



## Program Evaluation: Data Sources for Evaluation and Developing an Evaluation Plan

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Jennifer Rienks, PhD  
Katie Gillespie, MA, MPH  
Family Health Outcomes Project (FHOP)  
University of California, San Francisco

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### Overview

- ▶ Methods for collecting data to evaluate your program
- ▶ Strengths and weakness of different methods
- ▶ Data sources for evaluation by domain
- ▶ Developing an Evaluation Plan
- ▶ Tips for evaluation reporting
- ▶ Exercise: creating an evaluation plan

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### Data Collection Methods

- ▶ Surveys / questionnaires
- ▶ Interviews
- ▶ Tests / measures of knowledge, attitude, skill, behavior change
- ▶ Observations
- ▶ Group Techniques, e.g., focus groups
- ▶ Case Studies
- ▶ Photographs
- ▶ Testimonials
- ▶ Logs, diaries

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## Data Collection Methods (cont.)

- ▶ Judgments / satisfaction of staff, participants
- ▶ Physical examinations
- ▶ Information from program records, e.g., client records, minutes, financial records, sign in sheets, logs, service utilization records
- ▶ Other institutions' records / statistics, e.g., completed referrals, community indicators

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## Surveys / Interviews

- ▶ Objective of the Survey / Interview
  - What do you want to know?
  - Who do you want to gather information from and generalize results to?
- ▶ Type of Questions:
  - Open-ended (qualitative data)
  - Closed-ended (quantitative data)
    - use of rating scales

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## Surveys / Interviews (cont.)

- ▶ Method of collecting information:
  - In person
  - By telephone
  - Self-administered
- ▶ When developing Survey Questions:
  - Language
  - Reading level
  - Demand characteristics
  - Clarity
  - Pretest questions
- ▶ RECOMMENDATION: Use already established valid measures / questions

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## Surveys / Interviews (cont.)

### Advantages

- ▶ Direct form of acquiring information
- ▶ Current and Timely Data
- ▶ More appropriate for sensitive material
- ▶ Can gather rich data depending on the type of questions (i.e. open ended)

### Disadvantages

- ▶ Time Consuming
- ▶ Can be Costly to administer and analyze
- ▶ Poor interview technique could result in poor results
- ▶ Based on the honesty of the participant

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## Tests

- ▶ Most tests measure the skill, knowledge, intelligence, intent, or aptitudes of an individual or group
- ▶ Reliability and validity are important in developing a test: Is it measuring what it is suppose to measure (validity), and does it do so repeatedly (reliability)?
- ▶ RECOMMENDATION: Use already established reliable and valid tests

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## Tests (cont.)

### Advantages

- ▶ Often statistical analysis can be conducted
- ▶ Frequently used when groups are "captive"
- ▶ Timely data

### Disadvantages

- ▶ Questions (multiple choice, fill-in) test recall rather than knowledge
- ▶ Certain types of tests are inappropriate for different age groups

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## Focus Groups

Generally a gathering of people (<10) to discuss thoughts, opinions, concerns on a specific topic facilitated by a trained moderator.

### Advantages

- ▶ Gathers timely data on opinions, thoughts, suggestions, etc. of a group
- ▶ Interviews many people at once
- ▶ Members can be stimulated to broaden a topic or idea discussed

### Disadvantages

- ▶ Poor Facilitation could mean poor results
- ▶ Individuals may alter responses because of group environment
- ▶ Transcription can be expensive
- ▶ Harder to coordinate

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## Administrative / Program Records

Data collected by the program / organization. Client demographics, case management or school records are examples.

### Advantages

- ▶ Often an easy source of data, already being collected, entered and warehoused by staff
- ▶ Easier to control the form & accuracy of data and compliance with data collection

### Disadvantages

- ▶ Different employees may interpret and record information differently
- ▶ Quality of data may not be verified
- ▶ Changes in forms may create inconsistent data

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## Secondary Data

Existing data that has multiple uses and is generally collected by organizations other than the Program. Birth and death certificate data, hospital discharge data sets are considered secondary data.

