

An EVALUATION Primer on
Health Risk Communication
Programs and Outcomes

Environmental Health Policy Committee
Subcommittee on Risk Communication and Education

Primer Prepared By:

Tim L. Tinker, Dr.P.H., M.P.H.

Agency for Toxic Substances and Disease Registry

Paula G. Silberberg, M.Ed.

U.S. Food and Drug Administration

May 1997



U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES
Public Health Service

EHPC

Environmental Health
Policy Committee

An EVALUATION Primer on Health Risk Communication Programs and Outcomes

Contents	Page	Contents	Page
<i>Preface</i>	iv	Sample Focus Group Case Study	16
<i>About the Primer</i>	vi	Guidelines for Analyzing Pretest Results	19
<i>Overview of Principles and Techniques for Evaluating Health Risk Communication Activities</i>		Guidelines for Using Pretest Results	20
Why Evaluate Risk Communication Programs?	1	Evaluating Communications to Special Populations	21
Types of Evaluation	2	Evaluation Tool: Risk Message Checklist	23
Elements of an Evaluation Design	4	<i>Did It Work? Tips for Evaluating Communication Outcomes and Impacts</i>	
Risk Communication Objectives as a Measure of Effectiveness	6	Risk Communication Program Assessment Questions	25
Barriers to Risk Communication Evaluation	8	Evaluation Options Based on Available Resources	26
<i>What Do We Want to Say? The Role of Formative Evaluation and Research</i>		Factors To Consider in Midcourse Reviews	27
Designing and Testing the Message	9	Have We Succeeded?	28
Whom To Include in Review and Pretesting	10	Evaluation Case Example	29
Guidelines for Selecting Pretest Methods	11	Evaluation Action Plan	32
Pretest Methods for Print Materials	12	Attributes of an Effective Risk Communication Program	34
Sample Survey for Assessing Risk Communication Needs	13	<i>Selected References</i>	35

Preface

Among agencies of the federal government, the U.S. Department of Health and Human Services (DHHS) and the U. S. Environmental Protection Agency (EPA) share the broadest set of responsibilities for determining and communicating health risks to the public. Risk assessment and communications activities have spanned a very broad range over recent years, as illustrated by the work of the National Cancer Institute (NCI) to determine behavioral risk factors for cardiovascular disease and cancer and public outreach efforts of the Centers for Disease Control and Prevention (CDC) to inform the public about the adverse human health effects of environmental tobacco smoke (ETS).

A growing emphasis within the U.S. Public Health Service (PHS) and other federal agencies on determining the value and utility of public health information has created an increasing need for innovative and cost-effective evaluation strategies. As with other health education efforts, health risk communication programs must be evaluated to understand which strategies are helpful and which are not. Health risk communication messages enter our lives in many forms (e.g., advertisements, solicitations, health campaigns, medical care requirements, and word of mouth). This suggests many compounding factors, many problems, many challenges, and complexities of beliefs, values, and behaviors.

The Environmental Health Policy Committee (EHPC) is a standing DHHS committee. It is chaired by the Assistant Secretary for Health and has representation from the PHS agencies EPA, U.S. Department of Energy, U.S. Department of Agriculture, and U.S. Department of Defense.

In 1993, PHS undertook an analysis of health risk communication policies and practices across its agencies with the goal of developing recommendations to improve health risk communication. The Environmental Health Policy Committee (EHPC) charged its subcommittee on risk communication with the analysis. Member agencies of the subcommittee submitted examples of health risk communication activities or decisions they perceived to be effective and examples of activities they thought had been less effective. These examples and findings are contained in the Subcommittee's report "Recommendations to Improve Health Risk Communication: A Report on Case Studies in Health Risk Communication." A major finding of the analysis **was that** evaluation was the least understood of the communication components. Collecting process and anecdotal information was the preferred method of evaluation, with relatively little or no emphasis on outcome and impact evaluation.



The Subcommittee on Risk Communication and Education developed *A Primer for Evaluating Health Risk Communication* to assist federal health risk communication practitioners and decisionmakers to help improve their effectiveness in evaluating health risk messages and campaigns. The primer encompasses evaluation principles and practices as a central means for ensuring appropriate goals, content, and outcome of our health risk communication programs.

To address the perceived evaluation needs of various PHS agencies, the subcommittee recommended that each PHS agency consider developing a set of generally accepted practices and guidelines for effective evaluation of communication activities and programs. This primer presents key principles and techniques to assist federal decisionmakers and health risk communicators to improve their overall effectiveness in evaluating health risk messages and materials.

About the Primer

Target Audience

The principles and techniques provided in the evaluation primer are designed to improve the capacity of risk communication practitioners and decisionmakers in PHS and non-PHS agencies to evaluate the efficiency and effectiveness of health risk communication messages, materials, and campaigns.

