Building our Understanding of Health Communication Evaluation

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Department of Health and Human Services

Centers for Disease Control and Prevention

Overview

- Evaluation Basics
- Definitions
- CDC Evaluation Framework
- Health Communication Evaluation Challenges
- Discussion

* Citations, references, and credits

Evaluation Basics

- National Cancer Institute. (2001). Making Health Communication Programs Work [The Pink Book] http://www.cancer.gov/cancertopics/cancerlibrary/pinkbook/page1
- Drew, C. H., Anderson, B., Beard, S., Brenner, A. T., Davis, H., Dilworth, C. H., . . . Shipp, S. S. (2011). PEPH Evaluation Metrics Manual. http://www.niehs.nih.gov/research/supported/programs/peph/metrics/index.cfm

Evaluation Basics

- CDC HealthCommWorks: Tools every health communicator needs. https://cdc.orau.gov/healthcommworks/
- W. F. Kellogg Foundation Evaluation Handbook. http://www.wkkf.org/knowledge-center/resources/2010/w-k-kellogg-foundation-evaluation-handbook.aspx
- Rossi, P. H., Lipsey, M. W., & Freeman, H. E. (2004). *Evaluation: A Systematic Approach* (7th ed.). Thousand Oaks: Sage.

Evaluation Terminology

Research versus Non-Research
(Code of Federal Regulations, Title 45, Part 46)

- **Evaluation is the application of scientific theories and methods to inform a public health organization for the purpose of preventing and/or controlling disease or injury or to improve a public health program. Evaluation, while using scientific methods, is "non-research" because of its purpose.**

http://www.cdc.gov/od/science/integrity/docs/cdc-policy-distinguishing-public-health-research-nonresearch.pdf

Research versus Non-Research
(Code of Federal Regulations, Title 45, Part 46)

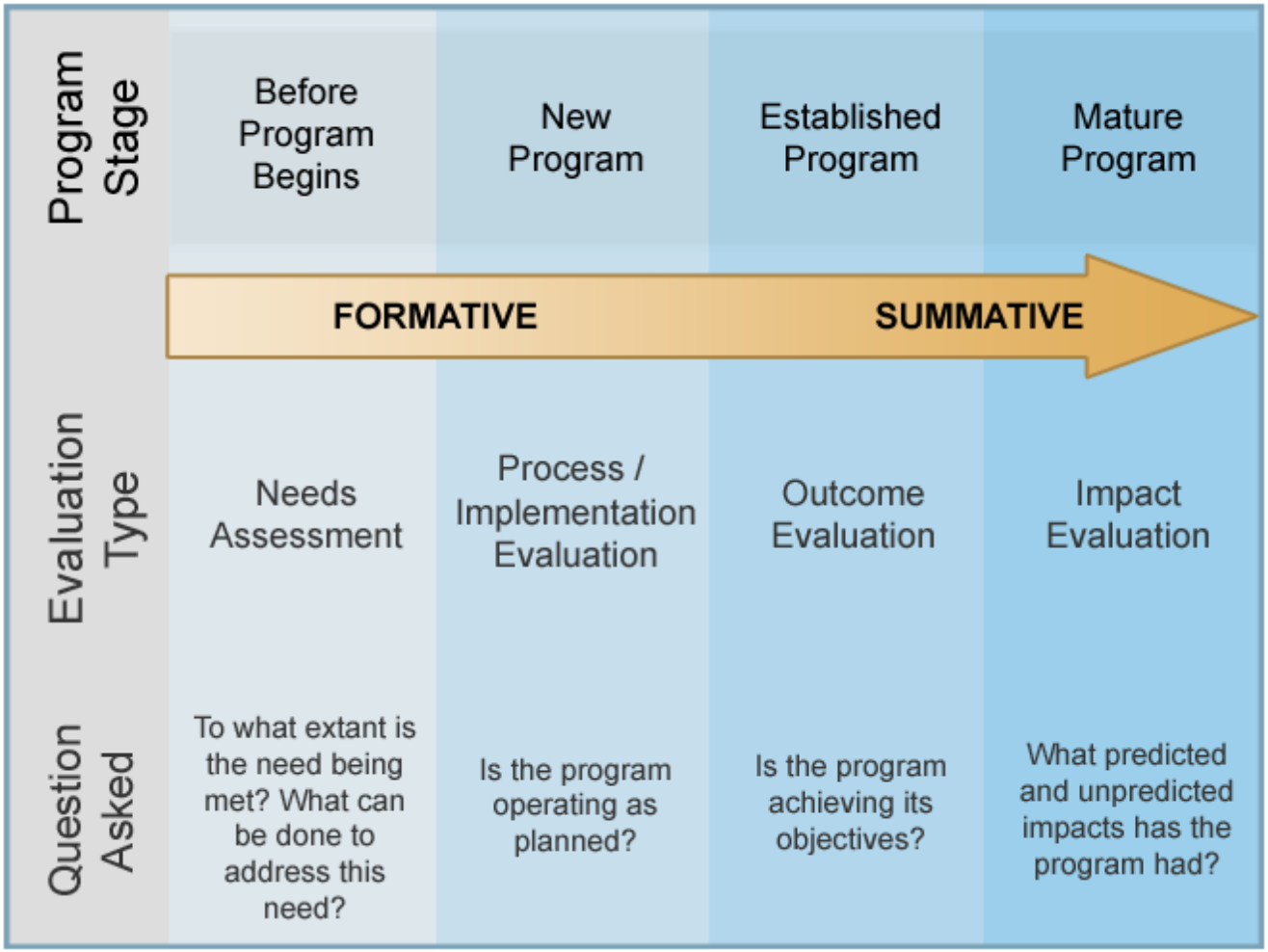
- "Research", on the other hand, is any project with the purpose of developing or contributing to generalizable knowledge.
- If the purpose of an evaluation project changes from informing a public health organization to developing or contributing to generalizable knowledge, then the project becomes "research."

