READING AND ACCESS EVALUATIONS

DESIGNING BEHAVIOR CHANGE COMMUNICATION INTERVENTIONS IN EDUCATION: A PRACTITIONER'S GUIDE

DRAFT

Contract No. GS-10F-0033M/AID-OAA-M-13-00010

August 2014

This publication was produced for review by the United States Agency for International Development. It was prepared by Yvonne Cao, Aparna Ramesh, Gary Saffitz, Everold Hosein, Alicia Menendez and Varuni Dayaratna at NORC at the University of Chicago and by Karen Schmidt and Joseph DeStefano at RTI International. The authors' views expressed in this publication do not necessarily reflect the views of the of the United States Agency for International Development or the United States Government

CONTENTS

1. INTRODUCTION **5**

Why are we interested in strategic communication for behavioral outcomes? 5

Outline of the report 7

2. WHAT IS BEHAVIOR? BEHAVIORAL FRAMEWORKS, THEORIES AND MODELS OF CHANGE **8**

Behavioral Theories: What are the factors that influence behavior? 9

Behavior Change Theories: What is the process of behavior adoption and maintenance? 12

How can these models be used to design an intervention? 16

3. HOW TO DESIGN A BEHAVIOR CHANGE INTERVENTION? **17**

Step 1: Identify Specific Behavioral Objectives (SBOs) and Understand the Audience 18

Step 2: Design the strategy 21

Features of Successful Interventions 25

Steps 3 and 4: Develop and Test; Implement and Monitor 28

Step 5: Evaluate impact 29

4. CONCLUSIONS **31**

REFERENCES **32**

AUTHORS

This report is based on two original papers written by NORC at the University of Chicago and by RTI International. The paper by NORC at the University of Chicago was written by Yvonne Cao, Principal Research Analyst at NORC, Aparna Ramesh, Research Analyst at NORC, Dr. Alicia Menendez, Research Associate Professor of Economics at the Harris School of Public Policy and Department of Economics at the University of Chicago and Principal Research Scientist at NORC and Varuni Dayaratna, Associate Director of the International Projects department at NORC. Gary Saffitz, expert in social marketing and behavior change communication and Deputy Director/Associate Director of the Johns Hopkins Center for Communication Programs from 1998-2010, and Dr. Everold Hosein, who developed the COMBI approach for WHO and who has consulted extensively for WHO, UNICEF and other international agencies, provided expertise in strategic communication for behavioral impact. The paper by RTI International was written by Karen Schmidt, an expert in global health and behavior change communication with 15 years' experience designing and implementing health projects in sub-Sarah Africa, and Joseph DeStefano, Director of Policy, Systems and Governance in International Education at RTI. Content for Section 2 and Section 3, Step 2 was primarily based on the RTI paper. Content for Sections 3, Step 1, Step 3, Step 4 and Step 5 was primarily based on the NORC paper. The combination of the RTI and NORC papers was led by NORC at the University of Chicago, in collaboration with RTI.

LIST OF ACRONYMS

BCC	Behavior Change Communication
COMBI	Communication for Behavioral Impact
HBM	Health Belief Model
NORC	NORC at the University of Chicago
RTI	Research Triangle Institute
SBCC	Social and Behavior Change Communication
SBO	Specific Behavioral Objective
SCT	Social Cognitive Theory
UNICEF	United Nations Children's Fund
USAID	United States Agency for International Development
WHO	World Health Organization

1. INTRODUCTION

In 2011, USAID issued a new four-year education strategy to ensure that investments are coordinated to achieve measurable and sustainable educational outcomes. To this end, USAID selected three strategic goals:

- ➢ Goal One: Improved reading skills for 100 million children in primary grades by 2015;
- ➢ Goal Two: Improved ability of tertiary and workforce development programs to produce a workforce with relevant skills to support country development goals by 2015; and
- ➢ Goal Three: Increased equitable access to education in crisis and conflict environments for 15 million learners by 2015.

In relation to Goal 1, USAID expressed particular interest in advancing knowledge regarding the potential role of strategic communication in encouraging target audiences (parents, teachers, students) to adopt and maintain effective behaviors that support children's literacy acquisition.

Why are we interested in strategic communication for behavioral outcomes?

Most education interventions attempt to modify behavior, whether the behavior of teachers, students, parents or other community members. For instance, teacher trainings aim to encourage participants to apply techniques taught, provision of instructional materials is aimed at promoting their use by teachers and students, and read-a-thons aim to catalyze children's reading outside of school. All of these behavioral outcomes in turn are directed at improving literacy outcomes. Changing individual and group behavior is often necessary for the effective delivery of policy outcomes (Darnton, 2008). However, while it is relatively easy to share information and raise awareness, it is much more difficult to achieve behavior change. An individual’s decision to act upon information, change or drop an existing behavior, adopt a new behavior, and maintain this behavior is in fact influenced by a myriad of factors such as knowledge, attitudes, perceived social expectations/norms, and cultural practices.

The public health sector recognized early on that behavior is complex and that interventions targeted at impacting behavior should be informed by behavioral frameworks and theories. It also recognized that the use of strategic communication rooted in behavioral theory holds great potential for achieving behavior adoption and maintenance. Furthermore, the sector recognized that households play a key role in the production of good health and that interventions should target not only health delivery systems but also the recipients of these services.

Early interventions in public health focused mostly on health services delivery by improving medical facilities, clinical practice, clinical skills and facility-based patient education. Over the years, the public health sector has recognized the limited success of such interventions based on supply and inputs, and has become increasingly aware of the key role of the demand side of health, which is centered on the household. The sector recognized that prevention behaviors, health seeking behaviors, efficacy in health decision making and changes in some traditional practices would lead to even greater health outcomes,

all of which originate at the consumer level: the individual, household and community levels. This shift from purely supply-driven interventions to demand-driven interventions prompted the use of communication strategies to influence individual, household and community behavior. Early efforts in health communication used an educational approach, assuming that a rational person would promptly act on information about how to improve his or her health. It quickly became apparent that it was not the case and that more well-thought out communication strategies were needed. Today, individual- and household-focused “demand side” communication strategies are often fully integrated with the supply side of health, creating a more robust system where individuals, families, communities, and health providers all play critical roles in improving health practices and outcomes.

