in knowledge or understanding |
Steps for Conducting Pre-Post Tests

1. Determine what participants must know
2. Create questions that focus on the learning objectives
3. Develop tests
4. Validate tests with staff for clarity and response
   a) Rewrite and retest with different staff, if necessary
5. Administer the pre-test before the curriculum
6. Administer the post-test after the curriculum
7. Analyze data and make any adjustments to the curriculum
Pre-Post Tests – Question Types

• Open-ended questions
  – Specific and understandable

• True/False
  – Simply worded and to the point

• Multiple-choice
  – Develop responses that are distinct from one another

• Fill-in-the-blank
Pre-Post Tests

• Advantages:
  – Measures the “value added” by your program
  – Baseline knowledge of participants, which is helpful for guiding future activities

• Disadvantages
  – Hard to determine if positive change is due to program or natural maturation
  – Statistical problem: if participants scored so low that they can only improve, or participants scored high they showed no improvement
Interviews

• Definition: a structured one-on-one conversation with key stakeholders to gather in-depth information on a particular health topic, issue, concern

• Types of Interview:
  – Structured, semi-structured, unstructured
  – Standardized, non-standardized
  – Respondent, informant
## Interviews – Why?

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Gathering in-depth information on local obesity and nutrition health issues</td>
<td></td>
</tr>
<tr>
<td>Asking open-ended questions about what people think, believe, desire &amp; feel</td>
<td></td>
</tr>
<tr>
<td>Gathering feedback on program activities, event, etc.</td>
<td></td>
</tr>
<tr>
<td>Watching nonverbal &amp; spontaneous behavior about specific topics</td>
<td></td>
</tr>
<tr>
<td>Developing rapport with experts, leaders &amp; key stakeholders</td>
<td></td>
</tr>
</tbody>
</table>
Interviews – Who?

- Community leaders
- Affected community members
- Youth
- Parents
- Health care providers
- Project staff
- Local experts
- Other important stakeholders
Steps for Conducting Interviews

1. Determine what you want to know
2. Discuss and draft interview questions
3. Determine who to interview
4. Train interviewers
5. Pilot test for clarity and appropriateness
6. Contact and schedule interviewing appointments
7. Take notes and tape-record interview
8. Analyze data, provide feedback to interviewees, and plan for action
Interviews – Common Challenges

• Putting people on the defensive
• Two-in-one questions
• Complex questions
• Question order
• Bias
  – Interviewer
  – Response
Interviews – Tips

- Practice
- Small-talk
- Be natural
- Listen
- Think of your goals

- Avoid yes/no answers
- Respect
- Confidential
- Record the data
Focus Groups

• Definition: a small-group discussion used to learn more about the opinions, attitudes & beliefs of a specific group about a designated topic

• Components:
  – Specific discussion topic
  – Facilitated to keep the group on course
  – Conducted in an open & nonthreatening environment
Focus Group – Why?

• Learn about group/community opinions, strengths and needs
• Get to what people are really thinking and feeling
# Focus Groups – When?

| If you’re considering a new program or service |
| Understanding attitudes, opinions, beliefs or perceptions, rather than simply whether people agree or disagree |
| Ask questions that can’t easily be asked or answered on a written survey |
| Add to the knowledge you gain from written surveys |
Focus Group – Steps to Planning

1. Assemble planning committee
2. Develop focus group guide
3. Find a facilitator/leader
4. Use a recorder
5. Decide about incentives
6. Decide on meeting details
7. Identify participants
8. Recruit participants
Focus Group - Results

• Examine written and tape recorded information:
  – What patterns emerge?
  – What are the common themes?
  – What new questions arise?
  – What conclusions seem realistic?

★ Have more than one person review the data and compare interpretations and conclusions
Focus Group – Results/Findings

- Honor participants’ time and commitment

- Visit, call or mail participants the results

- Consider conducting a second gathering to review results, and allow participants to get involved and plan next steps!
Photovoice

• Definition: a process where community members can identify and address a topic through photographs and storytelling

• 3 aims of Photovoice:
  – To record and reflect upon community strengths and concerns
  – To promote dialogue, knowledge, and reflection about individual, family and community issues through large/ small group discussions
  – To initiate change and promote action
Photovoice

• Advantages:
  – Flexible
  – Community-owned
  – Participatory
  – Image-centered
  – Action-oriented
  – Empowerment
Steps for a Photovoice Project

1. Recruit participants
2. Conduct training
3. Obtain informed consent
4. Determine initial theme
5. Conduct camera operation training
6. Take pictures
7. Discuss photographs
8. Participatory analysis
9. Disseminate findings
10. Plan for action
Photovoice Analysis

• SHOWeD Questions:
  1. What do you See Here?
  2. What is really Happening Here?
  3. How does this relate to Our Lives?
  4. Why does this situation, concern or strength exist?
  5. What can we Do About It?
Digital Storytelling

• Definition: a process of using computers or mobile devices to create and tell stories that focus on a specific topic. Contains a mixture of computer based images and text with recorded audio and narration.

• Aim:
  – To express ideas through multiple forms of media to enhance and deepen meaning of a topic
Secondary Data

• Project will involve primary data collection but you can also use secondary data

• What is secondary data?
  – “Data collected by someone else other that you”.

  Examples:
  • Published/unpublished data
  • Survey data
  • Multiple sources
Secondary Data

• Advantages:
  – May have fewer resource requirements
  – Provide as comparative or contextual data

• Disadvantages:
  – May not match your need
  – Accessing may be difficult or costly
  – Unsuitable sample size or representativeness
Secondary Data - Examples

• Local programs, organizations:
  - Tribal Special Diabetes Programs
  - Schools
  - Indian Health Service

• State health departments:
  - Chronic Disease programs (Diabetes, Obesity)
  - Youth Risk and Resiliency Survey
  - Behavioral Risk Factor Surveillance System
  - Nutrition Program

• Federal agencies:
  - IHS
  - Centers for Disease Control
  - School Health Policies and Programs

• Others?
Data Collection Tools

- Paper
- Video
- Audio tape
- Tablets
- Mobile devices
- Computer
- Telephone
Data Collection Quality Control (QC)

- Develop Data QC Plan to ensure data is collected, processed, validated, and reported in a standardized way
- Implement training (i.e., for interviewing, transcribing, data entry)
- Conduct double data entry
- Clean data
- Conduct preliminary analyses (i.e., response rates, calculations)
- Always save and back up data!
Data Analyses

• Analyses
  – Formative analysis
    • Determine ways to change the program to be more focused; assesses the curriculum or activities
  – Summative analysis
    • Assesses the learning or uptake of overall program curriculum or activities

• Results
  – Data interpretations and conclusions
Reflection

• What collection method aligns with your program?
• How can you improve your data collection process?
• Best practices?
• Questions
Contact Information

Dornell Pete, Epidemiologist
dpete@aaihb.org

Kevin English, Director
kenglish@aaihb.org

Phone: (505) 764-0036