Research versus Non-Research
(Code of Federal Regulations, Title 45, Part 46)

- **Best Practice**
  - Carefully assess the potential findings of your project during the planning stage.
  - If there's a possibility that your evaluation project could blossom into a "publishable paper" then **secure all required clearances** and reviews (e.g., Institutional Review Board, Office of Management and Budget, etc.) before initiating your work.

Evaluation

- Systematic inquiry to inform decision-making and improve a public health initiative (e.g., campaign, intervention, program).
- Systematic implies that the evaluation is a thoughtful process of asking critical questions, collecting appropriate information, and then analyzing and interpreting the information for a specific use and purpose.
- Typically, the major goal of evaluation should be to influence decision-making, policy formulation, or public health initiative improvement through the provision of empirically-driven feedback.



These summative evaluations build on data collected in the earlier stages.

Adapted from:

Norland, E. (2004, Sept.). From education theory…to conservation practice. Presented at the Annual Meeting of the International Association for Fish & Wildlife Agencies, Atlantic City, New Jersey.

Pancer, S. M., and Westhues, A. (1989). "A developmental stage approach to program planning and evaluaiton." *Evaluation Review* (13): 56-77.

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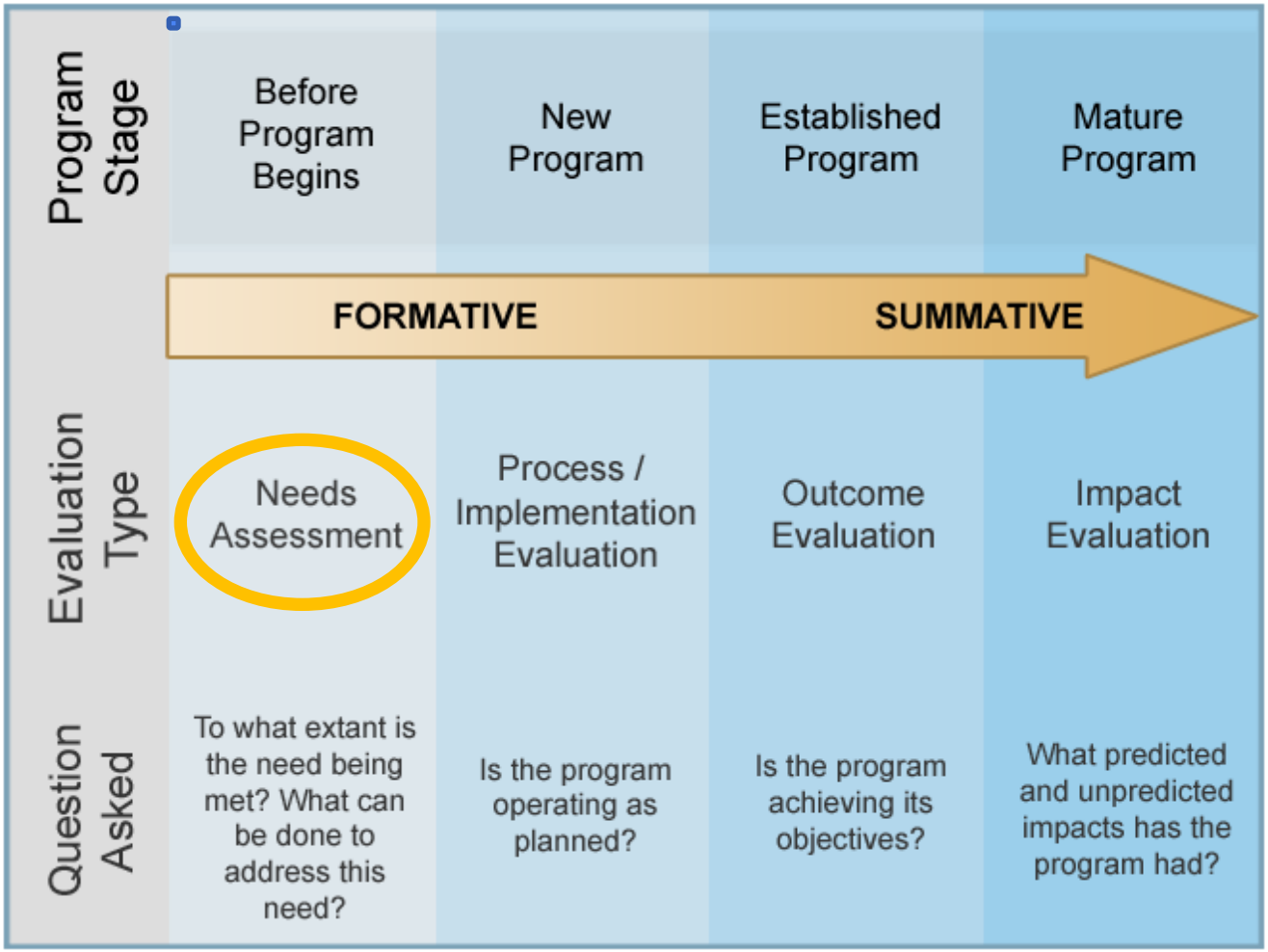

