Evaluation Design & Indicators
Evaluation Learning Series
Topic #4

Evaluation Learning Series

Topics in the Series
The Importance of Engaging Stakeholders
How to Create a Program Description
Evaluation Questions
Evaluation Design & Indicators
Connecting the Dots: Methods and Analysis
Writing and Dissemination

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

Things to Consider

- Will this design provide you with valid information?

- Incorrect design = inaccurate information

- Evaluation design vs data collection methods

Things to Consider (2)

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

Types of Evaluation Designs

Types of Designs

- Experimental
- Quasi-experimental
- Non-experimental

Source: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention. Office of the Director, Office of Strategy and Innovation. Introduction to program evaluation for public health programs: A self-study guide. Atlanta, GA: Centers for Disease Control and Prevention, 2011.

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

Source: Kidder, D. (2017). *Development and Use of Indicators for Program Evaluation.* Lecture, CDC University.

Types of Indicators

Type of Indicator	Description
Input Indicator	Measures contributions necessary for the program to be implemented (e.g., funding, staff, partners, infrastructure)
Process Indicator	Defines activities/outputs on the logic model such as "diverse coalition" or "culturally competent curriculum"
Outcome Indicator	Measures whether or not program is achieving the proposed outcomes

Elements of an Indicator

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

Example data table

Table 1.1: Program Partnerships and Collaborations Data Grid

Objective	Evaluation Question	Indicator/Measure	Baseline (2015)	Target Year		Data Source	Frequency
				Year 4 (2016)	Year 5 (2017)		
			FOCUS AREA 1: Program Partnerships and Collaborations				
			GOAL: Create a network of successful partnerships to monitor and obtain feedback on program progress and expand the reach and impact of the OHP				
Maintain a diverse and active network of collaboration through the Oral Health Coalition	Does the Oral Health Coalition maintain an active and diverse group of stakeholders?	(1) % of active participating members satisfied with overall Coalition	35%	45%	60%	Oral Health Coalition Member Annual Survey; Oral Health Coalition Post-Meeting surveys	Annually 2015-2018; Quarterly 2015-2018
		(2) # of total Oral Health Coalition members (Completed membership form)	40	45	55	Membership Roster; OHP Indicator Tracking Document	Annually 2015-2018
		(3) # of members attending meetings (1 of 4 meetings a year)	30	35	40		

Source: Louisiana Department of Health – Oral Health Program

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

Sources: United States Environmental Protection Agency. (2016). *Program Evaluation and Performance Measurement at the EPA*. United States General Accounting Office. (2011). Performance Measurement and Evaluation: Definitions and Relationships.

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   ➖

Baseline:	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
Target:	49.0 percent
Target-Setting Method:	10 percent improvement
Data Sources:	National Health and Nutrition Examination Survey (NHANES), CDC/NCHS
Data:	**DATA 2020** HP2020 data for this objective
	Spotlight on Disparities: • Disparities by health insurance status • Disparities by sex
	Data Details Details about the methodology and measurement of this HP2020 objective
	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

Source: Kidder, D. (2017). *Development and Use of Indicators for Program Evaluation.* Lecture, CDC University.

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

- Evaluation Toolkit – <u>Choose an Evaluation Design</u>. The Pell Institute.
- Evaluation Designs – <u>Common Evaluation Designs</u>. Children, Youth and Families at Risk (CYFAR) at University of Minnesota.
- <u>Healthy People 2020 Oral Health Indicators</u>.
- <u>State-Based Oral Health Surveillance Systems: Conceptual Framework and Operational Definition</u>. ASTDD; 2013.
- Chronic Disease Indicators. <u>Indicator Definitions – Oral Health</u>.

End of Topic #4: Evaluation Design & Indicators