### Advantages

- ▶ Potentially a large database
- ▶ Data collection is on-going and generally archives past years
- ▶ Inexpensive
- ▶ Standardized data collection

### Disadvantages

- ▶ Variables of interest may be missing
- ▶ Sometimes there is a delay in availability

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## Data Sources for Evaluation by Health Domain

### Physical health

- ▶ Survey data: self-report
- ▶ Secondary data: medical records
- ▶ Physical data: weight measurements, lab tests
- ▶ Observation: physical activity

### Knowledge

- ▶ Survey data: self-report, standardized tests
- ▶ Secondary data: school records
- ▶ Physical data: not applicable
- ▶ Observation: performance of task

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## Data Sources for Evaluation by Health Domain (cont.)

### Cognitive processes

- ▶ Survey data: self-report, standardized tests
- ▶ Secondary data: school records
- ▶ Physical data: brain images
- ▶ Observation: problem-solving tasks

### Mental health

- ▶ Survey data: self-report of motivation, values, attitudes
- ▶ Secondary data: medical records
- ▶ Physical data: lab tests
- ▶ Observation: emotional bonding

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## Data Sources for Evaluation by Health Domain (cont.)

### Social health

- ▶ Survey data: self-report, social network questionnaires, report of others
- ▶ Secondary data: attendance records of activities
- ▶ Physical data: not applicable
- ▶ Observation: interpersonal interactions

### Resources

- ▶ Survey data: self-report
- ▶ Secondary data: employer records, marriage records, school records
- ▶ Physical data: address
- ▶ Observation: possessions

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**Confidentiality and IRB**

- ▶ Take steps to ensure data remains confidential and is kept secure
- ▶ Approval from an Institutional Review Board may be required for some types of data collection

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**Planning for Data Analyses**

- ▶ Who will enter the data?
- ▶ Who will analyze the data?
- ▶ What kinds of analyses will be necessary to answer your evaluations questions?
- ▶ How much time will it take?
- ▶ What will the cost be?

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**Common Ways to Analyze your Data**

<b>Quantitative Data</b>	<b>Qualitative Data</b>
▶ Frequency Tables	▶ Content Analyses
▶ Mean, mode, median	▶ Identifying major themes
▶ Contingency Tables	▶ Cutting and Pasting
▶ t-Test	
▶ Analysis of Variance	
▶ Chi-square	

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### Programs for Entering and Analyzing Data

- ▶ EpiInfo
  - can download for free on the internet from the CDC
- ▶ SPSS or SAS
- ▶ STATA
- ▶ Microsoft Excel (for entering data)

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### Making sense of your data

- ▶ Need to answer two key questions:
  - Was the program implemented well?
  - Did the program work?
 Answers to both questions will guide program improvement
- ▶ Weigh results against program cost (economic/efficiency evaluation)
  - Create a ratio of change when possible
  - See *Getting to Outcomes*, Appendix 6b for procedures for estimating total cost per participant  
[http://www.rand.org/pubs/technical\\_reports/TR101.htm](http://www.rand.org/pubs/technical_reports/TR101.htm)

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Linking Design, Collecting, and Analysis at a Glance - Quantitative

Design	Data Collection Method	Data Analysis Method	# of Groups
Post Only	<ul style="list-style-type: none"> <li>■ Surveys</li> <li>■ Archival trend data</li> <li>■ Observation</li> <li>■ Record review</li> </ul>	Compare means/frequencies on your measure to archival data or criterion from literature or previous experience	ONE (receiving the program)
Pre-Post		% change from pre-post or change in means	ONE
Pre-Post w/ Comparison Group <b>OR</b> Pre-Post w/ Control Group		Compare means and % change between the two groups on pre-post measures	TWO

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Linking Design, Collecting, and Analysis at a Glance - Qualitative			
Design	Data Collection Method	Data Analysis Method	# of Groups
Post Only	<ul style="list-style-type: none"> <li>■ Focus groups</li> <li>■ Open-ended questions</li> <li>■ Interviews</li> </ul>	Content Analysis: look for themes in the experience of participants	ONE (receiving the program)
Pre-Post		Content Analysis: look for change in themes over time	ONE
Pre-Post w/ Comparison Group <b>OR</b> Pre-Post w/ Control Group	<ul style="list-style-type: none"> <li>■ Participant Observation</li> <li>■ Archival Research</li> </ul>	Content Analysis: look for change in themes over time and the difference between groups	TWO

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## Developing an Evaluation Plan

Why have an evaluation plan?