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Needs Assessment / Context Evaluation

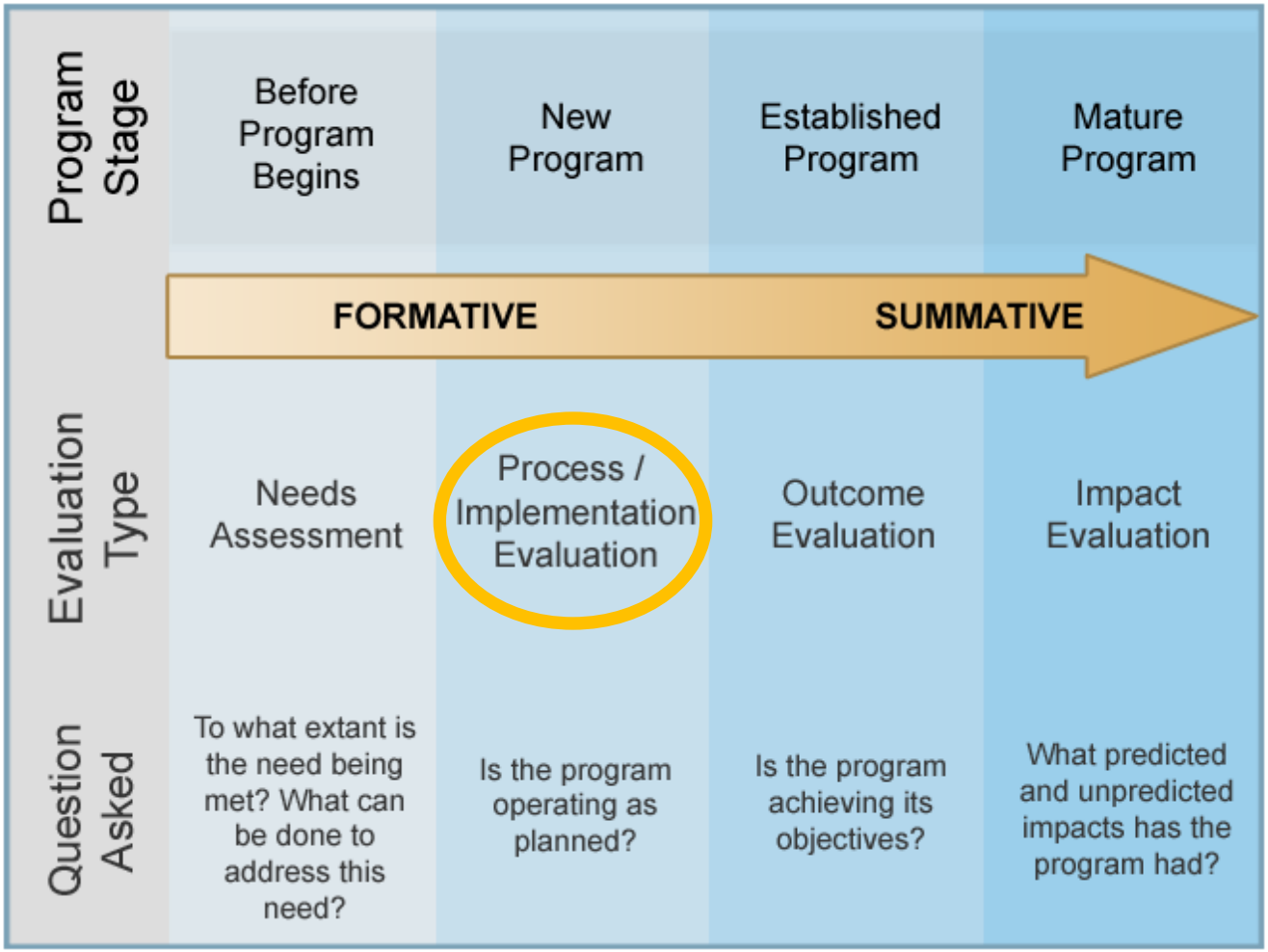
- An evaluative study that asks what contextual factors (i.e., environmental, organizational, human, etc.) have the greatest bearing on achieving project goals.
- Increasingly referred to as context evaluation.

