

Stage 3: Planning Activities and Strategies

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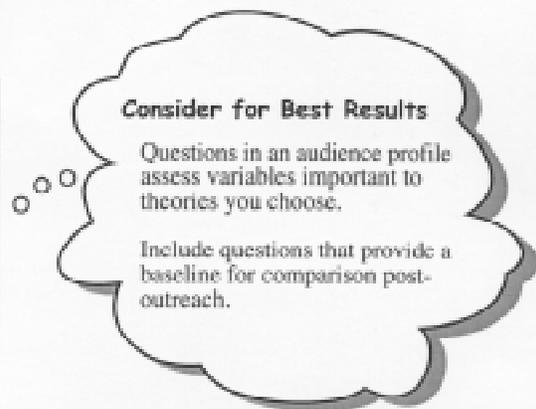
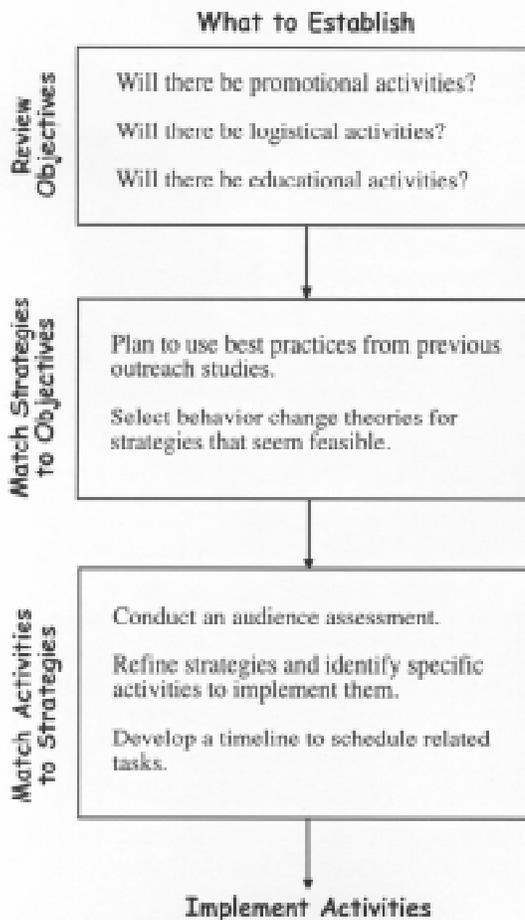
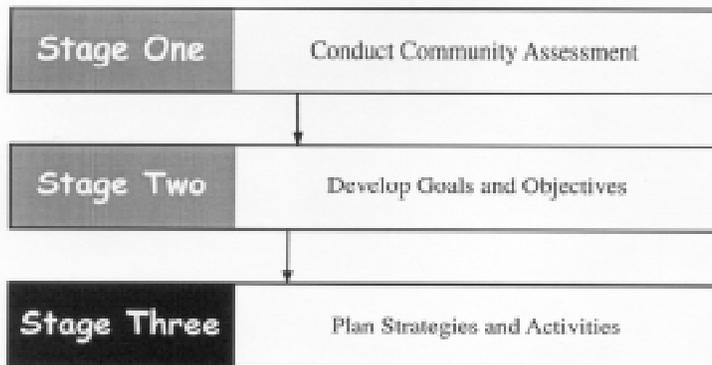
Toolkit

References and Additional Resources

Sample Outreach Strategies

Implementation Plan Work form A

Implementation Plan Work form B



With goals and objectives identified, Stage 3 includes several steps for selecting and developing effective outreach strategies and planning the activities to implement them.

Three topics are covered in this stage:

1. Theories about factors and strategies that influence behavioral and environmental changes;
2. Use of an implementation plan as an important tool for effective planning;
3. Use of evaluation to tailor outreach activities and to obtain baseline data for comparison with post outreach measures.

The major thrust of strategy and activity planning is finding those that will best address the outreach program's objectives. No single activity is likely to solve the problems of information access, as there are too many levels of need and factors contributing to the problems.

According to Marshall (1997) (1), research and evaluation studies on health sciences library outreach have identified the following barriers to effective information seeking and use:

- Lack of time
- Lack of financial resources
- Lack of interest in conducting literature searches as a basis for clinical decision-making
- Preference for synthesized information ready for application to patient care
- Lack of search skills
- Lack of equipment
- Lack of telecommunications infrastructure
- Lack of computer skills
- Lack of an onsite library
- Slow turnaround time for document delivery
- Need for non-literature types of information (networking with colleagues, statistical data, program

planning, directory and referral information)

- Increased demand on local resources without increased support

Outreach activities to address these problems, needs, and barriers generally fall into three broad categories:

- *Promotional activities* to persuade or motivate interest and awareness (e.g. exhibits, brochures);
- *Logistical activities* to facilitate adequate onsite resources (e.g. equipment, connections, development of local resources, search services, document delivery); and
- *Educational activities* to develop knowledge and skills in effective access (e.g. training classes, demonstrations).