To date, the majority of investments to improve the quality of education have focused on improving schools, teachers, curriculum, teaching skills, all of which focus on the service delivery of education, i.e. the "supply side". Although teaching and learning is improving through such efforts in some contexts, absolute levels of early grade reading skills remain low in many developing countries. Given the challenges that students face in learning how to read in school settings, there may be opportunities for out-of-school interventions to enhance learning through greater parental and community involvement and a stronger focus on the "demand side". The education sector may be able to borrow from the public health sector to explore how best to influence individuals, households and communities with a focus on attitudes, values, behaviors, self-efficacy, social norms, and the immediate environment all of which likely play a significant role towards achieving greater early reading and early education outcomes.

Furthermore, while strategic communication has mostly been used to influence "demand-side" household behavior, it can also be used to influence the behavior of service delivery "supply-side" players. In the health sector, strategic communication is used not only to increase positive health seeking behaviors but also positive health delivery behaviors by doctors/nurses and other health practitioners. Similarly in education, strategic communication can be used to influence the behaviors of individuals, households and communities as well as the delivery of quality education by teachers, principals and other education practitioners through the application of better teaching techniques, the use of teaching materials, etc – all of which are behaviors that can be promoted/improved by communication interventions within larger education programs.

Due to decades of work, the public health sector has amassed a large amount of evidence on what forms of strategic communication are most effective at encouraging individuals to implement and sustain healthy behaviors. Early models of communication which assumed a simple relationship between knowledge and action were replaced by strategic communication theories and models such as Communication for Behavioral Impact (COMBI) developed at NYU and used extensively by the World Health Organization, or Social and Behavior Change Communication (SBCC) which has been advanced at the Johns Hopkins Bloomberg School of Public Health’s Center for Communication Programs (JHU-CCP). SBCC is defined as "the systematic application of interactive, theory-based, and research-driven

communication processes and strategies to address tipping points for change at the individual, community, and social levels."[1]

There is promise for using these and other behavioral frameworks to design communication strategies for achieving greater outcomes in other fields as well, including education. For instance, the USAID-funded Health Communication Capacity Collaboration (HC3)[2] project, based at JHU-CCP, offers expertise in SBCC for gender equity, environment and democracy and governance, while UNICEF uses an agency-wide strategy called Communication for Development, C4D, to adapt and strengthen communication in order to help programs achieve their objectives in education, gender equity, child protection, early childhood development, advocacy, etc. The Communication for Behavioral Impact (COMBI) methodology has also been used in early childhood programs by UNICEF (e.g. in UNICEF/Moldova to get parents to hug, play with and read to their children). However, the evidence in these other fields and, in particular, education is not as well established and documentation/evaluation of such initiatives is sparse.

The goal of this report is to provide an introductory base to education practitioners who are interested in using strategic communication to promote certain behaviors among specific target audiences to improve education outcomes. The report provides a theoretical foundation on the determinants of behavior and the process of behavior change, and gives practical guidance on how to design a strategic communication intervention with some examples from health and education. Whenever possible, illustrative examples using early grade reading are given.

Outline of the report

The report is organized as follows:

- Section 2 introduces some behavioral theories and models of behavior change.
- Section 3 describes the process of designing an intervention using behavior change communication strategies: (1) identifying the specific behavioral objectives and conducting the formative research to understand barriers and facilitators to behavior adoption, (2) designing the strategy, (3) testing the strategy, (4) implementing and monitoring and (5) evaluating the intervention.
- Section 4 concludes.

[1] https://www.c-changeprogram.org/sites/default/files/sbcc_module0_intro.pdf
[2] http://www.healthcommcapacity.org/

2. BEHAVIORAL FRAMEWORKS, THEORIES AND MODELS OF CHANGE

Strategic communication frameworks based on behavioral models and theories are based on the premise that information and knowledge alone are not sufficient for behavior change, adoption and maintenance. Teachers may not implement the best teaching techniques, caregivers may not wash their hands before handling food, and students may not do their homework despite the dissemination of information and instructions by education officials and healthcare providers. While it is relatively easy to share information and raise awareness, it is much more difficult to achieve behavior change. Human behavior is a complex process influenced by many factors related to knowledge, attitudes, norms and cultural practices as well as level of effort needed and personal preferences. Early efforts in health communication assumed a simple relationship between knowledge and action and that a rational individual will act on information about how to improve his or her health. This early simplistic view of behavior adoption has now been replaced by a better understanding of the complex social, cultural and economic factors at work, what Glanz and Bishop (2012) call "multiple determinants and multiple levels of determinants of health and health behavior."

Such multiple determinants likely apply in the field of education as well. The simple behavior of doing homework is likely influenced by parental attitudes, peers, social expectations, competing demands, perceived values, access to light and electricity, nutritional status/health, and a number of other factors. To understand these multiple determinants of behavior, a theoretical foundation is useful. Interventions developed with an explicit theoretical foundation are more effective and strategies combining multiple theories and concepts often have larger effects. An intervention designed through the lens of a behavioral framework uses behavior theories and models to understand in a systematic manner the facilitators and barriers to behavior change. This understanding of the situation is in turn critical for designing an integrated communication plan and overall program strategy that can overcome barriers while taking advantage of opportunities to facilitate change in order the maximize the likelihood of changing behavior.

In discussing behavioral models, it is useful to distinguish between:

- **Behavioral theories that seek to explain human behaviors and** which are diagnostic and aim to explain the determinants of behavior
- **Behavioral models that seek to explain the process of** behavior adoption and maintenance

Both behavioral theories and models of behavior change are complementary and also have considerable amount of overlap (Darnton, 2008)[3]. Both types are useful in designing behavior change interventions.