Purpose

Use of the primer can facilitate planning evaluations for health risk communication programs in several key areas.

- Informs decisionmakers about what should be communicated, in what form, to whom, and with what expected outcome.
- Identifies performance indicators used in assessing or measuring communication goals. For example, the Seven Cardinal Rules of Risk Communication, as identified by EPA, are
 - (1) accept and involve the public as a legitimate partner
 - (2) plan carefully and evaluate your efforts
 - (3) listen to the public's specific concerns
 - (4) be honest, frank, and open
 - (5) coordinate and collaborate with other credible sources
 - (6) meet the needs of the media
 - (7) speak clearly and with compassion.
- Provides guidance on how to most effectively use target audience ideas and opinions to shape the risk communication message.

Organization

The primer provides excerpts from the research of leading risk communication experts, including (1) issues and guiding principles to consider in evaluating health risk communication activities, and (2) case examples illustrating proven evaluation methods and tools.



Overview of Principles and Techniques for Evaluating Health Risk Communication Activities

Why Evaluate Risk Communication Programs?

(Regan and Desvousges 1990)

Evaluation is a purposeful effort to determine effectiveness. It is essential to communication because it provides feedback about whether risk messages are received, understood, and internalized by those for whom they are intended. Without evaluation, it is impossible for communicators to choose those messages and channels that use limited resources more effectively. Instead, communicators are left to their own subjective interpretations about what works and what does not. A lack of evaluation, therefore, affects both quality of the specific risk communication effort and the primary goal-improving public health.

The ideal way to apply evaluation findings is to improve ongoing risk communication activities. In addition, evaluation is valuable for other uses.

- To provide evidence of need for additional funds or other resources
- To increase institutional understanding of and support for risk communication activities
- To encourage ongoing cooperative ventures with other organizations
- To avoid making the same mistakes in future risk communication efforts

Overview of Principles and Techniques

Types of Evaluation

(NCI 1992)

The following types of evaluation have been adapted to serve the goals of evaluating risk communication programs.

Formative. Evaluation during the formative stages of a risk communication effort assesses the strengths and weaknesses of materials or campaign strategies before implementation. It permits necessary revisions before the full effort goes forward. Among other things, materials can be tested for the following characteristics:

- clarity
- tone
- comprehensiveness
- anticipated reactions.

Process. Process evaluation examines the procedures and tasks involved in implementing an activity. This type of evaluation also can collect the following information about the administrative and organizational aspects of the overall effort:

- number of staff working on the project
- schedule of activities
- number of materials distributed
- attendance at meetings
- number of calls to a hotline
- number of public inquiries received as a result of a public service announcement
- articles printed.

Overview of Principles and Techniques

Outcome. Outcome evaluation is used to collect and present information needed for judgements about the effort and its effectiveness in achieving its objectives. Not all risk communication efforts are suitable for outcome evaluation. Outcome evaluation is most suitable when the program has clear and measurable goals and consistent replicable materials, organization, and activities. Outcome evaluation can obtain descriptive data on a project and document the immediate effects of the project on the target audience (e.g., percent of the target audience showing increased awareness of the subject).

An outcome evaluation can collect the following information about the program:

- changes in knowledge and attitudes
- expressed intentions of the target audience
- changes in behavior.

Impact. Impact evaluation focuses on the long-range results of the program and changes or improvements in health status as a result. It is designed to identify whether and to what extent a program contributed to accomplishing its stated goals (more global than outcome evaluation). In a “real world” environment, there are many factors that influence an individual’s health behavior, including peer support and approval, self-esteem and other individual characteristics, advertising and mass media coverage of health, and community and institutional factors (such as availability of services). It is usually extremely difficult to separate the impact of a health risk communication program from the effects of other confounding variables on an individual’s behavior. Thus, the results of an impact evaluation often cannot be directly related to the effects of an activity-or program because of the other (external) influences on the target audience which occur over time. Impact evaluations are rarely possible because they are frequently costly, involve extended commitment, and may depend upon other strategies in addition to communication. Information obtained from an impact study may include the following:

- changes in morbidity and mortality
- changes in absenteeism from work
- long-term maintenance of desired behavior
- rates of recidivism.

Overview of Principles and Techniques

Elements of an Evaluation Design (NCI 1992)

Every formal design-whether formative, process, outcome, impact, or a combination-must contain eight basic elements.

1. A Statement of Communication Objectives

Unless there is an adequate definition of desired achievements, evaluation cannot measure them. Evaluators need clear and definite objectives in order to measure program effects.

2. Definition of Data To Be Collected

This is the determination of what is to be measured in relation to the objectives.

3. Methodology

A study design is formulated to permit measurement in a valid and reliable manner.