Theories about Behavior Change

Reaching outreach objectives for improved access to health information can be challenging. Changing behavior patterns, such as information seeking behavior, requires more than just information. Strategies are needed to help motivate, facilitate, and reinforce change.

Outreach studies have identified several factors found successful in outreach initiatives (as cited by Burnham and Perry (1996)(2). These include:

- Train one-on-one
- Provide a variety of follow-up interventions
- Change information seeking behavior
- Focus on patient care
- Stress education/CME
- Provide money for computer equipment
- Identify and cultivate a site liaison

Personal contact between the target audience and librarians has also been shown to help develop and sustain changes in information seeking habits (3).

The health education theories described in this chapter both reinforce and expand upon

knowledge gained from library research about what works when trying to influence behaviors and facilitate effective access. In adapting health communications theory to information seeking behaviors, there are three factors that shape behavioral action.

- *Predisposing factors* provide the motivation or reason behind a behavior. They include knowledge, attitude, beliefs, and readiness to change.
- *Enabling factors* make it possible for a motivation to be realized; that is, they “enable” persons to act on their predisposition. Enabling factors include available resources, skills, and technology.
- *Reinforcing factors* come into play to reward a behavior, therefore increasing the probability that it will continue. Community or institutional support, peer influence, and opinion leader involvement are factors that reinforce and predispose behavior change.

According to these factors, if outreach planners hope to change behaviors, outreach strategies should address the following objectives:

- Increase awareness
- Increase knowledge
- Influence attitudes
- Influence beliefs
- Facilitate technology access
- Develop skills
- Reinforce behaviors
- Build community or institutional support

The following sections summarize five selected theories and models that will help guide strategies to address these objectives:

- Social Learning Theory
- Extended Parallel Process Model
- Stages of Change Model
- Diffusion of Innovations Theory
- Community Organization

These health education theories offer more than strategies to use when planning or

conducting activities. Each theory identifies important variables and how they work together. As will be discussed, assessing these variables in an audience assessment and then again after outreach is completed can help *explain* why outreach was successful (hopefully) or why it didn’t work as planned.

A. Social Learning Theory

In the 1970s, Albert Bandura published a comprehensive framework for understanding human behavior which he named the Social Cognitive Theory, often called Social Learning Theory (4). According to Social Learning Theory, factors that play a role in behavior change are behavioral capability, outcome expectations, self-efficacy, and observational learning (Figure 3).

Behavioral capability maintains that a person needs to know what to do and how to do it; thus, clear instructions and/or training may be needed.

Outcome expectations are the outcomes that a person thinks will occur as a result of recommended action.

Self-efficacy, which Bandura considers the single most important aspect of efforts to change behavior, is self-confidence in one’s ability to successfully perform a specific type of action.

Example: *In order for busy health professionals in tribal clinics to adopt the use and development of electronic resources, they need to know what online resources work best and how to use them properly (behavioral capability); to believe that the information they need relative to American Indian health is potentially available (expectations); and to have the confidence in themselves to refine or adjust their search queries if they face initial difficulties in getting what they need (self-efficacy).*

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With today’s overabundance of available information, people can easily feel overwhelmed and have low self-confidence in their search abilities. Without self-efficacy, people who experience failure or difficult challenges are apt to readily abandon skills they have been taught (4).

The advantages of greater self-efficacy include higher confidence in the face of obstacles and better chances of persisting over time outside a situation of formal instruction. Specific to electronic search skills, people of high efficacy are quicker to discard or refine failed strategies, do not give up as easily, are good at time management, and know how to learn from mistakes and avoid feeling deflated (5).

How can outreach activities increase self-efficacy? Self-efficacy can be nurtured

through skill development, using the techniques presented in Figure 4.

Observational learning is often referred to as “modeling,” that is, people learn what to expect through the experience of others. People can gain a concrete understanding of the consequences of their actions by noting whether modeled behaviors are desirable or not.

Observational learning is most powerful when the person being observed is respected or considered to be like the observer.

Example: *When conducting outreach to American Indian/Alaska Natives about the use of online resources for accessing health information, have a respected Native (perhaps an elder) model a prototypical search in a live or videotaped demonstration.*

Figure 3: Social Learning Theory

Variable	Concept	Outreach application
Behavioral Capability	Knowledge and skills about recommended action	Provide information and training about recommended action (e.g. online searching).
Expectations	Beliefs about likely results of action	Demonstrate searches that provide relevant results.
Self-Efficacy	Confidence in ability to take action and persist in action	Teach skills in small steps; give feedback and encouragement; give in-class exercise problems that provide challenge.
Observational Learning	Beliefs based on observing others like self	Point out others’ experience; provide demonstrations by role models (e.g. clinician, senior citizen, member of minority population) .