[3] For a review of over 60 social-psychological models and theories of behavior, see Darnton 2008.

These models typically consider factors affecting behaviors at three different levels:

(1) **The personal, individual level**, which includes a person's level of knowledge, self-efficacy (i.e. belief in his or her ability to change behaviors) and level of effort necessary to implement the behavior;
(2) **The social level** which takes into account how individuals and the larger social/community context relate to one another in terms of norms, attitudes and cultural practices; and
(3) **The environmental level** which can include local environmental factors as well as macro environmental factors such as the economy or political environment (COI, 2009).

Why use behavioral theories and models?

Theories and models can help answer key questions, such as:
• Why a problem exists
• Whom to select as a key target for making/leading change
• What you need to know about the population/intended audience before taking action
• How to reach people and make an impact
• Which strategies are most likely to cause change

Reviewing theories and models can suggest factors to consider as you formulate your objectives and strategic approach, and can help you determine whether specific ideas are likely to work. Theories and models can guide message and materials development, and are also useful when you decide what to evaluate and how to design evaluation tools. (Adapted from *Making Health Communication Programs Work*).

Is it generally agreed that the most effective interventions need to take all three levels into account in order to effect sustainable change. Furthermore, other major crosscutting concepts in these behavioral models include:

- Behavior change as a multi-stage process, not an event;
- The distinction between forming an intention and completing an action;
- The difference between changing a behavior and maintaining it (Glanz & Bishop, 2012).

Behavioral Theories: What are the factors that influence behavior?

Behavioral theories, also called "explanatory" or "predictive" theories, seek to explain the determinants of behavior. They are useful for understanding why people perform or don't perform a particular behavior and are essential for guiding the formative steps of designing an intervention. A large number of behavioral theories have been developed over the years. The dominant explanatory theories in recent years have been the Health Belief Model and Social Cognitive Theory; the Integrative Model combines elements of those and five other theories.

The **Health Belief Model** (HBM) suggests that an individual's readiness to take action is a function of:

- The perceived susceptibility to the condition;
- The perceived severity of the condition;
- The benefits of and barriers to taking action;
- Cues to action;

- Self-efficacy.

The HBM is most often applied for prevention-related and asymptomatic conditions, where immediate positive feedback from the behavior change is not likely.

Social Cognitive Theory (SCT), developed by Bandura in the 1960's, is an updated version of social learning theory that explains behavior in terms of the continual interaction between individual factors, environmental influences, and behavior.

One of the core concepts of the model is that people learn not just from personal experience but also by observing others' actions and results. Key constructs include observational learning, reinforcement, self-control and self-efficacy, as well as the notion that a person can be both an agent of change and a responder to change (reciprocal determinism). In this model, behavior, personal factors and environmental factors influence one another. Behavior modification based on SCT often includes a process of modeling, rehearsal, and feedback on performance, as well as cues to action, goal-setting, behavioral contracting, and self-monitoring.

Social Cognitive Theory in Practice:

A responsive feeding intervention in a food-insecure region of Bangladesh used social cognitive theory to improve mothers' recognition of child cues and psychomotor abilities, in an effort to improve mothers' verbal responsiveness and to encourage children to self-feed. The six-week intervention included modeling, coached practice, problem-solving and peer support; in a group setting, peer educators demonstrated feeding techniques with one child, and then coached mothers as they practiced with their own children. Discussion during the group session included problem solving and message reinforcement, and special emphasis was placed on mothers' verbal responses to their children after they took or refused a mouthful. (Aboud et al, 2009)

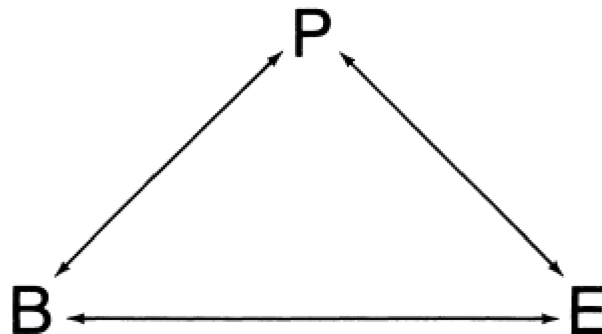
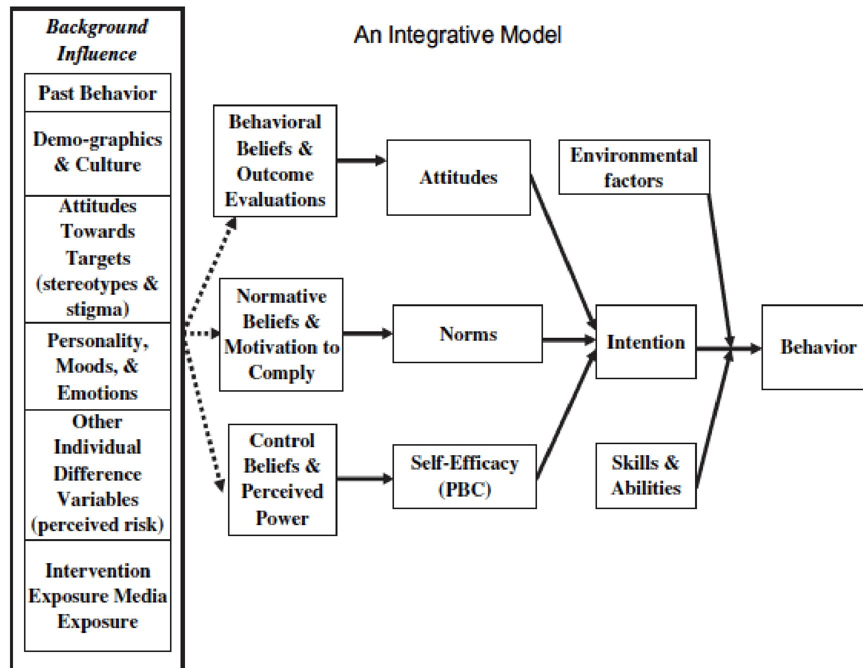


Figure 1. **Schematization of the relations among behavior (B), cognitive and other personal factors (P), and the external environment (E).**

Source: Wood and Bandura (2002). Social Cognitive Theory of Organizational Management.
http://www.uky.edu/~eushe2/Bandura/Bandura1989AMR

The Integrative Model is based on Fishbein's review of the Health Belief Model, Social Cognitive Theory and five other major behavior prediction theories. It integrates the variables that are believed to be critical for understanding and predicting behavior. The Integrative Model predicts that people "*act on their intentions when they have the necessary skills and when environmental factors do not impede behavioral performance*" (Yzer, 2012).