- ▶ It guides you through each step of the process of evaluation
- ▶ It helps you decide what sort of information you and your stakeholders really need
- ▶ It keeps you from wasting time gathering information that isn't needed
- ▶ It helps you identify the best possible methods and strategies for getting the needed information
- ▶ It helps you come up with a reasonable and realistic timeline for evaluation
- ▶ Most importantly, it will help you improve your initiative!

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## Step to develop an Evaluation Plan

Four main steps to developing an evaluation plan:

1. Clarify program objectives and goals
2. Develop evaluation questions
3. Develop evaluation methods
4. Set up a timeline for evaluation activities

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## Evaluation Plan: Clarify Objectives

- ▶ Clarify the objectives and goals of your intervention or program
- ▶ What are the main things you want to accomplish? How have you set out to accomplish them?
- ▶ Clarifying these will help identify which major program components should be evaluated
- ▶ A program logic model listing inputs, activities and outcomes very helpful

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## Evaluation Plan: Develop Evaluation Questions

- ▶ 4 main categories of evaluation questions:
  1. **Planning and implementation issues** (process)
  2. **Assessing attainment of process objectives** (process)
  3. **Impact on participants** (outcomes)
  4. **Impact on the community** (outcomes)

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## Develop Evaluation Questions: Planning and Implementation Issues

How well was the program or intervention planned out, and how well was that plan put into practice?

- ▶ *Possible questions:* Who participates? Is there diversity among participants? Did you hold all the education classes as planned? Are community members satisfied that the program meets local needs?
- ▶ *Possible methods:* Sign-in sheets, observations, member survey of satisfaction with program, enrollment form with demographic information, participant tracking data bases

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### Develop Evaluation Questions: Assessing Attainment of Process Objectives

How well has the program or initiative met its stated process objectives?

- ▶ *Possible questions:* Did you educate the number of people you wanted? Did you hold the health fair?
- ▶ *Possible methods to answer those questions:* monitoring system, sign-in sheets, program records, interviews

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### Developing Evaluation Questions: Impact on Participants

How much and what kind of a difference has the program or initiative made for its targets of change?

- ▶ *Possible questions:* How has behavior changed as a result of participation in the program? Has knowledge increased? Do participants indicate an intention to change their behavior?
- ▶ *Possible methods to answer those questions:* participant survey, pre-post test, observations, participant interviews, web hits

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### Developing Evaluation Questions: Impact on the Community

How much and what kind of a difference has the program or intervention made on the community as a whole?

- ▶ *Possible questions:* What resulted from the program? Were there any negative results from the program? Do the benefits of the program outweigh the costs?
- ▶ *Possible methods to answer those questions:* Behavioral surveys, interviews with key informants, community-level indicators, web hits

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Need Objectives / Data Collection Plan (examples)				
Objective or Standard	Measure	Data Source	Collection Schedule	Comment
1. By June 2013, 95% of hospital L+D staff increase knowledge and skills to educate and support new mothers to breastfeed	% of staff with increased knowledge and skills	Pre –post test scores	First and Last session of training	
2. By June 2014, 95% of new moms receive in-hospital nurse education on breastfeeding	% of new moms receiving education	Program administrative data	Ongoing	

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**Tips for Great Evaluation Reporting**

- ▶ Outline key evaluation questions
- ▶ Provide a matrix of evaluation questions, issues, and corresponding data sources/indicators
- ▶ Provide the methodology section with key details after the introduction
- ▶ Provide a description of limitations and trade-offs, and suggestions on addressing the limitations

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**Tips for Great Evaluation Reporting**

- ▶ Include a 'lessons learned' section
- ▶ Provide a formal recommendations section
- ▶ Ensure that conclusions are clearly outlined and precede recommendations
- ▶ Ensure recommendations flow logically from findings and conclusions
- ▶ Propose recommendations that are practical and realizable



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### Tips for Great Evaluation Reporting

- ▶ Keep your audience in mind and their needs
- ▶ Included an executive summary that can be a stand alone document
- ▶ Supplement quantitative data with qualitative data – use quotes to give a voice to your data



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### Steps to Success



**Program Success!**

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### Where a program does not succeed



Process failure: Program was not sufficiently implemented to affect targeted group or health issue.