4. Instrumentation

Data collection instruments are designed and pretested. These instruments range from simple tally sheets for counting public inquiries to complex survey and interview forms.

5. Data Collection

The actual process of gathering information.

6. Data Processing

Putting the information into a usable form for analysis.

Overview of Principles and Techniques

7. Data Analysis

The application of statistical techniques to the information to discover significant relationships.

8. Reporting

Compiling and recording evaluation results. These results rarely pronounce a program a complete success or failure. To some extent, all programs have good elements and bad. It is important to appreciate that lessons can be learned from both if results are properly analyzed. These lessons should be applied to altering the existing program or as a guide to planning new efforts.

Overview of Principles and Techniques

Risk Communication Objectives as a Measure of Effectiveness

(Covello, Slovic, and von Winterfeldt 1987)

Program planning of any sort should begin with an explicit statement of objectives and how they will be evaluated. The following are the four major types of risk communication programs, categorized according to their primary objectives.

TYPE 1: Information and Education

- Informing and educating people about risks and risk assessment in general.

EXAMPLE: Using statistical comparisons of risks from different energy production technologies.

TYPE 2: Behavior Change and Protective Action

- Encouraging personal risk-reduction behavior.

EXAMPLE: Using advertisements to encourage people to wear seat belts.

TYPE 3: Disaster Warnings and Emergency Information

- Providing direction and behavioral guidance in disasters and emergencies.

EXAMPLE: Using sirens to indicate an accidental release of toxic gas from a chemical plant.

Overview of Principles and Techniques

TYPE 4: Joint Problem Solving and Conflict Resolution

- Involving the public in risk management decisionmaking and in resolving health, safety, and environmental controversies.

EXAMPLE: Using public meetings to inform citizens about a possible hazardous waste site.

Overview of Principles and Techniques

Barriers to Risk Communication Evaluation

(Arkin 1991)

Every program manager faces constraints to undertaking optimal evaluation tasks, just as there are constraints to designing other aspects of a risk communication program.

These constraints may include the following:

- limited funds
- limited staff time and capabilities
- length of time allotted to the program
- limited access to computer facilities
- agency restrictions to hiring consultants or contractors
- policies limiting the ability to gather information from the public
- management perceptions regarding the value of evaluation
- levels of management support for well designed evaluation activities
- difficulties in defining (or establishing) agency consensus regarding the objectives of the program
- difficulties in designing appropriate measures for risk communication programs
- difficulties in separating the effects of program influences from other influences on the target audience in “real world” situations.



What Do We Want to Say? The Role of Formative Evaluation Research

Designing and Testing the Message

(AED, JHU, and PN 1993)

A crucial step in creating and assessing the effectiveness of health risk communication activities is determining what message ideas or concepts have the best chance of “connecting” with the target audience and influencing them to change behavior if behavior change is the stated objective. This process begins with using formative research and evaluation, a combination of techniques designed to help develop effective messages.

Literature reviews, in-depth interviews, and focus groups are examples of formative research tools that can be used to help determine if one concept is more salient to an audience segment than another, and which concepts should eventually be developed into specific messages. The general approach to pretesting concepts is to share them with members of the target audience and gauge their reactions.

Pretesting is conducted while materials are in draft form, to allow changes to be made without great expense if testing reveals ways to improve the messages or materials. Methods of pretesting include intercept interviews with members of the target audience and focus groups. Pretesting helps determine whether the messages and formats are appropriate, understandable, clear, attention-getting, credible, relevant, and have the desired effect (e.g., to raise awareness about an issue).

What Do We Want to Say?

Whom To Include in Review and Pretesting (AED, JHU, and PN 1993)

There are four groups to consider for pretesting and review.

1. **Target Audience**

- To identify current knowledge, attitudes, and behavior related to the subject to identify whether and what kind of new information is needed
- To identify myths and misconceptions about the topic
- To assure appeal, appropriateness, understanding, clarity, and personal relevance of materials
- To check for comprehension and cultural appropriateness

2. **External Experts**

- To verify appropriateness of materials based on proven models and theories of communication
- To verify accuracy and appropriateness of information in the materials

3. **Gatekeepers (e.g., print and broadcast media, religious leaders, political and legal groups, legislators, and other key policy- and decisionmakers)**

- To assure that they will support, not block, use of materials
- To increase “ownership” of the materials
- To identify problems based on gatekeepers’ experiences with the target audience. If any problems are identified, they should be verified through pretesting directly with the target audience

4. **Clearance officials**

- To obtain approvals prior to printing

What Do We Want to Say?

Guidelines for Selecting Pretest Methods

(AED, JHU, and PN 1993)

You must choose the method that works best. The following are points to consider in determining the best method.

