Building our Understanding of Health Communication Evaluation

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Overview

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

* Citations, references, and credits
Evaluation Basics

Evaluation Basics

Evaluation Terminology

Program, Hypothesis, Cultural
Participatory, Competence, Quantitative
Outcome, Spuriousness, Impact
Demographics, Effectiveness, Evaluation
Articulated, Community-Based
Theory, Feasibility
Research, Accountability
Bias, Performance
Measurement, Implementation
Evaluation, Design
Content, Mission
Goal, Data
Analysis, Level
Benchmarks, Noise

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.

“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.
Program Stage

Before Program Begins

New Program

Established Program

Mature Program

Evaluation Type

Needs Assessment

Process / Implementation Evaluation

Outcome Evaluation

Impact Evaluation

Question Asked

To what extant is the need being met? What can be done to address this need?

Is the program operating as planned?

Is the program achieving its objectives?

What predicted and unpredicted impacts has the program had?

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

Adapted from:


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

Adapted from:


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.
Adapted from:


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

Adapted from:


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

Adapted from:


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

EVALUATION STANDARDS:
- Utility
- Feasibility
- Propriety
- Accuracy

Engage stakeholders
Describe the program
Focus the evaluation design
Gather credible evidence
Ensure use and lessons learned
Justify conclusions

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

- Inputs – The Communication Process
- Outputs – Individual Outcomes
- Impacts – Population Consequences
<table>
<thead>
<tr>
<th>Process Components</th>
<th>Factors to Consider</th>
</tr>
</thead>
<tbody>
<tr>
<td>Source</td>
<td>Demographics, credibility, attractiveness, etc.</td>
</tr>
<tr>
<td>Message</td>
<td>Appeal, organization, style, etc.</td>
</tr>
<tr>
<td>Channel/Noise</td>
<td>Type of media used</td>
</tr>
<tr>
<td>Receivers</td>
<td>Demographics, social/psychological factors (e.g., learning style, risk perception)</td>
</tr>
<tr>
<td>Destination</td>
<td>Message delivery estimate, immediacy/delay</td>
</tr>
</tbody>
</table>
## CPM Outputs – Individual Outcomes

<table>
<thead>
<tr>
<th>Outcomes</th>
<th>What’s Happening</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tuning in</td>
<td>Exposure to message</td>
</tr>
<tr>
<td>Attending</td>
<td>Paying attention to message</td>
</tr>
<tr>
<td>Interest</td>
<td>Being interested in message</td>
</tr>
<tr>
<td>Comprehending</td>
<td>Understanding the message</td>
</tr>
<tr>
<td>Generating</td>
<td>Related thoughts</td>
</tr>
<tr>
<td>Agreeing</td>
<td>Agreeing the message is correct</td>
</tr>
<tr>
<td>Storing</td>
<td>Saving the message to memory</td>
</tr>
<tr>
<td>Retrieval</td>
<td>Pull message from memory if needed</td>
</tr>
<tr>
<td>Acquiring</td>
<td>Gaining skills to act on the message</td>
</tr>
<tr>
<td>Decision</td>
<td>Acting on the message</td>
</tr>
<tr>
<td>Acting</td>
<td>Performing the action</td>
</tr>
<tr>
<td>Post-action</td>
<td>Integration of the action into behavior</td>
</tr>
<tr>
<td>Consequence</td>
<td>Examples include:</td>
</tr>
<tr>
<td>-----------------------------------------</td>
<td>--------------------------------------------------------</td>
</tr>
<tr>
<td>Health perceptions</td>
<td>Population beliefs about quality of life</td>
</tr>
<tr>
<td>Health improving behavior change</td>
<td>Large-scale vaccination schedule uptake</td>
</tr>
<tr>
<td>Health supportive environmental change</td>
<td>Community-wide changes (e.g., built environments, improved security)</td>
</tr>
<tr>
<td>Health supportive policy change</td>
<td>Regulations minimizing second-hand smoke exposure in public places</td>
</tr>
</tbody>
</table>
## Applying CPM to New Media

<table>
<thead>
<tr>
<th>Process Steps</th>
<th>Factors to Consider</th>
<th>New Media Issues</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Source</strong></td>
<td>Demographics, credibility, attractiveness, etc.</td>
<td>Message production considerations (e.g., source/spokesperson)</td>
</tr>
<tr>
<td><strong>Message</strong></td>
<td>Appeal, organization, style, etc.</td>
<td>Message/content testing (satisfaction, memory, <a href="#">CDC Clear Communication Index</a>)</td>
</tr>
<tr>
<td><strong>Channel/Noise</strong></td>
<td>Type of media used</td>
<td>Usability/functionality testing (perceptions of channel; look &amp; feel, navigation, etc.); channel trust</td>
</tr>
<tr>
<td><strong>Receiver</strong></td>
<td>Demographics, social and psychological factors (e.g., learning style, risk perception)</td>
<td>Audience segmentation and targeting</td>
</tr>
<tr>
<td><strong>Destination</strong></td>
<td>Message delivery estimate, Immediacy/delay</td>
<td>Reach&lt;sup&gt;a&lt;/sup&gt;</td>
</tr>
</tbody>
</table>
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**

<table>
<thead>
<tr>
<th>Outcomes</th>
<th>What’s Happening</th>
<th>New Media Metrics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tuning in</td>
<td>Exposure to message</td>
<td>Click throughs, downloads, streaming</td>
</tr>
<tr>
<td>Attending</td>
<td>Paying attention to message</td>
<td>Message awareness</td>
</tr>
<tr>
<td>Interest</td>
<td>Being interested in message</td>
<td>Time on website, “likes”</td>
</tr>
<tr>
<td>Comprehending</td>
<td>Understanding the message</td>
<td>Message fidelity assessment</td>
</tr>
<tr>
<td>Generating</td>
<td>Related thoughts</td>
<td>Shares, emails, retweets</td>
</tr>
<tr>
<td>Agreeing</td>
<td>Indicate message agreement</td>
<td>Comments, sentiment, and engagement</td>
</tr>
</tbody>
</table>
## Applying CPM to New Media
### Indicators where New Media Monitoring Tools Fall Short

<table>
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<th>Outcomes</th>
<th>What’s Happening</th>
<th>New Media Metrics</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Storing</strong></td>
<td>Saving the message to memory</td>
<td>These outcomes require more traditional study designs (e.g., pre-post) and assessment tools (e.g., observational and survey studies).</td>
</tr>
<tr>
<td><strong>Retrieval</strong></td>
<td>Pull message from memory if needed</td>
<td></td>
</tr>
<tr>
<td><strong>Acquiring</strong></td>
<td>Gaining the appropriate skills to act on the message</td>
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<td><strong>Post-action</strong></td>
<td>Integration of the action into behavior</td>
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</table>
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, Tony F Pechacek, Rebecca Bunnell

Summary

Background Every year, smoking kills more than 5 million people globally, including 440000 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 34·6–35·7 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 159 000–282 040) 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.

Funding CDC, US Department of Health and Human Services.

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
TIPS FROM FORMER SMOKERS CAMPAIGN RESULTS

1.6 MILLION!
An estimated 1.6 million smokers tried to quit due to the Tips campaign.

300,000+
More than 300,000 years of life were added to the U.S. Population.

6 MILLION!
Non-smokers talked with friends and family about the dangers of smoking.
Thank you!

For more information please contact: Jim Weaver

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The findings and conclusions in this report are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention.