Evaluation Design & Indicators
Evaluation Learning Series
Topic #4
# Evaluation Learning Series

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Agenda

- Evaluation Design
- Types of Evaluation Designs
- CDC Evaluation Framework Standards
- Indicators and Performance Measures
Evaluation Design
CDC Evaluation Framework

- Step 1: Stakeholders
- Step 2: Program Description
- Step 3: Determine which oral health program or aspects of your program you will evaluate
  - Develop evaluation questions
  - Choose the evaluation design

What is Evaluation Design?

- Structure that provides the information needed to answer the evaluation questions

- Based on
  - Logic model
  - Purpose
  - Evaluation questions
  - Resources available
  - Stakeholder requirements

Source: Evaluation Design (2015) at nationalservice.gov
Things to Consider

- Will this design provide you with valid information?
- Incorrect design = inaccurate information
- Evaluation design vs data collection methods

Source: Choose an Evaluation Design. The Pell Institute.
Things to Consider (2)

- Feasibility (time constraints, resources, cost)
- Ethical concerns

Types of Evaluation Designs
Types of Designs

- Experimental
- Quasi-experimental
- Non-experimental

Experimental (1)

- Compares the outcome of an intervention on one group with a group that did not receive the intervention
- Random assignment
- Can be difficult to achieve in evaluation

Randomized Controlled Trials = Gold Standard

Experimental (2)

- Select similar schools
  - Randomly assign some to receive the interventions
  - Randomly assign other schools as controls

Quasi-Experimental (1)

- Comparisons between groups without random assignment
- Example: Comparing outcome data among states, comparison of outcome data between one state and the nation as a whole

Design Examples
- Differences-in-differences
- Comparative time series
- Pre-post test with matched comparison group

Quasi-Experimental (2)

- Assessing adults’ beliefs about the harmful effects of sugar sweetened beverages in two communities
  - Media campaign in one community
  - Re-assess the adults
- Should be similar on key factors

Non-Experimental

- Observational
- Most common in program evaluation
- Considered to be the least rigorous

**Design Examples**
- Time-series analysis
- Cross-sectional surveys
- Case studies

Question

- What type of study design does the Basic Screening Survey have?
CDC Evaluation Framework Standards
Evaluation Questions and the Four Standards (1)

1. Utility
   • Who will use the evaluation results and how will they use them?
   • What special needs of any other stakeholders must be addressed?

2. Feasibility
   • What amount of resources will be required for the proposed evaluation design?

Evaluation Questions and the Four Standards (2)

3. Propriety

• Will the focus and design adequately detect any unintended consequences?

• Will the focus and design include the experience of those who are affected by the program?

Evaluation Questions and the Four Standards (3)

4. Accuracy

• Is the design the right one to respond to the questions that are being asked by stakeholders?
• Will the design give me the information that I need?

Indicators & Performance Measures
CDC Evaluation Framework

Discussion

- What is the difference (if any) between indicators and performance measures?
Indicators

- **Simple** means to measure achievement or assess performance
- Helps to ask further questions about how and why these changes did (or did not) happen
- Clear and specific in what it will measure
  - Unclear indicators lead to different interpretations

# Types of Indicators

<table>
<thead>
<tr>
<th>Type of Indicator</th>
<th>Description</th>
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<tbody>
<tr>
<td>Input Indicator</td>
<td>Measures contributions necessary for the program to be implemented (e.g., funding, staff, partners, infrastructure)</td>
</tr>
<tr>
<td>Process Indicator</td>
<td>Defines activities/outputs on the logic model such as “diverse coalition” or “culturally competent curriculum”</td>
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<tr>
<td>Outcome Indicator</td>
<td>Measures whether or not program is achieving the proposed outcomes</td>
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Elements of an Indicator

- Indicator name/definition
- Numerator & denominator or percentage
- Disaggregation
- Data source/measurement method
- Measurement/reporting frequency

# Example data table

<table>
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<tr>
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<tbody>
<tr>
<td>Maintain a diverse and active network of collaboration through the Oral Health Coalition</td>
<td>Does the Oral Health Coalition maintain an active and diverse group of stakeholders?</td>
<td>(1) % of active participating members satisfied with overall Coalition</td>
<td>35%</td>
<td>45%</td>
<td>60%</td>
<td>Oral Health Coalition Member Annual Survey; Oral Health Coalition Post-Meeting surveys</td>
<td>Annually 2015-2018; Quarterly 2015-2018</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(2) # of total Oral Health Coalition members (Completed membership form)</td>
<td>40</td>
<td>45</td>
<td>55</td>
<td>Membership Roster; OHP Indicator Tracking Document</td>
<td>Annually 2015-2018</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(3) # of members attending meetings (1 of 4 meetings a year)</td>
<td>30</td>
<td>35</td>
<td>40</td>
<td></td>
<td></td>
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</tbody>
</table>
Performance Measures

- Series of pre-established goals to meet over time that can be used to identify areas of increasing or decreasing performance
- Ongoing monitoring and reporting toward pre-established goals

Elements of a Performance Measure

- Target
- Baseline
- Actual

Healthy People 2020

Oral Health of Children and Adolescents

**OH-1** Reduce the proportion of children and adolescents who have dental caries experience in their primary or permanent teeth

**OH-1.1** Reduce the proportion of children aged 3 to 5 years with dental caries experience in their primary teeth

**OH-1.2** Reduce the proportion of children aged 6 to 9 years with dental caries experience in their primary or permanent teeth

<table>
<thead>
<tr>
<th>Baseline:</th>
<th>54.4 percent of children aged 6 to 9 years had dental caries experience in at least one primary or permanent tooth in 1999-2004</th>
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<tbody>
<tr>
<td>Target:</td>
<td>49.0 percent</td>
</tr>
<tr>
<td>Target-Setting Method:</td>
<td>10 percent improvement</td>
</tr>
<tr>
<td>Data Sources:</td>
<td>National Health and Nutrition Examination Survey (NHANES), CDC/NCHS</td>
</tr>
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</table>

Data:

[HP2020 data for this objective](https://www.healthypeople.gov/2020/topics-objectives/topic/oral-health/objectives)

Spotlight on Disparities:

- [Disparities by health insurance status](https://www.healthypeople.gov/2020/topics-objectives/topic/oral-health/objectives)
- [Disparities by sex](https://www.healthypeople.gov/2020/topics-objectives/topic/oral-health/objectives)

[Details about the methodology and measurement of this HP2020 objective](https://www.healthypeople.gov/2020/topics-objectives/topic/oral-health/objectives)

The HP2010 objective with the same definition was 21-01b.

Search data for all HP2010 objectives

Source: https://www.healthypeople.gov/2020/topics-objectives/topic/oral-health/objectives
Indicators & Performance Measures

- May be able to utilize existing indicators or performance measures

- Advantages
  - May have been pre-tested for relevance and accuracy
  - Usually define the best data sources for the indicator

Sources

- Government Performance and Results Act (GPRA)
- Healthy People 2020
- CDC Winnable Battles
- World Health Organization (WHO)
- Some CDC programs (Chronic Disease Indicators, Office of Smoking & Health)
- USAID
- Existing literature, other grantees
Resources

- Healthy People 2020 Oral Health Indicators.
- Chronic Disease Indicators. Indicator Definitions – Oral Health.
End of Topic #4: Evaluation Design & Indicators

The findings and conclusions in this report are those of the authors and do not necessarily represent the official position of the CDC.