Source: Fishbein & Cappella (2006)

Intention, environmental constraints, and skills all directly affect the behavior, so all must be considered in any behavior change intervention. However, intention is the only one of the three that can be influenced solely through communication, so understanding the factors that influence intention is critical to designing effective interventions. Intention is influenced by several layers of factors, including:

- attitude, defined as one's overall favorable or unfavorable feelings towards the behavior;
- norms, or perceptions of what others think one should do and perceptions of what others are doing; and
- self-efficacy, or confidence in one's ability to perform the behavior, even under difficult circumstances.

Attitudes, norms and self-efficacy are in turn influenced by beliefs about each of these factors, and the beliefs are affected by external variables such as demographics and culture. Fishbein argues that beliefs are the most effective target for persuasive communications. For example, an attitudinal belief related to early grade reading might be, "my child will do better in school if she learns to read well by second

grade" or "my child should not spend time reading for pleasure when there are chores to be done." A normative belief may be, "my neighbors will think I am a bad mother if I don't read with my child," and a control belief might be, "I don't know how to read so there is nothing I can do to help my child learn to read." These beliefs would be identified in formative research before any intervention would be designed.

Additionally, Fishbein defines four components of a behavior: the action, the target, the context, and time. He cites getting a mammogram as an example: the action is "getting," the target is the mammogram, the context is a radiology office or other venue, and the time refers to when a woman gets a mammogram—never, once a year, in the next three months, etc. In the present case of early-grade reading, the desired behavior could break down as follows: the action is reading; the target is a non-school book; the context is at home; and the time is every day for 30 minutes.

Finally, a 2008 publication from Johns Hopkins University (Salem et al) drew from various theories to summarize eight factors that best explain and predict behavior. Most of these align with the Integrative Model. The first three are the factors that directly influence behavior:

- Intention to perform the behavior
- Environmental or external constraints and barriers
- Skills needed to perform the behavior

Three other factors are, in the Integrative Model, those that are influenced by beliefs and in turn influence intention:

- Attitude or belief that the benefits of the behavior outweigh the risks or costs;
- Perceived social or normative pressure;
- Self-efficacy (a person's confidence in her ability to take action and maintain the behavior).

The Hopkins publication adds two other factors:

- Self-image, which would fall into the category of beliefs in the Integrative Model: People have certain beliefs about how a given behavior might affect their self-image (for example, "if I read to my child I will see myself as a good parent" or "Smoking makes me cool so I don't want to quit").
- Emotional reaction, which would fall in the "background influence" category in the Integrative Model. It should also be noted that beliefs can be strongly influenced by emotion, which is why behavior change communication often seeks to elicit an emotional reaction.

Behavior Change Theories: What is the process of behavior adoption and maintenance?

Theories of behavior change are useful for understanding how individuals adopt and maintain behaviors. While descriptive models help to explain the determinants of behavior, behavior change theories can

guide the strategies to be used in an intervention. Below we present three main models which describe behavior change at different levels: at the individual level, at the community/social level, and at the level of interaction between individuals, communities and other levels such as government and public policy.

At the individual level, the **Stages of Change model** (also known as the Transtheoretical model) describes the steps that one experiences to adopt a new behavior over time. People often move back and forth between stages before reaching the maintenance stage:

1. Pre-contemplation: no need or interest in changing
2. Contemplation: willing to consider the need for change
3. Preparation: intend to take action
4. Action: observable action taken
5. Maintenance: observable action taken and working to prevent relapse

Hand washing promotion in Dhaka, Bangladesh:

In a successful study to promote hand washing or use of hand sanitizer in low-income communities in Dhaka, Bangladesh, researchers used the Stages of Change model to phase the intervention. They started with initial community meetings designed to create basic awareness to move residents from the pre-contemplation to the contemplation stage. In the next phase, field workers explained and demonstrated the use of soap or hand sanitizer to move the residents to the preparation stage, and then, importantly, provided supplies and cues to action for the action and maintenance stages. (Luby et al, 2010)

This model is useful for understanding the readiness of the target audience to adopt a new behavior and for identifying the point in the process at which interventions will be most effective. For example, if there is no perceived need or interest in changing, communication interventions may focus on improving knowledge and understanding of the need to and benefits of change. If knowledge is high, the interventions may focus on attitudes and facilitating the desire to change, along with building skills and self-efficacy. If the change is being made, but is episodic or has a low immediate benefit, interventions may focus on reinforcement and shifting perceived social norms. In some cases, another (and final) stage of change may be that of advocate, for instance smokers who have successfully quit and can encourage others to do so or mothers who delivered in attended facilities and encourage their daughters to do so. Personal advocacy can further drive and reinforce change at the household and community level and often leads to social and normative changes.

At the community/social level, the **Diffusion of Innovation (DOI) Theory** (Rogers 1995) describes how the adoption of behavior happens through *social networks* over time. Everett Rogers first proposed his diffusion theory in 1962, positing that adopters of any new innovation or idea can be categorized based on standard deviations from the mean as:

1. Innovators
2. Early adopters

3. Early majority
4. Late majority
5. Laggards

Innovators and early adopters tend to be better educated, and “they may be convinced by rational arguments, have a social network that supports change, and some self-efficacy to try the new practice before accepting or rejecting it. In contrast, late adopters may not adopt a new practice or product quickly because it requires some cognitive effort and social support to recall the message in the right context, to inhibit the old habit, and to initiate the new one.” (Aboud and Singla, 2012) The innovators and early adopters usually constitute the first 20% while the laggards constitute the last 20% of adopters (some may never adopt the new behavior).