- The material's format and complexity (e.g., longer and more complex materials may require having an interviewer to ensure the participants complete the pretest)
- The material's degree of sensitivity (e.g., youth may be more comfortable with a self-administered questionnaire on topics such as sex and AIDS)
- Target audience characteristics (e.g., interest and willingness to respond, lack of reading skills or other limitations)
- Where materials can be accessed (e.g., clinic, school, home)
- Purpose of the pretest (e.g., is more in-depth information about target audience perceptions of the topic desired?)
- Resources available for pretesting (e.g., using trained interviewers and companies to recruit for and conduct focus groups are more expensive options; self-administered pretests can be more inexpensive)
- Consider using a combination of methods to meet pretest purpose and budget (e.g., use a larger number of self-tests, followed by a limited number of individual interviews to clarify findings or explore problematic areas)

What Do We Want to Say?

Pretest Methods for Print Materials (AED, JHU, and PN 1993)

1. **Self-administered Surveys (mailed or personally delivered)**

Purpose To obtain individual reactions to draft materials

Application Print or audiovisual materials

Number of Respondents Enough to see a pattern of response
(Minimum 20; ideal 100-200)

Resources Required List of respondents; draft materials;
questionnaire; postage (if mailed)

Pros Inexpensive. Does not require staff's time to interact with respondents if mailed; can be anonymous for respondents; can reach homebound, rural, or other difficult to reach groups; easy and (usually) quick for respondents

Cons Response rate may be low if mailed; may require followup; may take long time to receive sufficient responses; respondents self-select (potential bias); exposure to materials isn't controlled; may not be appropriate if audience has limited writing skills

What Do We Want to Say?

Sample Survey for Assessing Risk Communication Needs

(Chess and Hance 1992)

1. Approximately what percentage of your on-the-job time, on average, do you spend interacting with the public? _____
2. What are the different publics you communicate with? (check all that apply)
 - community members
 - local government officials
 - state government officials
 - reporters
 - environmental groups
 - health professionals
 - other, please specify _____
3. What do you think will most help you improve your communication with the public?
4. What do you think will most help your organization improve its communication with the public?
5. What kind of assistance in dealing with the public would you most like to have?
6. If your organization provides training on communicating with the public, what should it be sure to include?
7. What should it be sure to avoid?
8. Any other comments?

What Do We Want to Say?

2. Individual Interviews (telephone or in person)

Purpose	Can answer questions similar to self-administered questionnaires; probe for individual's responses, and beliefs; discuss range of issues
Application	Develop hypotheses, messages, potentially motivating strategies; discuss sensitive issues or complex draft materials
Number of Respondents	Dependent on variables of issue urgency and complexity, time, and money. For a ball-park figure, get 10 opinions.
Resources Required	List of respondents; discussion guide/questionnaire; trained interviewer, telephone or quiet room, tape recorder (optional)
Pros	In-depth responses may differ from first response; can test sensitive or emotional materials; can test more complex/longer materials; can learn more about "hard-to-reach" audiences; can be used with individuals who have limited reading and writing skills
Cons	Time consuming to conduct/analyze; expensive; may yield to firmer conclusions or consensus

What Do We Want to Say?

3. Focus Group Interviews

Purpose	To obtain insight into the target audience's perceptions, opinions, beliefs, and attitudes about draft materials. Readability and understandability of print materials can also be addressed.
Application	Testing broad concepts, issues, audiovisual or print materials, and logos or other artwork.
Number of Respondents	8-10 group. Usually, the number of groups is dependent on program needs and resources. Minimum 2 groups per type of respondent. When target audience perceptions are comparable, additional focus group sessions are not necessary.
Resources Required	Participants representative of the target audience, recruitment screening instrument, moderator's guide, trained moderator, focus group facility with one-way mirror and audio- and videotape capability (optional).
Pros	Capture of real-life data in a social environment where the moderator can interact directly with respondents; group interaction and length of discussion can stimulate more in-depth responses than individual interviews; can discuss concepts prior to materials development; can gather more opinions at once than individual interviews; can cover multiple topics; flexibility and ability to probe for more information; high face validity and an easily understood technique compared to sophisticated survey research employing complex statistical analyses; provision of data more quickly than individual interviews; and richness of data as the group participants react and build upon the responses of others in an open format.
Cons	Too few responses for consensus or decisionmaking; no individual responses (group influence) unless combined with other methods; can be expensive; respondents choose to attend and may not be typical of the target population; less control of the responses by the moderator than in individual interviews; difficult analysis of data (e.g., summarization, interpretation); special skills are required of moderators and moderator bias may occur; troublesome differences between groups (e.g., opposite responses); difficulty in recruiting participants; can be expensive; and logistical problems (e.g., arranging location, dates, and times, incentive payments, and refreshments).

What Do We Want to Say?