Figure 4 Techniques to encourage self-efficacy

Guided mastery or modeling	A person who is held in respect and is similar to the observer (student) gives a hands-on demonstration of an online search. This helps persuade students that if someone similar to them can do it, so can they. Because searching is also an intellectual skill, it is important that the model verbalize aloud how decisions are made about the search process. It is efficient and just as effective to video-tape a guided mastery session geared for a specific targeted audience (e.g. American Indians) so that live models need not be recruited for every outreach session.
Proximate goals	Class exercises are designed to help students master skills progressively. Depending on the student’s level of ability and “stage of change,” assigned tasks may range from learning to use the mouse to finding a specific answer to a clinical question. When students reach proximate goals, they benefit from self-satisfaction about their progress.
Feedback	Feedback can enhance self-efficacy by providing clear information about how to best perform a skill, and by strengthening beliefs in personal capability. Feedback may be self-demonstrated by successfully performing an assigned task. And, if students are assisted in finding alternative solutions for ineffective searches, their ability to learn from search mistakes is enhanced.

B. The Extended Parallel Process Model (EPPM)

The EPPM is a model for *motivating* action through both cognition (thoughts) and feelings (primarily fear). It is formally called a “fear appeal theory” because it focuses on the use of fear as a motivator to action. Most risks are inherently fear-producing. For example, fear might be induced by feelings of not knowing how to use the Internet, not having adequate or up-to-date information regarding patients’ conditions, or being perceived as ignorant or behind-the-times (6). The EPPM specifies how to channel that fear into productive, adaptive action. If underlying fears are not

addressed in outreach messages, they may cause one to engage in maladaptive actions such as denial of the need to learn the Internet. Thus, fear can either motivate or inhibit productive action, depending on the type of message given to clients or audience members.

According to the EPPM, some fear needs to be induced to motivate action. The theory suggests that if people do not believe there is a consequence from failing to use Internet resources (for example), they will not be motivated to use them. If, however, individuals feel sufficiently threatened by the possible consequences of not using

available resources (e.g., potential malpractice suits, falling behind in current medical knowledge, being embarrassed because everyone else has used the Web, etc.), then they will be motivated to act.

Perceived efficacy of the recommended action determines how people act (in outreach, the recommended action is to use the Internet to access health information). If people are motivated to act because they feel threatened in some way, *and* believe they are able to perform an effective recommended response to diminish this threat, then they will *control the danger* and engage in the recommended action. In this case, a person's fear motivates them to act in an adaptive, protective manner (i.e., they attend a class on how to use the Internet).

In contrast, if people feel motivated to act because they feel threatened in some way but do *not* believe they are able to engage in an effective response that would diminish the threat, they will be motivated to *control their fear* (because they feel unable to control the danger). In this case, clients or audiences might deny they need Internet resources and engage in reactance (a type of defensive reaction where individuals lash out in anger, e.g., "this is just another time waster, we want no part of it"). Figure 5 shows important definitions in the EPPM and how they might relate to outreach.

Overall, research on the EPPM has demonstrated that high threat/high efficacy messages motivate substantial and long-lasting behavioral change. See Figure 6 for examples of how outreach activities can use the EPPM theory. (Message "A" is the threat portion of the message; B-D address self-efficacy perceptions by increasing one's perceived ability to perform a recommended response; and E addresses perceived response efficacy by focusing on whether or not the recommended response "works" in averting the threat.)

Please note that threatening messages motivate action – whether positive or

negative – while audience perceptions of self-efficacy and response efficacy toward the recommended response determine whether that action is adaptive or maladaptive. For most effective outreach, develop high threat/high efficacy messages to motivate long-lasting and consistent behavioral changes.

Caution: if it is difficult or impossible to promote strong perceptions of efficacy (i.e. PubMed has the answers you need), you probably should not use fear-arousing messages which may backfire.

Decisions about using the EPPM will depend on your ability to convey motivational messages and on the relevance of using fear appeal messages with your audience. Messages can be delivered in printed educational materials, through electronic media, or in classes and demonstrations. Promote your messages through channels that are credible sources to your audience. For consumers, get cooperation for promotional messages on grocery bags, radio, or TV, or through doctors' offices or clinics. Channels that are credible sources for those in a clinical setting might be employers or colleagues, a department chair, a noted expert, a professional association, or a conference exhibit. In the American Indian/Alaska Native community, the elders might be the best source.

C. The Stages of Change Model

The Stages of Change Model provides a framework for explaining how behavior change occurs (7). As displayed in Figure 7, there are five stages of change. People at different points in the change process can benefit from different interventions, matched to their stage at that time (8).

Figure 5: Definitions from the Extended Parallel Process Model

Variable	Dimension of Variable	Definition	Outreach Application
THREAT	Severity of Threat	The severity or seriousness of the problem.	Individuals don't believe that lack of information is a serious problem; your message should outline the hazards of not being up-to-date on medical information.
	Susceptibility to Threat	The degree to which one is at risk of experiencing the problem.	Individuals don't think they themselves will experience negative consequences if they don't use the Internet; your message should give examples of people just like them who experienced negative consequences (e.g., were sued because they didn't use up-to-date medical information).
EFFICACY	Self-Efficacy	The degree to which one feels able to do what's recommended to avert the problem.	Individuals may not know where Internet resources are or how to use the Internet; messages should state where classes are held and/or give relevant sites.
	Response Efficacy	The degree to which one feels that what's recommended to avert the problem works.	Individuals may not believe the information on the www is accurate or useful; messages should give examples of how and where useful information is found and how it can be life-saving.
OUTCOME	Danger Control	Adaptive, protective actions taken when one is motivated to act and believes s/he can act.	Individuals take courses and use the Internet regularly.
	Fear Control	Maladaptive, defensive actions taken when one is motivated to act but doubts s/he can do anything (a sense of futility, hopelessness).	Individuals deny they need to use resources and/or respond defensively (and sometimes angrily) at the suggestion that these resources might be helpful; this type of response usually suggests a need to increase perceived efficacy (above).

Figure 6: Outreach Messages Using EPPM

Convey outreach “messages” in promotional materials, or during discussion in classes or demonstration workshops:

- (A) about the threat of not using the Internet;
- (B) about how easy it is to use the Internet;
- (C) about specific skills-training classes offered;
- (D) about where Internet-connected computers are located in the work setting or community, and
- (E) about the effectiveness of Internet usage in avoiding a threat (i.e., “resources on the Internet provide the most up-to-date information on how best to treat your patients”)

The principles of this theory are easily incorporated into any strategy development. Using the Stages of Change helps remind you that change is a process and not an event. For example, outreach activities may falter if you assume that your audience wants to change their information seeking behaviors and are willing to use computer resources for their work. If your assumption is incorrect and the audience is still in the Contemplation stage, they might better respond to awareness/promotional activities (e.g. a lively demonstration) that help persuade further action.

At the other end of the Stages of Change process, if outreach is not designed to include efforts for building infrastructure or follow-through, the process of change may not be maintained.

Example: Dr. Wu, a busy physician practicing in rural Montana, has not learned to use Internet resources and wonders if it would be worth his time (precontemplation). At a recent conference, he saw a demonstration of PubMed and was

impressed by how easy it is to use. In his rural practice, Dr. Wu misses the opportunities to stop colleagues in the hall for a quick consult and worries that sometimes he might not have enough information for quick decisions. He wonders if it would be worth his time to learn how to use the Internet (contemplation). He decides to look into Internet training about PubMed and signs up for a class (preparation). On the day of the training, Dr. Wu hears from the instructor that the president of his local medical society took the same class and continues to use the skills gained almost daily. Dr. Wu was asked to bring a recent patient problem. He brings a question about the accuracy of prenatal ultrasound in determining congenital hydrocephalus. The instructor shows him how to use PubMed's clinical queries and finds the information in a relevant abstract right away. Armed with this positive experience, Dr. Wu resolves to take the time in the future and begins using his computer (action). However, several weeks pass and Dr. Wu tends to put off trying it again on his own (relapse).

Figure 7: Stages of Change Model		
Variable	Concept	Outreach application
Precontemplation	Not thinking of changing a behavior	Introduce awareness of health information sources
Contemplation	Thinks about using the Internet for information access	Increase awareness of the need for change
Preparation	Makes plans to learn information seeking skills via the Internet	Facilitate computer access; offer skills training with varied formats personalized to local need
Action	Uses Internet sources when seeking new information	Assist with technical support; publish articles about search tips; train onsite liaison to offer support or provide intermediary searches
Maintenance	Continues new information seeking behaviors	Offer advanced and refresher classes; continue to partner with opinion leader advocates to reinforce new behaviors

Then, he makes a phone call to a respected colleague for a quick consult. She says she has recently taken a course on computers, and says that Dr. Wu could have gotten the answer quicker than waiting for her return phone call by looking on PubMed. With this friendly reminder, Dr. Wu tries his own search with success (success). With this success, Dr. Wu now regularly uses the Internet for questions (maintenance).

D. Diffusion of Innovations Theory

Based on social science research conducted in the 1940's by Everett Rogers, Diffusion of Innovations Theory addresses how new ideas or products spread within a society or from one society to another (9). Key principles of the diffusion process are:

- Most people consider adopting an innovation, not on the basis of scientific research by experts, but because people they respect (opinion leaders or early adopters) endorse it.
- Innovation is adopted first by people who are considered innovators (2.5% of individuals in a system). The next 13.5% to adopt an innovation are considered "early adopters."
- Critical mass is the point at which enough individuals have adopted an innovation that any further rate of adoption becomes self-sustaining. Early adopters and opinion leaders are instrumental in getting an innovation to the point of critical mass.

If the use of technology to answer health information questions is considered an innovation, the Diffusion of Innovation

theory describes a pattern of adoption followed by an outreach audience. Outreach activities should target innovators and early adopters because they can help persuade others about the benefits of using these resources, encourage continued use, and might even promote the role of the library for consultation, training, or resource access.

Example: *When planning your skills training classes, contact opinion leaders and early adopters from your audience to encourage them to help influence the success of your efforts to train end user information seeking behaviors. Suggestions for participation of opinion leaders could include:*

- *Attending a training session or providing a testimonial about their experience in using the Internet;*
- *Offering their endorsement for use in promotional literature;*
- *Agreeing to "spread the word" in conversations with colleagues about the message you want to convey (e.g., "making time to learn how to find and share useful information will help you and your patients").*

Another principle of the Diffusions of Innovation Theory states that innovations perceived by individuals as having *greater* relative advantage, compatibility, trialability, observability, and *less* complexity will be adopted more rapidly than other innovations. For illustrations of how outreach can apply this principal, see Figure 8 and other examples in Appendix E.

Figure 8: Diffusion of Innovations Theory		
Variable	Concept	Outreach application
Relative Advantage	The degree to which an innovation is seen as better than the idea, practice, program, or product it replaces	Point out unique benefits of product (e.g. PubMed), such as getting time-sensitive info faster; having access in a remote area miles from a library
Compatibility	How consistent the innovation is with values, habits, experience and needs of potential adopters	Promote products that have relevant information needed by targeted audience (e.g. AIDSLINE for an AIDS outreach program).
Complexity	How difficult the innovation is to understand and/or use	Tailor training to level of computer experience
Trialability	Extent to which the innovation can be experimented with before a commitment to adopt	Provide hands-on training for trial practice in a very safe environment (e.g. presentation at a professional staff meeting).
Observability	Extent to which the innovation provides tangible or visible results	Use relevant examples tailored to actual need of targeted audience (e.g. farm accidents for a rural Public Health department).

E. Community Organization

Community Organization is not a theory in itself, but a process by which community groups are helped to identify common problems or goals, mobilize resources, and develop and implement strategies for reaching their goals. The sense of group identity promotes motivation for change. Outreach planning may not literally strive to “organize” a community to change at a grassroots level. However, principles of community organization will help outreach planners consider a community level perspective, with measures that consider social or cultural factors of the community involved.

The conceptual framework for community organization in the public health literature is that health promotion initiatives are designed to serve communities and targeted populations, not just single individuals (8). Similarly, outreach programs with a community perspective see their work toward successful outcomes involving more than just individual change. There are various community approaches that have

key concepts in common (see Figure 9).

The process of *empowerment* is intended to stimulate problem solving and activate community members. *Community competence* is building the confidence and skills to solve problems effectively. *Participation and relevance* involve citizen activation and a collective sense of readiness for change. *Issue selection* concerns identifying “winnable battles” as a focus for action, and *critical consciousness* stresses the active search for root causes of problems (8).

According to Bowes (10), success in courting community participation can result in labor savings (through volunteers and local supervision), linking of influential community leaders to project goals, and adapting programs to local idioms. This type of “localization” can help sustain the effect of an outreach program long after outreach funding has expired.

Example: *An outreach program in the Pacific Northwest called Tribal Connections works with the communities*

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of 16 American Indian/Alaska Native tribes. The goal is to help tribes reach their own tribal-wide health information access goals (empowerment), interpreting health in the broadest sense according to the needs of each community (relevance).

The methodology is community-based, encouraging development of a sense of involvement within and across tribes (competence). It is hoped that the project will broaden its focus beyond improved network connections to improved human connections. For example, the tribes will share

development of a project website that will provide access to first hand tribal information as well as links to credible secondary resources, thereby promoting better communication between tribal communities. One of the objectives will be to create a sustainable online community of individuals interested in the promotion of tribal health. So far, one tribe reports that involvement in this project has opened doors between tribal agencies in their community; for example, it has greatly increased communication between the tribe’s Department of Health and Human Services and the school.

Figure 9: Community Organization

Concept	Definition	Outreach application
Empowerment	Process of gaining mastery and power over oneself/one’s community, to produce a change	Give individuals and communities tools and responsibility for making decisions that affect them
Community Competence	Community’s ability to engage in effective problem solving	Work with community to identify problems, create consensus, and reach goals
Participation and Relevance	Learners should be active participants, and work should “start where the people are”	Help community set goals within the context of pre-existing goals, and encourage active participation
Issue Selection	Identifying winnable, simple, specific concerns as focus of action	Assist community in examining how they can communicate the concerns, and whether success is likely

Planning for Activities

Using one or more of the above-described theories in your outreach activities will help make your efforts “theory-based.” But before deciding what theories to use, think again about your outreach objectives and the results you hope to achieve. Then, develop a written plan that will provide a roadmap for steps to implement your intended activities. The plan should summarize information gathered about the community, its members, and their needs, and include a program implementation outline and a timeline for the various activities. A written plan holds the outreach program accountable and ensures that steps are not taken randomly.

First, review your list of objectives and notice that the process and educational objectives provide an outline of the overall activities and outcomes to be achieved while the outreach is ongoing. If process and educational are accomplished, the behavioral, environmental and program objectives will hopefully result, and they are typically measured when outreach is completed, or during follow-up.

So, operation planning for your program means identifying the activities and related strategies to reach the process and educational objectives. Creating the plan helps to think through the rationale or logic about how the activities will achieve the intended results. For example, your educational objectives may be to effect the motivation and ability of your targeted audience to access health information. To do that, you will want to plan what educational activities you will conduct and what theories or best practices you will use as strategy.

Thus, when developing an implementation plan, each process and educational objective must be thought out regarding activities and strategies. Look at best practices documented in outreach studies and also

study the health education theories discussed in this chapter. Sample Outreach Strategies in Stage 3 Tool Kit presents a summary of sample strategies for factors related to outreach objectives, based on selected theories and best practices identified in this chapter. You may want to select a theory you think would make sense and then get audience feedback on variables important to the theory before deciding if and how you can apply it. One way of getting that feedback is to conduct an audience assessment, described in the next section. Tasks to obtain feedback should be included in your implementation plan.

An implementation plan in Stage Three should:

- Describe the overall community and its needs
- List program goals
- List process objectives
- List learning, behavioral, environmental, and overall program objectives
- Specify activities related to each process and educational objectives
- Specify theory-based strategies and best practices to carry out each activity
- Identify interim tasks to be accomplished (e.g., design and conduct audience assessment)
- Include a timeline
- Identify who is responsible for each activity

Implementation Plan Workforms A and B, with fill-in steps to develop an outline and a task list by activity, are included in Stage Three Toolkit.

See Appendix I for a sample implementation plan outline and Appendix J for a sample timeline by task and person responsible.

How Does an Audience Assessment Fit In?

In the library science literature, an audience assessment is typically called a “needs assessment,” gathering data about:

- Types of information needed
- Purpose
- Frequency
- Sources used (colleagues, journal articles, etc.)
- Factors determining sources used
- Previous computer experience
- Barriers to gaining access

Some of the above information may already be gathered in a community assessment (described in Stage 1) to help inform outreach program goals and objectives developed in Stage 2. For the purposes of this manual, an audience assessment is different than a community assessment; it is a type of *formative* evaluation that gathers data to refine the strategy selected for a particular outreach activity. The audience assessment may collect data about variables typically studied in “needs assessments,” but also will profile the audience according to variables relevant to the theory or theories you hope will motivate, facilitate, or reinforce information seeking behavior (see Figure 10). Thus, the audience assessment is discussed here in Stage 3 as a tool for helping to plan and develop specific outreach activities.

For example, prior to scheduling a training activity, you could ask potential class participants about their attitudes or beliefs regarding Internet use, or stage of readiness in adopting new information seeking behaviors. Based on their responses, you would then develop strategies based on the EPPM model and Stages of Change.

Collecting data on variables relevant to selected outreach theories prior to an outreach activity also provides baseline data for comparing with measurements taken after outreach has happened. For example, suppose you will be conducting a training activity to improve Internet search skills, and plan to use theory about self-efficacy. You might create a self-efficacy rating scale about Internet searching by adapting questions from the survey example in Appendix F, originally created to rate self-

efficacy in conducting a CD-ROM literature search. The factors you choose to rate self-efficacy are assessed prior to outreach to determine areas of focus needed in skills training. Based on the Social Learning Theory, ways to increase self-efficacy, such as guided mastery, proximate goals, and feedback, are used in the outreach session. Then, self-efficacy is measured again at the end of the workshop to determine if there has been any change (hopefully an increase). Called a pre-test/post-test, this type of evaluation design is typically used to assess changes that may have resulted from an outreach activity. However, it is a weak design if there is not also a control or comparison group. Please see Stage 4 for further discussion of evaluation designs.

Example: *To tailor an upcoming training workshop to the needs of participants, outreach staff conducted an audience assessment. Questions were based on several theories of behavior change. For example, outreach staff wanted to determine whether demonstrations about Pub Med would be more appropriate than starting immediately with hands-on skills training. Survey responses revealed that many had not heard of Pub Med, or thought about using it, so a lively demonstration seemed a better start. The survey also asked questions to determine baseline levels of confidence on a variety of computer and Internet skills, ranging from 1-“Barely Confident” to 5-“Very Confident.” The questions were designed with the intention of asking them again at the completion of outreach. With that data, outreach staff developed a followup hands-on workshop that focused on skills needing attention. The workshop also included demonstration searches by a local health provider from the tribe (following the principle of observational learning in Social Learning Theory).*

Finally, using the Diffusion of Innovations principle that suggests people are more likely to adopt an innovation if there is a perceived advantage, another audience

assessment question asked for specific examples of a recent time when information was needed but not found. These responses were later used to develop search examples based on actual need and to show where Internet resources would have helped.

How is an Audience Assessment Conducted?

Decisions about how to gather data for an audience assessment will depend on how that data will be used. The discussion in Stage 1 about exploratory versus representative data gathering also applies to audience assessments. Most of the time, outreach programs will not have the resources or need to conduct representative data gathering, such as rigorous survey research, where generalizations are made to a larger population based on statistically valid results. Results from an audience

assessment are used to tailor a specific outreach activity, so gathering generalizable data is really not needed or appropriate. Informal feedback questionnaires or exploratory research, such as open ended questions, interviews, or focus groups, will serve the purpose of gaining a better understanding of your specific audience to help improve the strategy you plan to use.

If you plan to repeat the audience assessment questions post-outreach, conducting pre- and post-interviews or feedback questionnaires might be easier than pre- and post-focus groups. Appendix G presents sample questions to ask for each theory to be used. Appendix H provides a sample audience assessment survey. On the sample survey, note that some questions are designed to be asked again on a post-outreach evaluation.

Figure 10: Theory-based variables

Social Learning Theory

- How much skill and knowledge does the audience have about finding health information on the Internet? (*behavioral capability*)
- Do they expect that the information they need exists and is available? (*expectations*)
- How effective do they feel they are themselves in finding health information on the Internet? (*self-efficacy*)

• **Extended Parallel Process Model**

- Does the audience perceive any negative consequences for being misinformed or lacking information? (*perceived threat*)
- Does the audience believe that using information technology works in accessing accurate health information? (*perceived response efficacy*)
- Does the audience believe they have the access, skills, and knowledge needed to effectively use information technology? (*perceived self-efficacy*)

• **Stages of Change Model**

- At what stage of readiness are they in using Internet or email (*precontemplation, contemplation, preparation, action, maintenance*)

• **Diffusion of Innovation**

- Who are their opinion leaders?
- What people or groups might be influential or motivate their use of electronic resources?
- How might Internet-based resources be presented so that the audience perceives them to have greater advantage, compatibility, trialability, observability, and less complexity than alternative sources?

References

1. Marshall JG. A review of health sciences library outreach and evaluation. Seattle, WA: National Network of Libraries of Medicine/Pacific Northwest Region Web site. <http://www.nlm.nih.gov/pnr/eval/marshall.html>, 1997.
2. Burnham J, Perry M. Promotion of health information access via Grateful Med and Loansome Doc: Why isn't it working? *Bulletin of the Medical Library Association* 1996;84(4):498-506.
3. Dorsch J. Equalizing rural health professionals' information access: lessons from a follow-up outreach project. *Bulletin of the Medical Library Association* 1997;85(1):39-47.
4. Bandura A. *Self-efficacy: The exercise of control*. New York: W.H. Freeman and Co., 1997.
5. Debowski S, Wood R, Bandura A. Impact of guided mastery and enactive exploration on self-regulatory mechanisms and knowledge construction through electronic inquiry. in press.
6. Witte K. Theory-based interventions and evaluation of outreach efforts. Seattle, WA: National Network of Libraries of Medicine, Pacific Northwest Region Web site. <http://www.nlm.nih.gov/pnr/eval/witte.html>, 1998.
7. DiClemente CC, Prochaska JO. Processes and stages of change: Coping and competence in smoking behavior change. In: Shiffman S, Willis, T.A., ed. *Coping and substance abuse*. San Diego: Academic Press, 1985:319-334.
8. Glanz K, Rimer BK. *Theory at a Glance: a guide for health promotion practice*. <http://rex.nci.nih.gov/NCI%5FPub%5FInterface/Theory%5Fat%5Fglance/HOME.html>. U.S. Public Health Service: National Institutes of Health, September 1997:17.
9. Rogers EM, Scott KL. The Diffusion of Innovations Model and Outreach from the National Network of Libraries of Medicine to Native American Communities. Seattle, WA: National Network of Libraries of Medicine, Pacific Northwest Region Web site. <http://www.nlm.nih.gov/pnr/eval/rogers.html>, 1997.
10. Bowes JE. *Communication and Community Development for Health Information: Constructs and Models for Evaluation*. Seattle, WA: National Network of Libraries of Medicine, Pacific Northwest Region Web site. <http://www.nlm.nih.gov/pnr/eval/bowes/>, 1998.

Behavior Change Theories

Diffusion of Innovations Theory

Rogers, E. M. (1962). *Diffusion of Innovation*. Glencoe, Ill, The Free Press.

Rogers, E. M. (1971). *Communication of Innovations*. New York, The Free Press.

Rogers, E. M. and K. L. Scott (1997). *The Diffusion of Innovations Model and Outreach from the National Network of Libraries of Medicine to Native American Communities*.

Community Organization

Baldwin, G. D. (1998). *Planning and evaluating information outreach among minority communities: Model development based on Native Americans in the Pacific Northwest*.

Bowes, J. E. (1998). *Communication and Community Development for Health Information: Constructs and Models for Evaluation*.

Bracht, N. (1990). Health Promotion at the Community Level. Newbury Park, CA, Sage Publications.

Steckler, A., J. P. Allevante, et al. (1995). "Health education intervention strategies: Recommendations for future research." *Health Education Quarterly* 22(3): 307-328.

Extended Parallel Process Model

Witte, K. (1998). Theory based interventions and evaluations of outreach efforts. National Network of Libraries of Medicine/Pacific Northwest Region Web site. Available at: <http://www.nlm.nlm.nih.gov/pnr/eval/witte.html>.

Additional articles about EPPM on Kim Witte's Website, under "Research" at: <http://www.msu.edu/~wittek/index.htm>.

Social Learning Theory

Bandura, A. (1997). Self-efficacy: The exercise of control. New York, W.H. Freeman and Co.

Debowski, S., R. Wood, et al. (in press). "Impact of guided mastery and enactive exploration on self-exploration on self-regulatory mechanisms and knowledge construction through electronic inquiry."

Stages of Change Model

DiClemente, C. C. and J. O. Prochaska (1985). Processes and stages of change: Coping and competence in smoking behavior change. *Coping and substance abuse*. S. Shiffman, Willis, T.A. San Diego, Academic Press: 319-334.

Stage 3: Tool Kit – Sample outreach strategies

Sample outreach strategies	
Objectives	Sample Strategies from Theory and Best Practices
<p>Increase awareness</p> <p>Increase knowledge</p> <p>Influence attitude</p> <p>Influence beliefs</p>	<p>Based on <i>Stages of Change Model</i>, assess audience awareness and readiness for learning new skills or adopting new technology. Then determine priority activities. For example:</p> <ul style="list-style-type: none"> ➤ If a site has little technology and technical support but great motivation and interest in accessing information resources, the outreach priorities might be to first facilitate access and then motivate and train individuals to use the access effectively. ➤ However, if technology is lacking and users are not aware of the benefits that access can provide, your first focus would be on activities to promote awareness and interest in outreach products and services. <p>Based on <i>Extended Parallel Process Model</i>, influence attitudes and beliefs by first assessing the audience on threat and efficacy variables. Then, convey messages about the threat of being misinformed or out-of-date and about effective ways to cope, such as learning easy-to-use and convenient Internet resources.</p> <ul style="list-style-type: none"> ➤ Messages can be delivered in print or electronic media, or in classes and demonstrations. ➤ Use channels credible to audience, e.g., employers, colleagues, department chair, community leader, tribal elder, noted expert, professional association, conference exhibit. For consumers, channels could be grocery bags, radio, TV, or doctor’s offices or clinics. <p>Based on <i>Diffusion of Innovations Theory</i>, identify opinion leaders and early adopters who will recruit outreach participants by way of mutual influence and respect; and who can help generate attitudes that electronic access can provide a better and easier way to get relevant information.</p> <p>Based on library outreach research, use a variety of promotion methods</p>
<p>Develop skills</p> <p>Facilitate access</p>	<p>Based on <i>Social Learning Theory</i>, provide training that will increase self-perception of ability by:</p> <ul style="list-style-type: none"> ➤ Having someone who is respected or similar to the student give hands-on demonstrations, verbalizing aloud as decisions for search formulation are made; ➤ Using proximate goals designed to help students master skills progressively, and feedback to encourage self-efficacy; ➤ Demonstrating searches that are very relevant to audience needs; ➤ Assisting students in refining searches, thereby learning from mistakes. <p>Based on <i>Stages of Change Model</i>, support the “taking action” stage by providing or training onsite technical support, publishing search tips, or providing intermediary searches.</p>
<p>Reinforce behaviors</p> <p>Build community or institutional support</p>	<p>Based on library outreach research, provide money for computer equipment.</p> <p>Based on <i>Community Organization</i>, involve stakeholders in decisions about hardware use and location</p> <p>Based on <i>Stages of Change Model</i> and library outreach research, encourage maintenance of behavior changes by offering advanced and refresher classes.</p> <p>Based on <i>Diffusion of Innovations Theory</i>, recruit opinion leaders and early adopters to encourage and reinforce new information seeking behaviors.</p>

IMPLEMENTATION PLAN WORKFORM A: List Goals, Objectives, Activities and Strategies

Outreach goal # __ : _____

Process objective # __ : _____

Activity: _____

Strategy: _____

Process objective # __ : _____

Activity: _____

Strategy: _____

Process objective # __ : _____

Activity: _____

Strategy: _____

Educational Objective# __ : _____

Activity: _____

Strategy: _____

Educational Objective# __ : _____

Activity: _____

Strategy: _____

Educational Objective# __ : _____

Activity: _____

Strategy: _____

Educational Objective# __ : _____

Activity: _____

Strategy: _____

Etc.

Stage 3: Tool Kit – Implementation Workform

IMPLEMENTATION PLAN WORKFORM B: List tasks by activity, with person responsible, and according to a timeline

Task	Person	Month											
		1	2	3	4	5	6	7	8	9	10	11	12