Willingness and ability to adopt an innovation depends on awareness, interest, evaluation, trial, and adoption. In addition to the segmentation of the population into innovators, early adopters, early majority, late majority and laggards, another element of the model explains the process through which people decide whether or not to adopt a new behavior. This process is similar to the Stages of Change model and comprises the following steps: (1) knowledge, (2) persuasion, (3) decision, (4) implementation, and (5) confirmation.

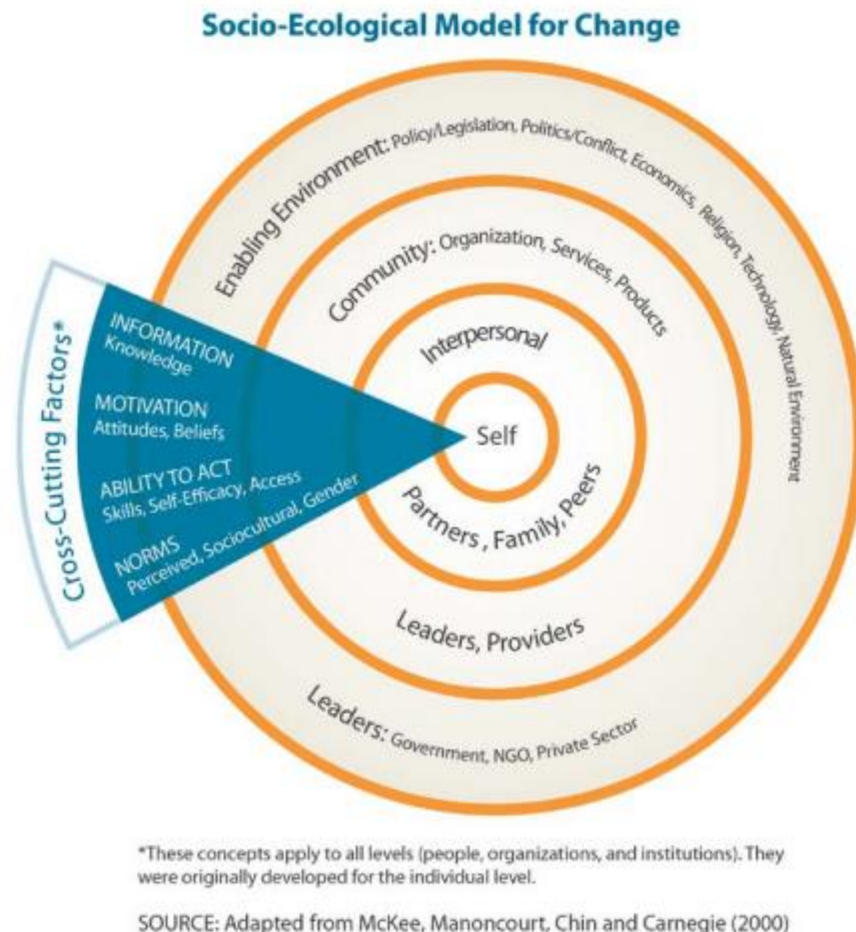
DOI is often used in developing countries because of its focus on social structure and social networks. Social Network Theory extends and accelerates Diffusion of Innovation and includes an effort to recruit isolated individuals and cliques. “The relationships and interactions that occur within social networks are of paramount importance to health because they not only transmit knowledge about illnesses and diseases, but also signal what is perceived to be socially acceptable and ‘normal’ behavior” (Goldberg 2013).

The Stages of Change model describes how behavior change can happen for an individual and the Diffusion of Innovation model considers social networks as central to behavior change. Of course, social networks are composed of different individuals and one could combine both models as they provide slightly different perspectives for thinking about behavior change. Furthermore, individual and community behaviors take place within a larger context and set of influences. The**Social Ecological Models** function as both “why” and “how” theories by emphasizing the multiple levels of influence, from the personal to community to health or education delivery systems to public policy, and the idea that behaviors shape and are shaped by the social environment.

An example of a Social Ecological Model is the one developed by the C-Change program[4] which helps to identify effective tipping points for change by assessing individual knowledge and motivation as well as

[4] C-Change is a USAID-funded project to improve the effectiveness and sustainability of social and behavior change communication across development sectors. It is implemented by FHI360 and its partners. More information can be found here: https://c-changeprogram.org/

social, cultural and gender norms, skills, physical and economic access. The Pathways Model, developed by the Center for Communication Programs at Johns Hopkins University and described further in Section 3, is based on the Social Ecological Models and serves as a tool for intervention design and implementation by providing a dynamic overview to explain how inputs lead to outputs and outcomes at the different levels represented by the Social Ecological model[5].



This model has two components:

1. Levels of analysis (the rings) which represent domains of influence and who is involved – the individual, the community, and the enabling environment such as public policy, economic conditions, the natural environment. The socio-ecological model therefore goes beyond the Stages of Change and Diffusion of Innovation models by including domains of influence beyond the individual and the community.

---

[5] https://c-changeprogram.org/sites/default/files/sbcc_module0_intro.pdf

2. Cross-cutting factors that influence all actors and structures in the rings and on which interventions can act: information, motivation, ability to act and norms, which are in line with the variables listed in the Integrative Model.

Social Ecological models acknowledge that the larger environment can play a critical role in shaping behaviors. For instance, policies on cigarette prices and age requirements for purchasing cigarettes as well as restricting where individuals can smoke (e.g. no smoking in public places) have an effect on smoking behaviors. These factors are beyond the individual and immediate community levels and are influenced by government and regulations. As the Integrative Model explains, behavior is influenced not only by determinants of intention to change/adopt a behavior but also by environmental factors.