Sample Focus Group Case Study: Four Focus Groups Among Women on Their Reactions to Two Contraceptive Efficacy Tables for Uniform Contraceptive Labeling

Background

In keeping with the goal of the U.S. Food and Drug Administration (FDA) to develop uniform contraceptive labeling, focus groups were conducted to determine a presentation format most useful to the consumer for contraceptive pregnancy rates. The focus group study obtained consumer reactions to several model contraceptive efficacy tables and graphs. Using findings from the study, the Center for Devices and Radiological Health developed for further testing two prototype, composite tables with the characteristics the focus group participants favored for uniform contraceptive labeling.

Study Purpose

To utilize focus groups to garner reactions (perceptions, opinions, beliefs, and attitudes) and preferences from women about the format and content of the two different model contraceptive efficacy tables.

Participant Characteristics

The single and married premenopausal women participating in the study were currently using or considering using a birth control method; had not earned a bachelor's degree or above; had no more than two health science or mathematics classes beyond the high school level; and had not participated in a focus group in the past 12 months.



What Do We Want to Say?

Recruitment Method

Women who had previously expressed interest in participating in focus groups were recruited by phone.

Sample Questions from the Moderator's Guide

- (1) What do you know about pregnancy rates?
- (2) Where have you seen (or heard) information telling about pregnancy rates for various birth control methods?
- (3) Has this information about pregnancy rates been useful to you in deciding on a particular birth control method?
- (4) After showing each table:
 - (a) What does this table tell you?
 - (b) How easy to understand is this table?
 - (c) What information here is new to you?
 - (d) What did you especially like about this table?
 - (e) What did you dislike about this table?
 - (f) How useful is this information to you?
 - (g) What might you change, delete, or add to this table?
- (5) How would you describe how well these tables help you understand how effective your birth control method is compared to other birth control methods?

What Do We Want to Say?

- (6) Is there any other format you would suggest?
- (7) Is there any other information you would like to see in these tables?
- (8) Is there anything else you want to say about the tables you've seen today?

Major Findings

Participants were equally divided between their preference for each of the two tables. Although they did not clearly demonstrate an overwhelming preference for one table over the other, most participants found that the tables met the goal of helping them to understand how effective their birth control method was in comparison to other methods.

What Do We Want to Say?

Guidelines for Analyzing Pretest Results

(AED, JHU, and PN 1993)

Remember these guidelines as you first plan, and then consider the meaning of the pretest findings.

- Write a clear statement of purpose prior to the pretest.
 - Make sure that the questions asked relate to the purpose.
 - Then use the purpose statement to analyze the findings.
- Consider what was found and what was not found—sometimes what is not stated by participants is very important.
- If the answers to some questions are unclear, consider more or different types of pretesting.

What Do We Want to Say?

Guidelines for Using Pretest Results

Qualitative research can be predictive, but it is not precise. Interpreting and applying the results of pretesting and materials review will require certain actions.

- Give more weight to target audience and reviewers' responses that are within the context of their roles regarding the materials.
- Temper their responses with your own professional judgment, while considering the lay public as respected equals with a right to the information.
- Do not feel obligated to respond to every individual's every comment or complaint.
- Remember that gatekeepers can block target audience access to print materials, so their opinions are important too.



What Do We Want to Say?

Evaluating Communications to Special Populations

Formative research findings may reveal special communications needs of the audiences you're trying to reach with prevention information and education. For example, it may be important to tailor content, layout, and use of visuals to the needs of a reader with poor reading and communication skills. What does this mean in concrete terms? Low-literacy experts have identified key principles for developing effective materials for this audience. These principles are summarized in the checklist below. You can use this list as you are developing a new publication and doublechecking product drafts.

Checklist: Key Principles of Effective Low-Literacy Print Materials

(Gatson and Daniels 1988)

Content/Style

- The material is interactive and allows for audience involvement.
- The material presents “how-to” information.
- Peer language is used whenever appropriate to increase personal identification and improve readability.
- Words are familiar to the reader. Any new words are defined clearly.
- Sentences are simple, specific, direct, and written in the active voice.
- Each idea is clear and logically sequenced (according to audience logic).
- The number of concepts is limited per piece.
- The material uses concrete examples rather than abstract concepts.
- The text highlights and summarizes important points.

Layout

- The material uses advance organizers and headers.
- Headers are simple and close to text.

What Do We Want to Say?

- Layout balances white space with words and illustrations.
- Text uses upper and lower case letters.
- Underlining or bolding rather than caps give emphasis.
- Type style and size of print are easy-to-read; type is at least 12 point.

Visuals

- Visuals are relevant to text, meaningful to the audience, and appropriately located.
- Illustrations and photographs are simple and free from clutter and distraction.
- Visuals use adult rather than childlike images.
- Illustrations show familiar images that reflect cultural context.
- Visuals have captions. Each visual illustrates and is directly related to one message.
- Different illustration styles, such as photographs, shaded line drawings, and simple line drawings, are pretested with the audience to determine which is understood best.
- Cues, such as circles or arrows, point out key information.
- Colors used are appealing to the audience (as determined by pretesting).