Context Evaluation

- Conduct before your program begins.
- Assess the needs, assets, and resources of the targeted recipients and/or community in order to plan relevant and effective interventions.
- Identify the political, social, and environmental strengths and weaknesses of the target area to increase the likelihood of project support and success.

Context Evaluation

- Examining the external and internal contextual environments pre-project provides critical groundwork for subsequent implementation, outcome, and impact evaluation.
- Post-project such context evaluation information can help to explain why a project was implemented in a particular way and why certain outcomes were achieved and others not.



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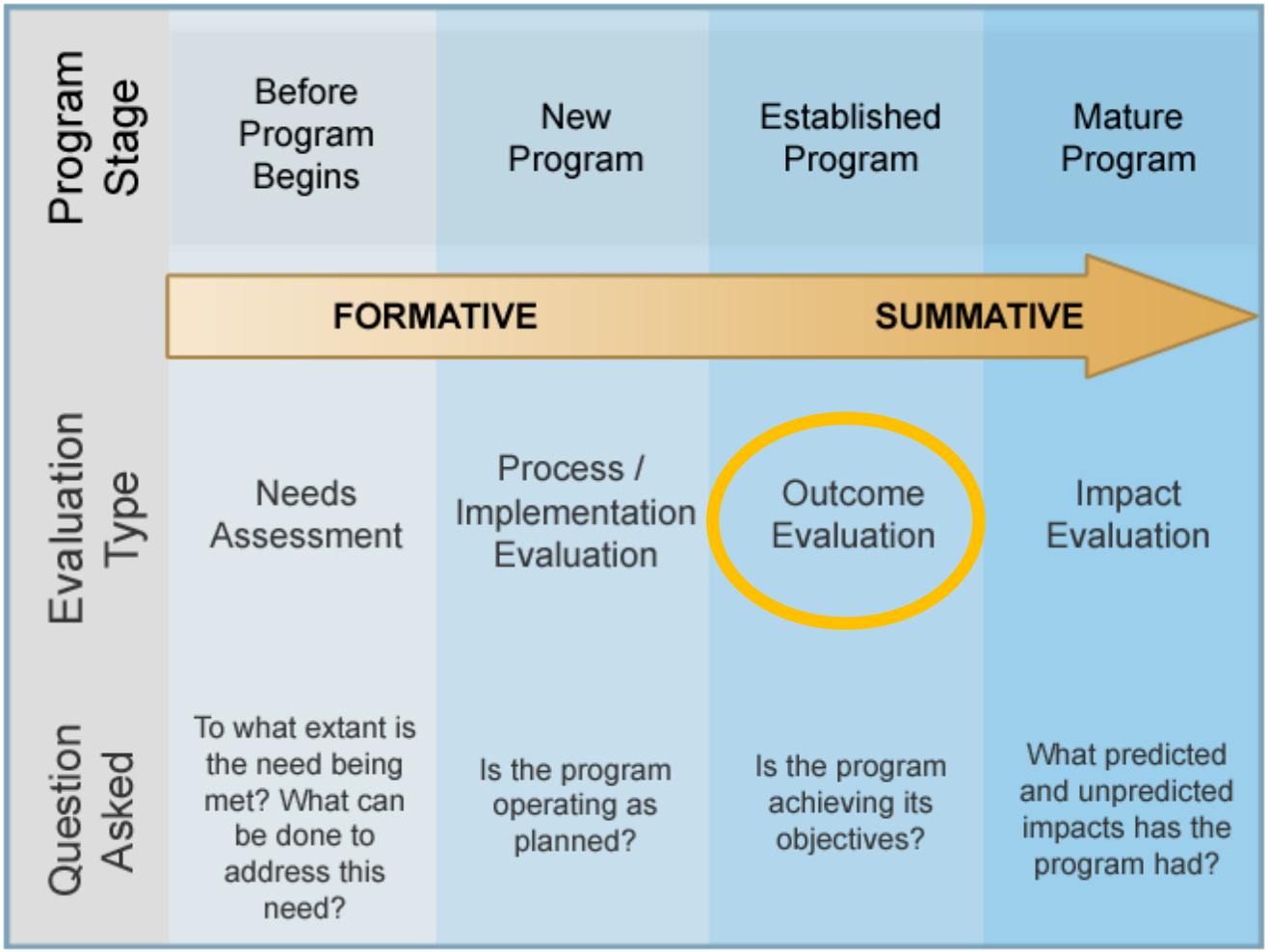
Process/Implementation Evaluation