How can these models be used to design an intervention?

Section 2 describes some key theories that explain the determinants of behavior. In general, adopting or changing a behavior hinges upon the person's intention which is based on attitudes, social and cultural norms and self-efficacy (sense that one has the power to change) as well as on environmental factors (such as the quality of service delivery systems or public policy) and skills and abilities. Barriers to behavior change can originate from any of those aspects which is why it is critical that intervention design be based on an understanding of these factors. Furthermore, it is also important to understand that behavior change is a complex process which behavior change models simplify in order to facilitate its understanding. Behavior change can be explained at the individual level (Stages of Change model), at the community/social level (Diffusion of Innovation model) or at the systems level which includes the larger enabling environment comprised of government, service delivery systems, technology, etc (Social Ecological Models). These models are not prescriptive; they simply serve as guides that can be used in intervention design.

In Section 3, we describe in more practical steps the process of designing an intervention using behavioral frameworks. As has been stressed, intervention design always starts with an understanding of the behavioral objectives and of the determinants of behavior for the target audience. It also requires an understanding of all the barriers to behavior adoption and maintenance as well as of possible factors that may encourage behavior adoption. This understanding comes from conducting a situational analysis. As such, it is critical that any process of designing an intervention start with formative research. Just as the process of behavior change is not a linear one, so is not the process of intervention design. Behavioral theories and models can guide the questions that are asked during this formative research phase. Once the formative research is conducted, the results can guide program staff in selecting an appropriate behavioral model to design the intervention. In other words, the process of designing an intervention using behavioral models should be organic whereby models first guide the research and the research then guides the design of the intervention on the basis of one or more behavioral models.

3. HOW TO DESIGN A BEHAVIOR CHANGE INTERVENTION

In addition to behavioral theories and models, a number of tools support the design of communication interventions targeted at behavioral outcomes, such as the P-Process from JHU-CCP, the Nine Principles framework used by the UK government or COMBI's 10-step approach by WHO. These tools help to design integrated interventions that take into consideration the different factors described in the behavioral models and theories presented in Section 2.

These frameworks are not sector-specific and describe and recommend processes that can be used in public health as well as in other fields, including education. All of these frameworks call for a similar set of steps:

1. Identify Specific Behavioral Objectives and Inquire (formative research and situational analysis)
2. Design the intervention
3. Test the intervention
4. Implement and Monitor
5. Evaluate

The first step is crucial to designing effective interventions: inquiry and research. In fact, one of the mantras of the COMBI approach is to "Do Nothing… make no posters, no T-shirts, no pamphlets, no videos" until (1) specific behavioral objectives have been defined, and (2) a situational market analysis has been conducted[6]. The P-Process similarly calls for formative research to understand the intended audience and their knowledge, attitudes, skills, behaviors, social networks, needs, aspirations and degree of self-efficacy as well as conducting a review of other relevant studies to gain more knowledge about the issue of interest[7].

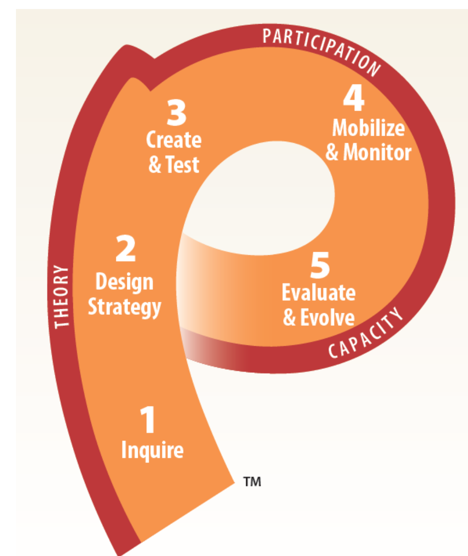


Figure 1 The P-Process
Source: Health Communication Capacity Collaborative (2013)

In short, a communication intervention is not about creating brochures and videos. Designing a strategic communication intervention requires a thorough understanding of the issue at hand. This process requires (1) identifying behavioral objectives for a specific audience (or audiences), and (2) understanding the determinants related to their decisions to ensure that these behavioral objectives and intervention design are appropriate to the context and culture. Armed with this understanding, planners can then

[6] http://www.comminit.com/content/communication-behavioral-impact-integrated-model-health-and-social-change
[7] https://www.jhuccp.org/sites/default/files/P_Process_5_Steps.pdf

better identify behavioral theories and behavioral models to support and guide the design of the intervention. It should be emphasized from the outset that these two steps need to happen before any intervention design begins. The formative research process and the behavioral objectives will help shape the overall strategy of the communication effort.

Step 1: Identify Specific Behavioral Objectives (SBOs) and Understand the Audience

The first step in designing an intervention targeted at behavior adoption is to define its behavioral objective(s). Behavioral objectives should be SMART – Specific, Measurable, Appropriate, Realistic and Time bound[8]. In the COMBI approach, specific behavioral objectives must describe the "who" (the target audience), "what" (what action), "where" (where it is to be performed), "when" (when it is to be performed and if applicable, how often), and "why". The "why" should explain why the behavior is important and why it should be adopted: mainly, the “why” should clearly articulate the evidence-based link between the behavioral outcome and the overall goal.

These behavioral objectives help situate the communication intervention within its larger overall program goal and highlight the need to focus on behavior adoption rather than pure transmission of information and knowledge. In some cases, it could be that the target audience already knows what to do but other constraints affect behavior practice.

Example of a Specific Behavioral Objective from COMBI:

" To prompt, over the period of a year, approximately 400,000 individuals (men, women and children of any age) throughout [location] who have a cough that does not go away after three weeks to come/be taken to one of the 320 designated government health facilities for The Free TB Sputum Test."

Furthermore, it is important to distinguish between:

- Behavioral objectives, and
- Communication objectives.