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### Where a program does not succeed



Effect Theory failure: Program as implemented did not affect targeted group or health issue.

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### Where a program does not succeed



Evaluation failure: Evaluation design or method was not appropriate to detect outcome.

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### Objectives / Data Collection Plan (examples)

Objective or Standard	Measure	Data Source	Collection Schedule	Comment
1.10 The CHDP Health educator will provide information regarding enrollment in Healthy Families/ Medi-Cal at a minimum of 5 community events and/or school sites	Number of presentations	Schedule of presentation (calendar)	On going documentation and at the end	Process measure
1.11 All parents who received information will express an understanding of the information.	Percent of parents demonstrating understanding (knowledge)	Test Ask if there are questions Show of hands	End of the event, or end of conversation	Method limitations, may be challenging to document

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Objectives / Data Collection Plan (examples)				
Objective or Standard	Measure	Data Source	Collection Schedule	Comment
2.9 Create one outreach activity in County to increase community-wide awareness of Perinatal Mood Disorders	-Number of outreach activities -Awareness of Perinatal Mood Disorders	-Files -Random phone survey, survey of clients, website hits	Pre- and post awareness month	Webhits are quick & easy as proxy for awareness, phone survey time and \$
2.10 Provide one training to 30 CPSP providers & staff on the impact of witnessing violence. 90% of staff will have increased knowledge after the training.	-Number of trainings, number of participants -Knowledge of impact of violence	Calendar, sign in sheet, agenda  Pre-post test	After the training  Pre and post training	Staff may already have knowledge, recall effect vs. increased knowledge

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Objectives / Data Collection Plan (examples)				
Objective or Standard	Measure	Data Source	Collection Schedule	Comment
3.8 15 child care providers will receive training on safe sleeping environments for infants and 80% of those trained will be able to identify factors associated with SIDS risk reduction.	-Number of providers trained -Knowledge of SIDS risk reduction factors	-Training calendar, sign in sheets -Test	-On-going  -After training	
3.8.1 MCAH staff will observe safe sleeping practices among all trained child care providers.	-Number of providers demonstrating safe sleep practices	-Observation	-After training	

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Objectives / Data Collection Plan (examples)				
Objective or Standard	Measure	Data Source	Collection Schedule	Comment
4.9 Collaborate with WIC for Breastfeeding Awareness month in August help and plan outreach activities for month of August	-Outreach activities planned	-Meeting minutes, documentation of activities	-after awareness month	-also can think about ways to measure impact of awareness activities
4.10 Provide breastfeeding information to all pregnant WIC clients. At least 50% of client will express an intention to try breastfeeding.	-Number of clients receiving information -Intention to breastfeed	-Client interaction log -Self-report survey or verbal intention	-on going  -after receiving information	-make sure materials are appropriate  -could add a 3 or 6 month follow up after birth

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Objectives / Data Collection Plan (examples)				
Objective or Standard	Measure	Data Source	Collection Schedule	Comment
5.1 Provide sun safety information to 50% of childcare providers in the County.	-Percent of providers receiving information	-Activity log	-Ongoing	
5.2 100% of providers who receive information will demonstrate knowledge of sun safety practices for children	-Percent of providers demonstrating knowledge	-Post-test survey, observation	-After information is given	Observation could be of sunscreen practices, changes in amount of sunscreen purchased, erection of sunshade, time of day of outside play time

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FHOP Website and contact information  
<http://fhop.ucsf.edu/fhop/>  
(415) 476-5283

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