- A type of evaluation that examines both:
- (1) What goes into a public health initiative (e.g., target recipient definition and segmentation, message development and testing, media planning, etc.) during initiative planning.
- And, (2) monitors ongoing progress to determine whether the initiative is delivered as intended to the target recipients.



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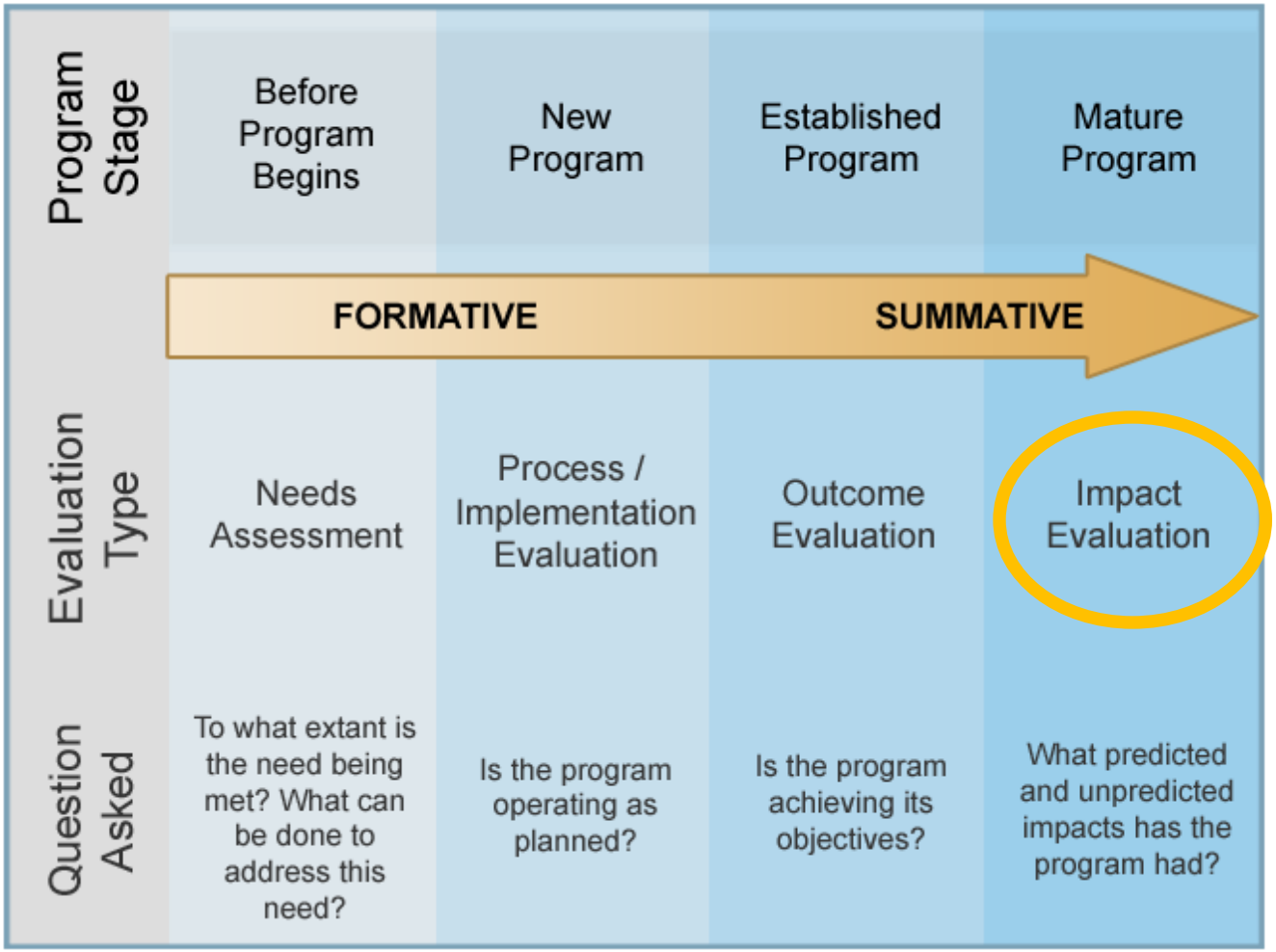
Outcome Evaluation