Behavioral objectives refer to what we want people to *do*. These objectives should be selected based on research and expertise on early reading. Communication objectives refer to the *beliefs* and *skills* we need to promote and develop to encourage and help people perform the desired behaviors. These objectives should be selected based on a thorough understanding of the facilitators and barriers to behavior adoption which can be developed through formative research prior to designing the intervention.

[8] Taken from the COMBI approach. The very first step of the COMBI approach is actually to state the overall goal, in our case "improved literacy outcomes for children in the early grades." The Nine Principles framework also has a first step of: “Identify the audience groups and the target behavior.”

Indeed, intervention design requires an understanding of the intended audience and the socio-ecological environment that influences the desired behavioral outcome through the choices that the intended audience may make to change behavior. Conducting formative research to understand the audience and this socio-ecological environment is therefore a critical step to guide intervention design and implementation.

An initial theoretical framework is useful for guiding the nature of the formative research and for deciding what questions to ask. For instance, formative research based on the Integrative Model (described in Section 2) would include questions on:

- existing skills
- environmental constraints
- “Intention” and more specifically attitudes, norms and self-efficacy.

Examples of possible questions for the formative research related to a literacy intervention:

Skills:
-What is the current level of literacy of children/parents/other community members?

Environmental factors:
-What reading materials are available in the home/community?
-What is the daily routine of household members? How do children divide their time between school/homework/chores/play?

Attitudes/Norms/Self-efficacy:
-How often do family members read at home?
-How often do family members read to their children?
-What do they enjoy about reading?

The formative research should also identify factors related to behavior change theories. For example, where do the individuals and community fall in the Stages of Change model? If they are unaware of the need for the new behavior, they would be in the “pre-contemplation” stage, and the first step in the strategy would be to inform them about the problem and solution, which is also the first of the five steps in the Diffusion of Innovation model (knowledge, persuasion, decision, implementation, and confirmation).

Finally, the Social Ecological Models considers not only the individual and community levels but also the larger enabling environment. An initial situational analysis is therefore useful for understanding these underlying conditions. For instance, for education interventions, we may want to gather information on the following: current school attendance rates and student's performance/academic scores in reading, literacy rates, availability of reading materials as well as national education policies, plans and strategies, and media infrastructure.

This formative research helps to understand the socio-demographic characteristics of the intended audience, including current knowledge, attitudes and practices (KAP studies), and helps to segment the population so that the intervention can focus on those who are most affected or those best placed to enact change. For instance, a communication strategy to encourage parental involvement may not only target parents themselves but also community leaders, teachers and children. Furthermore, this research helps to determine what conditions are necessary before a communication strategy can be implemented and helps to determine if the specific behavioral objectives are realistic. An obvious barrier to a communication strategy that encourages children to read outside of school would be the lack of reading materials.

Behavioral and Communication Objectives

Behavioral and communication objectives are inextricably linked and should be based on the situational analysis. Furthermore, the behavioral objective should be aligned with the larger program goal, in our case improved early reading outcomes.

A behavioral objective could be:

- "Primary-grade children will read [every day] for at least [xx] minutes outside of school hours, either alone or with a partner or small group"

Assuming that the situational analysis uncovered that a barrier to this behavior is children's lack of time due to house chores and parents' negative perception of reading for leisure, communication objectives could be:

- "Promote reading as an exciting and pleasurable activity to children"
- "Increase parents' perceived relative importance of reading as compared to doing house chores"

In essence, behavioral theories and models systematically categorize possible facilitators and barriers to behavior adoption. The formative research process provides insight as to what these facilitators and barriers actually are in a given context and for a specific target audience. In education and literacy-focused interventions, facilitators may include access to primary schools, community resources, vibrant markets with a range of reading products, promotions, information and other reading opportunities and incentives; barriers may include low literacy of parents, limited access to age appropriate reading materials, competing priorities for time, and limited perceived value of education. Knowing which of these apply in a given context is the intent of the formative research.

How to Conduct a Situational Analysis?

There is no one single way to conduct a situational analysis. The scope of the formative research will be in part guided by time and budgetary constraints as well as researchers' methodological preferences. The situational analysis will typically employ a mix of the following methods:

1. Primary data collection: quantitative surveys, qualitative research (focus groups, in-depth interviews), Knowledge Attitudes Practices (KAP) surveys
2. Review of secondary sources/secondary analysis
3. Anthropological-type research
    - DILO (Day in the Life Of) Analysis
    - MILO (Moment in the Life Of) Analysis
    - TOMA (Top of the Mind) Analysis
4. Force Field Analysis
5. SWOT Analysis: Strengths, Weaknesses, Opportunities, Threats

(Adapted from COMBI approach, developed by Dr. Everold Hosein)

Survey methodologists and qualitative researchers may be asked to assist in the formative research process to ensure that questions are neutral, non-leading and that they will elicit rich answers that provide insights into the contextual factors affecting behavior.

Step 2: Design the strategy

Using strategic communication for education interventions requires a deep understanding of the issue, intended audience, and an array of contextual factors. Defining the specific behavioral objectives based on evidence is critical. Only after the behavioral objectives have been defined and the situational analysis conducted can one develop communication objectives and an overall strategy for achieving the behavioral objectives.