Readability

- Readability analysis is done to determine reading level.

What Do We Want to Say?

Evaluation Tool: Risk Message Checklist

(National Research Council 1989)

Information About the Nature of Risks

1. What are the hazards of concern?
2. What is the probability of exposure to each hazard?
3. What is the distribution of exposure?
4. What is the probability of each type of harm from a given exposure to each hazard?
5. What are the sensitivities of different populations to each hazard?
6. How do exposures interact with exposures to other hazards?
7. What are the qualities of the hazard?
8. What is the total population at risk?

Information About the Nature of Benefits

1. What are the benefits associated with the hazard?
2. What is the probability that the projected benefit will actually follow the activity in question?
3. What are the qualities of the benefits?
4. Who benefits and in what ways?
5. How many people benefit and how long do benefits last?
6. Which groups get a disproportionate share of the benefits?
7. What is the total benefit?

What Do We Want to Say?

Information on Alternatives

1. What are the alternatives to the hazard in question?
2. What is the effectiveness of each alternative?
3. What are the risks and benefits of alternative actions and of not acting?
4. What are the costs and benefits of each alternative and how are they distributed?

Uncertainties in Knowledge About Risks

1. What are the weaknesses of available data?
2. What are the assumptions on which estimates are used?
3. How sensitive are the estimates to changes in assumptions?
4. How sensitive is the decision to changes in the estimate?
5. What other risk and risk control assessments have been made, and why are they different from those being offered?

Information Management

1. Who is responsible for the decision?
2. What issues have legal importance?
3. What constrains the decision?
4. What resources are available?

Did It Work? Tips for Evaluating Communication Outcomes and Impacts

Risk Communication Program Assessment Questions

(Arkin 1991)

How many people were reached? (process evaluation)

- Amount of time on radio and television and estimated audience for those times
- Print coverage and estimated readership
- Number of educational materials distributed
- Number of speeches and presentations and size of audience
- Number of other organizational and personal contacts

Did they respond? (process evaluation)

- Number of in-person, telephone, and mail inquiries (location of person inquiring, where inquirer heard of the program, and what was asked)
- Number of new organizations, businesses, and media outlets participating in the program
- Response from presentations (e.g., filled-out evaluation forms)

Who responded? (outcome evaluation)

- Demographics of responders (e.g., gender, education, income, and geographic residence)

Was there change? (outcome evaluation)

- Changes in knowledge and attitudes
- Changes in intentions (e.g., intentions to modify diet)
- Actions taken (e.g., increased enrollment in smoking cessation clinics)
- Policies initiated or other institutional changes made

Did It Work?

Evaluation Options Based on Available Resources (NCI 1992)

Note: The following chart uses an additive matrix from left to right (i.e., each ascending program level could be expected to include the evaluation technique described at lower levels in addition to those described at the higher level).

Types of Evaluation	Program Levels		
	Minimal Resources	Modest Resources	Substantial Resources
Formative	Readability test	Central location Intercept interviews	Focus groups Individual indepth interviews
Process	Recordkeeping (e.g., monitoring activity timetables)	Program checklist (e.g., review of adherence to programs plans)	Management audit (e.g., external management review of activities)
Outcome	Activity assessments (e.g., numbers of health screenings and outcomes or program attendance and audience response)	Progress in attaining objectives monitored (e.g., periodic calculation of percentage of aware, referred, participating)	Assessment of target audience for knowledge gain (e.g., pretest and posttest of change in knowledge)
Impact	Print media review (e.g., monitoring of content of articles appearing in newspapers)	Public surveys (e.g., telephone surveys of self- reported behavior)	Studies of public behavior/health change (e.g., data on physician visits or changes in public's health status)

Did It Work?

Factors To Consider in Midcourse Reviews

(Lum 1991)

In designing and implementing a midcourse review for risk communication program activities, several factors should be considered.

- Is the process of implementation formal or informal?
- Is control centralized or decentralized?
- Is management authoritarian or participatory?
- Is the program structure hierarchical or egalitarian?
- Is the community divisive or cohesive?
- Is the program isolated or community oriented?
- Are the methods of communication standardized or individualized?
- Is response and interaction controlled or expressive?
- Are strategies partitioned or integrated?

Did It Work?

Have We Succeeded?

(Chess and Hance 1992)

To help make adjustments, duplicate successes, and avoid repeating failures, you should plan for feedback and evaluation of your communication. This might include taking the following actions:

- pretesting of materials *before* they are printed or distributed
- handing out evaluation forms to get feedback after meetings
- debriefing agency staff after meetings or other interactions
- tracking news coverage
- asking for feedback from key people outside the agency on written materials, meeting agendas, and communication plans
- documenting communication efforts through up-to-date files and summaries
- summarizing lessons learned from communication efforts
- conducting rigorous evaluations on large-scale efforts.

Did It Work?

Evaluation Case Example: Communicating the NCI Mammography Screening Guidelines: The Practicing Physician's Perspective (NCI 1994)

Background

Before announcing its decision to drop the mammography guideline for women under age 50, the Office of Cancer Communications (OCC) at the National Cancer Institute (NCI) conducted a series of seven focus groups with obstetrician/gynecologists (ob/gyns) and primary care physicians. The purpose of the study was to (1) assess the likely impact of a change in the NCI mammography screening guidelines on physician decision making with regard to mammogram referrals, and (2) explore ways that NCI can best support physicians in their use of the new guidelines and in their communications with patients. Obtaining a better understanding of the environment in which physicians practice, including their attitudes and concerns about the new guidelines, was considered a prerequisite for developing effective communication materials.

Evaluation Approach

To achieve diversity in the seven focus groups, physicians were recruited based on a number of different variables: their practice setting (i.e., managed care and fee-for-service), length of time in practice (minimum of 5 years), patient base (minorities, low income, etc.) and sex. Physicians who had mammography equipment in their offices were excluded from participation in the study. Three of the groups were composed of full-time practicing ob/gyns or gyns; four groups were composed of primary care physicians who were either family physicians or internists. Fifty-five physicians participated; approximately one-fourth were members of a minority group.

Did It Work?

The focus groups were convened in four locations: Baltimore, Maryland; Chicago, Illinois; Omaha, Nebraska; and Newark (Wyckoff), New Jersey. Overall, these sites were selected for their geographic, ethnic, racial, and socioeconomic diversity. During the focus groups, participants were asked to react to a number of sample print materials designed to support the introduction of the revised guidelines.

Findings and Lessons Learned

- Physicians have a strong sense of responsibility with regard to screening patients for breast cancer. This reflects the high level of concern they see in their patients; in part, it reflects their concerns about liability. However, their own commitment to fighting a deadly disease has touched them professionally and in some cases personally.
- Physicians firmly believe that mammography is the only effective means of detecting breast cancer at its earliest possible stage. Moreover, physicians are convinced that early detection is the single greatest factor influencing survival.
- Physicians prefer to take a conservative approach with respect to mammography. They follow the most stringent guidelines in screening low-risk patients. For high-risk patients, they order mammograms earlier and more frequently than the guidelines specify, as is evident from their desire for more explicit recommendations for high-risk women. Physicians do not like operating “in the gray zone” where they must rely primarily on self-judgement.
- NCI’s guidelines are largely unknown to physicians, compared with those of the American Cancer Society (ACS) and the American College of Obstetricians and Gynecologists (ACOG). Lack of knowledge and familiarity with NCI may be responsible in part for physicians’ questioning whether the guideline change is politically or scientifically motivated.

Did It Work?

- Most physicians are highly resistant to decreasing their use of mammography, particularly in women under 50 years old. They indicate they would need strong, compelling evidence that mammography is either useless or harmful before they would change the way they currently practice. The scientific evidence, as presented to them, is seen as inconclusive; it does not convince them that a change in the guidelines is warranted at this time.
- It is important to physicians that their professional organizations endorse any change that takes place in the recommendations for mammography screening. Ob/gyns in particular are unlikely to support a change unless ACOG endorses it.
- Overall, the findings from the study suggest that a majority of physicians will simply ignore the new NCI guidelines and continue to practice as usual. As some physicians have realized, they can follow their current practices and still be in compliance with the new guidelines.
- Given that the communications environment is characterized by skepticism and resistance, it is likely that any communications program designed to introduce and support the guidelines will face stiff challenges. The sample materials presented in this study were largely unsuccessful because they could not overcome physicians' objections to the revised recommendation. New strategies based on what was learned about physicians as consumers in this study are now being developed.

Did It Work?

Evaluation Action Plan

Purpose

The purpose of an evaluation action plan is to assist you in identifying specific evaluation strategies for assessing how well your messages, materials, and activities were implemented and received by the target audiences.

Instructions

Ideas for Actions. Write down ideas and strategies that you might want to try in evaluating your own health risk communication program.

Action Plan. Choose two or three of your evaluation ideas and develop specific actions to implement them. Write these ideas on an action plan form. When developing your action plan, ask yourself the following questions:

Planning

- Is the action specific (Are action verbs used)?
- How much time will it take?
- Is it written so that I or someone else will know when the action occurs?



Did It Work?

Resources

- Are the skills and resources for carrying out the action available?
- Who will do it?
- Are special materials or equipment necessary?
- Is continual monitoring or followup required?

Implementation

- Do I have the authority to implement the action? If not, who does?
- How can I go about getting approval?
- What is the degree of support for my idea?
- Besides my supervisor, who will I need to sell my idea to?
- What in my organization environment might interfere with doing this?

Evaluation

- Whom will this action affect?
- How will it affect them?
- How will I measure the effects? (evaluation plan)

Did It Work?

Attributes of an Effective Risk Communication Program

(Covello, Slovic, and von Winterfeldt 1987)

When designing and evaluating communication programs' effectiveness, the following maxims may be helpful.

- The communication should be clear, understandable, informative, accurate, and concrete.
- The source of the communication should be perceived as credible and reliable.
- When the target population is not homogeneous, the message should be presented in several ways, each specifically designed for one segment of the target population.
- Whenever possible, the target population or representatives of it should be closely involved in the planning and implementation of the program. The earlier the involvement, the better. This advice particularly refers to occupational hazards, where the involvement of unions is considered essential.
- Multimode presentation is considered to be more effective than single mode presentation. This applies both to mass-media programs and to programs designed for smaller target populations. In the latter situation, face-to-face, two-way communication is also advocated.
- Feedback about the behavior change and its consequences in lowering risk is highly effective, and should be used whenever possible.
- Incentives or rewards are thought to be effective in inducing change.
- Repetitions of the message are desirable to a point; too many repetitions are ineffective or even deleterious. The optimal number of repetitions is not known.
- Certainly the message should be interesting; vividness has been shown to aid learning. But how arousing should the material be? Research results are mixed concerning the effectiveness of fear arousal.

Selected References

- Arkin E. 1991. Evaluation for risk communicators. In: Ann Fisher, Maria Pavolva, and Vincent Covello, editors. Evaluation and effective risk communications workshop proceedings. Washington, DC: U.S. Environmental Protection Agency, Pub. no. EPA/600/9-90/054, pgs. 17-18.
- Arkin E. 1992. Health communications for consumers: the role of the federal government. Testimony before the Subcommittee on Housing and Consumer Interests, House Select Committee on Aging. Washington, DC, August 5, 1992.
- Centers for Disease Control and Prevention (CDC). 1993. Health communication at CDC—CDC's health communication wheel. Atlanta: U.S. Department of Health and Human Services, Public Health Service.
- Academy for Educational Development; Johns Hopkins University; Porter/Novelli (for National AIDS Information and Education Program, Centers for Disease Control and Prevention). 1993. A workshop in developing effective educational print materials, April 1993. Washington, DC: Academy for Educational Development; John Hopkins University; Porter/Novelli.
- Chess C and Hance BJ. 1992. Communicating with the public: ten questions environmental managers should ask. New Jersey: Center for Environmental Communication, Rutgers University.
- Chess C and McCallum DB. 1992. Needs assessment for ATSDR risk communication focus groups. Atlanta: U.S. Department of Health and Human Services, Public Health Service.
- Covello VT, McCallum DB, and Pavolva MT. 1989. Principles and guidelines for improving risk communication. In: Effective risk communication: the role and responsibility of government and nongovernment organizations. New York: Plenum Press.
- Covello VT, Slovic P, and von Winterfeldt D. 1987. Risk communication: a review of the literature. Draft, pgs. 5, 58-9.
- Gatson N and Daniels P. 1988. Guidelines: writing for adults with limited reading skills. Washington, DC: U.S. Department of Agriculture, Food and Nutrition Service.
- Lum M. 1991. Benefits to conducting midcourse reviews. In: Ann Fisher, Maria Pavolva, and Vincent Covello, editors. Evaluation and effective risk communications workshop proceedings. Washington, DC: U.S. Environmental Protection Agency, Pub. no. EPA/600/9-90/054, pg. 97.
- National Cancer Institute. 1992. Making health communication programs work: a planner's guide. Washington, DC: National Cancer Institute, NIH Publication no. 92-1493, pgs. 64-65.
- National Cancer Institute. 1994. Communicating the NCI mammography screening guidelines: the practicing physician's perspective. In: Tim Tinker, editor. Case studies of applied evaluation for health risk communication (workshop proceedings). Washington, DC: U.S. Department of Health and Human Services, Public Health Service, pgs. 21-22.
- National Research Council. 1989. Improving risk communication. National Academy Press, Washington, DC, pg. 175.
- Regan MJ and Desvousges WH. 1990. Communicating environmental risks: a guide to practical evaluations. Washington, DC: U.S. Environmental Protection Agency, Pub. no. 230-01-91-001, pgs. 2-3.
- U.S. Department of Health and Human Services (DHHS). 1986. Determining risks to health: federal policy and practice. Dover, Massachusetts: Auburn House Publishing Company.