- A type of evaluation to determine the effect(s) of a public health initiative (e.g., campaign, intervention, program) on its beneficiaries.
- Often used to assess the extent to which an initiative achieves its immediate or proximal objectives among individuals within a targeted group and/or community.

Outcome Evaluation

- Outcome evaluation is important because it can show how well a public health initiative has met its communication objectives and what you might change or improve to make it more effective.



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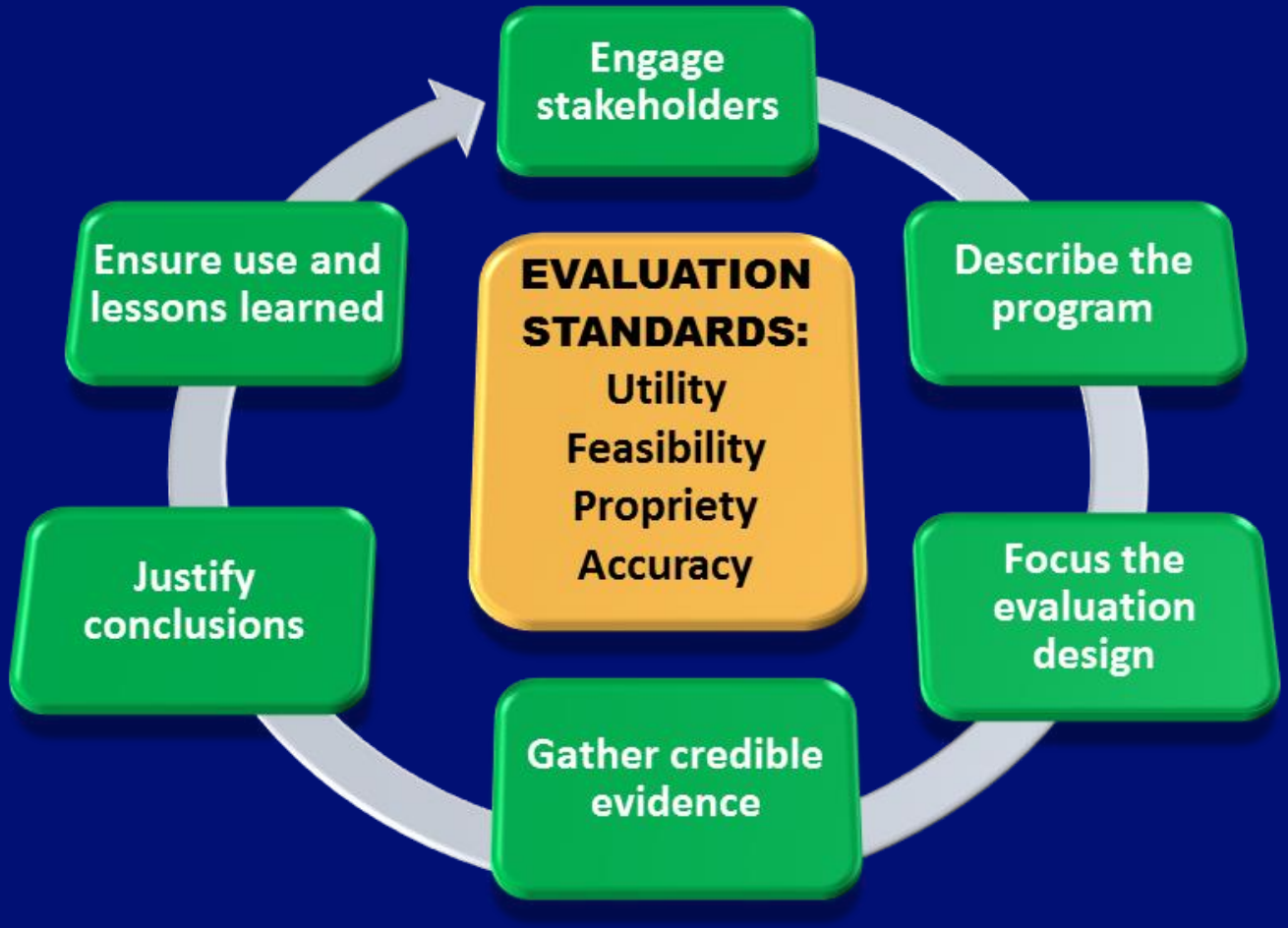
Impact Evaluation

- A type of outcome evaluation that focuses on the social, economic, and/or environmental effects or consequences of a public health initiative (e.g., campaign, intervention, or program).
- Impacts tend to be long-term achievements (i.e., distal outcomes) that affect a large number of individuals (i.e., a population or sub-population). They may be positive, negative, or neutral; intended or unintended.

CDC Evaluation Framework



http://www.cdc.gov/eval/index.htm

CDC Evaluation Framework

Health Communication Evaluation Challenges

- Operationalization
- Health Communication Evaluation Planning Framework
- Measurement Reliability and Validity

Operationalization

- As we focus our evaluation design, we must make a lot of decisions about what “to do” in our study.
- Operationalization is the process of deciding what actions to undertaken in a project to represent units, treatments, observations, outcomes, setting, and times.
- Operationalization can be a daunting challenge sometimes because we’re often forced to make decisions balancing expectations against expertise and resources.

Operationalization
"White Cake"

- **You're hosting a birthday celebration for a colleague and you want to serve a white cake (i.e., white layer cake with frosting).**
- **How many ways are there to operationalize (i.e., actions you can take) a white cake? What are the expectations, expertise, and resources that you must balance?**
  - Make from scratch (highest expertise, higher time, lowest cost)
  - Make from a mix (moderate expertise & time, lower cost)
  - Purchase frozen (modest expertise & time, higher cost)
  - Purchase gourmet bakery (lowest expertise & time, highest cost)
- **How do <u>expectations</u> differ?**

Operationalization
Best Practice

- Outline several operationalizations of your health communication evaluation
- Detail how expectations, expertise, and resources differ for each
- Then work with your organization leaders and stakeholders to determine which alternative is the “best fit” for your project

Health Communication Evaluation Planning Framework

- **McQuire's Communication Persuasion Matrix (CPM) is a very useful framework for health communication evaluation planning.**
- **In a nutshell, the CPM organizes communication processes and effects into three broad area:**
  - Inputs – The Communication Process
  - Outputs – Individual Outcomes
  - Impacts – Population Consequences

CPM Inputs – Communication Process

Process Components	Factors to Consider
Source	Demographics, credibility, attractiveness, etc.
Message	Appeal, organization, style, etc.
Channel/Noise	Type of media used
Receivers	Demographics, social/psychological factors (e.g., learning style, risk perception)
Destination	Message delivery estimate, Immediacy/delay

CPM Outputs – Individual Outcomes

Outcomes	What's Happening
Tuning in	Exposure to message
Attending	Paying attention to message
Interest	Being interested in message
Comprehending	Understanding the message
Generating	Related thoughts
Agreeing	Agreeing the message is correct
Storing	Saving the message to memory
Retrieval	Pull message from memory if needed
Acquiring	Gaining skills to act on the message
Decision	Acting on the message
Acting	Performing the action
Post-action	Integration of the action into behavior

CPM Impact – Population Consequences

Consequence	Examples include:
Health perceptions	Population beliefs about quality of life
Health improving behavior change	Large-scale vaccination schedule uptake
Health supportive environmental change	Community-wide changes (e.g., built environments, improved security)
Health supportive policy change	Regulations minimizing second-hand smoke exposure in public places

Applying CPM to New Media

Process Steps	Factors to Consider	New Media Issues
Source	Demographics, credibility, attractiveness, etc.	Message production considerations (e.g., source/spokesperson)
Message	Appeal, organization, style, etc.	Message/content testing (satisfaction, memory, CDC Clear Communication Index)
Channel/Noise	Type of media used	Usability/functionality testing (perceptions of channel; look & feel, navigation, etc.); channel trust
Receiver	Demographics, social and psychological factors (e.g., learning style, risk perception)	Audience segmentation and targeting
Destination	Message delivery estimate, Immediacy/delay	Reach[a]

Defining New Media "Reach"

- The carry-over of the term "reach" from traditional mass media to new media channels has produced some confusion.
- For traditional media, where actual listener/reader/viewer population estimates are well established, the definition of "reach" focuses on the audience (e.g., Households Using Television, Persons Using Radio).
- One broadly employed definition of reach, for example, is the number or percentage of different households or people exposed at least once to a program or commercial or media schedule across a specific time-period.
- For traditional media, reach is also known as the cumulative (cume) or unduplicated audience.

Defining New Media "Reach"

- For new media, the definition of reach typically focuses on accounts.
- New media reach for instance, is often defined as an estimate of the number of unique accounts to which content was delivered. Twitter reach, for example, is the total number of unique Twitter accounts to which a tweet was sent.
- But, population estimates of actual users of the accounts (i.e., individuals receiving the message) are not well established. Consequently, the validity of new media reach estimates is not well understood.

Measurement Validity and Reliability

- **Validity**
  The extent to which a measure accurately assesses what it is supposed to measure. The validity of an indicator refers to its ability to scientifically answer the question it was supposed to answer.
- **Reliability**
  The extent to which a measurement instrument yields consistent, stable, and uniform results over repeated observations or measurements under the same conditions (i.e., provided that the attribute measured did not change).

Defining New Media “Reach”

- For both traditional and new media, it is critical to recognize that reach is a communication “process” metric (a message delivery measure) and not an “outcome” metric (an indicator of receiver awareness, cognition, or behavioral change).

Applying CPM to New Media
Indicators Assessable via New Media Monitoring Tools

Outcomes	What's Happening	New Media Metrics
Tuning in	Exposure to message	Click throughs, downloads, streaming
Attending	Paying attention to message	Message awareness
Interest	Being interested in message	Time on website, "likes"
Comprehending	Understanding the message	Message fidelity assessment
Generating	Related thoughts	Shares, emails, retweets
Agreeing	Indicate message agreement	Comments, sentiment, and engagement

Applying CPM to New Media
Indicators where New Media Monitoring Tools Fall Short

Outcomes	What's Happening	New Media Metrics
Storing	Saving the message to memory	These outcomes require more traditional study designs (e.g., pre-post) and assessment tools (e.g., observational and survey studies).
Retrieval	Pull message from memory if needed	
Acquiring	Gaining the appropriate skills to act on the message	
Decision	Acting on the message	
Acting	Performing the action	
Post-action	Integration of the action into behavior	

A Practical Example

CDC Tips from Former Smokers Campaign

http://www.cdc.gov/tobacco/campaign/tips/

Effect of the first federally funded US antismoking national media campaign

Tim McAfee, Kevin C Davis, Robert L Alexander Jr, Terry F Pechacek, Rebecca Bunnell

Summary

Background Every year, smoking kills more than 5 million people globally, including 440 000 people in the USA, where the long-term decline in smoking prevalence has slowed. The US Centers for Disease Control and Prevention (CDC) delivered a national, 3-month antismoking campaign called Tips From Former Smokers (Tips) that started in March, 2012, in which hard-hitting, emotionally evocative television advertising was featured, depicting smoking-related suffering in real people. We aimed to assess the effects of the Tips campaign.

Methods We undertook baseline and follow-up surveys of nationally representative cohorts of adult smokers and non-smokers. The national effect of the Tips campaign was estimated by applying rates of change in the cohort before and after the campaign to US census data.

Findings 3051 smokers and 2220 non-smokers completed baseline and follow-up assessments. 2395 (78%) smokers and 1632 (74%) non-smokers recalled seeing at least one Tips advertisement on television during the 3-month campaign. Quit attempts among smokers rose from 31·1% (95% CI 30·3–31·9) at baseline to 34·8% (34·0–35·7) at follow-up, a 12% relative increase. The prevalence of abstinence at follow-up among smokers who made a quit attempt was 13·4% (95% CI 9·7–17·2). Nationally, an estimated 1·64 million additional smokers made a quit attempt, and 220 000 (95% CI 159 000–282 000) remained abstinent at follow-up. Recommendations by non-smokers to quit grew from 2·6% at baseline to 5·1% at follow-up, and the prevalence of people talking with friends and family about the dangers of smoking rose from 31·9% (95% CI 31·3–32·5) to 35·2% (34·6–35·9), resulting in an estimated 4·7 million additional non-smokers recommending cessation services and more than 6 million talking about the dangers of smoking.

Interpretation The high-exposure Tips media campaign was effective at increasing population-level quit attempts. The growth in smokers who quit and became sustained quitters could have added from a third to almost half a million quality-adjusted life-years to the US population. Expanded implementation of similar campaigns globally could accelerate progress on the WHO Framework Convention on Tobacco Control and reduce smoking prevalence globally.

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McAfee, T., Davis, K. C., Alexander, R. L., Pechacek, T. F., & Bunnell, R. (2013). Effect of the first federally funded US antismoking national media campaign. *The Lancet*. doi: 10.1016/S0140-6736(13)61686-4

A Practical Example

- **Key features of the study include:**
  - Extensive formative research
  - TV ad campaign with “omni-channel” media mix
  - Institutional Review Board approval
  - Evaluation participants screened for eligibility
  - Pre-campaign and post-campaign assessments
  - Measured campaign awareness, quit attempts, abstinent
  - Powerful analytic model
  - Population impact estimates provided

A Practical Example

Thank you!

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