Once the formative research is done, a comprehensive model for better understanding operational context is the Pathways Model (first mentioned in Section 2) which is based on the Social Ecological Models (Center for Communication Programs, 2008). As mentioned in Step 1, the situational analysis may collect information on the socio-political environment (national education strategies and plans), on the service delivery system (school infrastructure, library systems, or providers of print materials such as book publishers), and on the community/individual level (norms and attitudes towards reading and knowledge and skills). The Pathways Model transfers all of this information into a

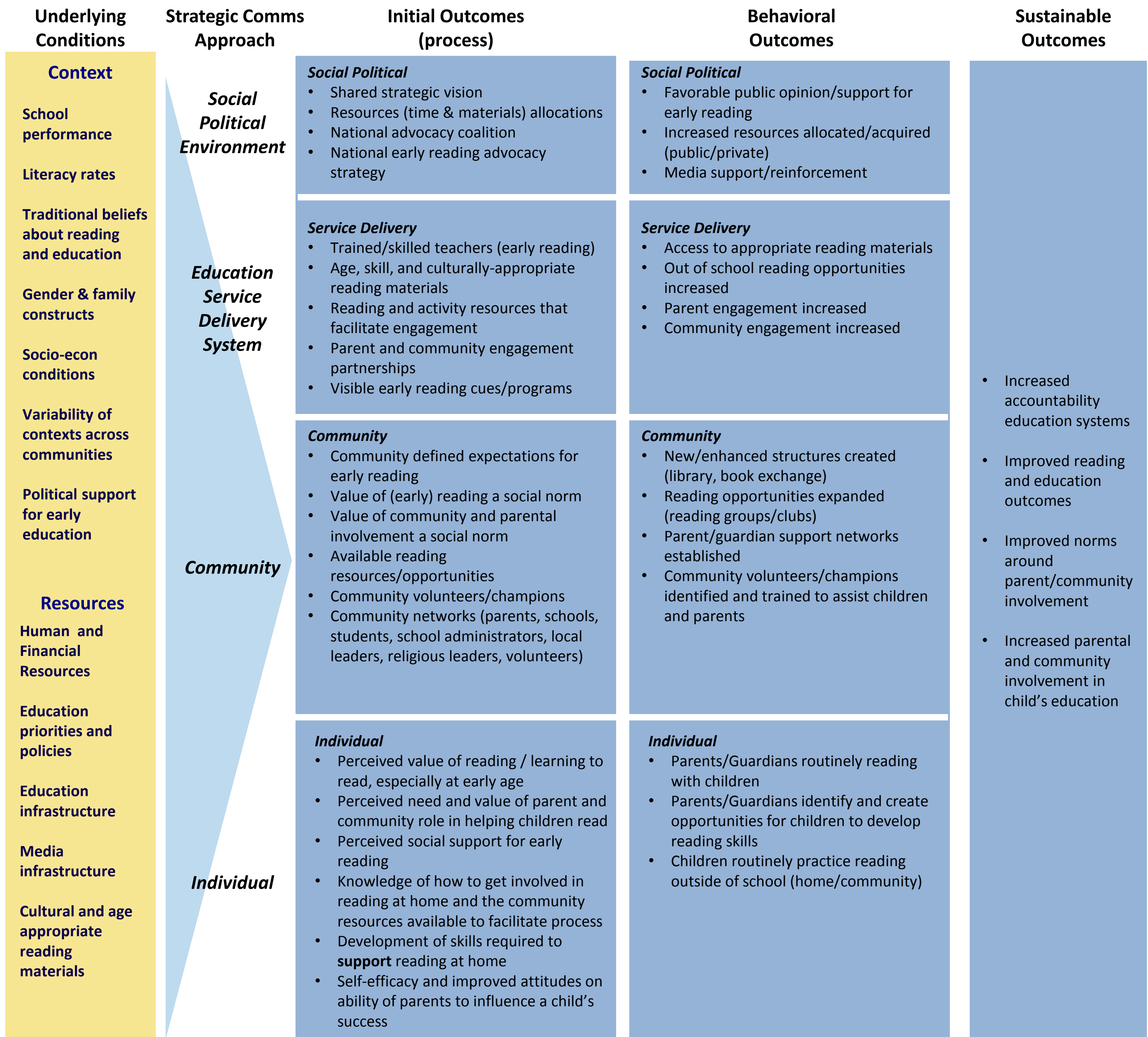
Elements of strategic communication (Bertrand et al 2011):

1. Results-oriented
2. Science-based
3. Client-centered
4. Participatory
5. Benefit-oriented
6. Service-linked
7. Advocacy-related
8. Expanding to scale
9. Multiple reinforcing channels
10. Quality programming
11. Programmatically sustainable
12. Cost-effective

dynamic picture that explains how an intervention may be able to act upon these underlying conditions to promote a specific behavior and like a logic model, hypothesizes that by acting at a certain level (individual/community, service delivery or socio-political environment) certain outputs and outcomes will follow. Figure 3 gives an illustrative example of a Pathways Model using broad general outcomes related to literacy. Education practitioners could use this as a starting point and refine the model based on the specific behavioral objectives of their interventions as well as the information garnered during the formative research phase.

The Pathways Model can be a good brainstorming tool for thinking about the different levers that interventions may be able to affect and for determining where efforts can be targeted based on logistical and budget constraints as well as the implementer's mission and scope of work. For instance, while the social-political and service-delivery factors illustrated in Figure 3 are important considerations in designing an intervention to-scale, the intervention itself may not necessarily address all of them due to obvious budgetary, time and logistical constraints. In most cases, interventions will target a subset of these domains. However, designing the intervention is contingent on understanding the facilitators and barriers to behavior change present in all of the domains. It could be that a national education strategy includes a supporting national communication strategy that would strategically align and lay out an integrated program so that any individual groups, focusing on other sector/domain components can better coordinate and align their intervention efforts. The formative research can, therefore, situate the communication strategy within the larger intervention program design and is essential to formulate communication objectives.

Figure 2. An illustrative Pathways Model for Education



As mentioned, at this stage we would determine how the communication strategy fits within the overall intervention strategy which may include other activities such as the establishment of community structures or provision of reading materials and training. For instance, if self-efficacy is one of the main barriers to behavior adoption, one of the communication objectives should be to increase the target audience's sense of self-efficacy. Lack of skills could be another barrier, in which case we could assess whether providing trainings could be a good approach.

In addition to determining the communication objectives, the design phase involves decisions on specific messaging and channels of communication. A useful acronym for thinking about the communication process comes from the COMBI approach, developed by WHO, "MS. CREFS", which stands for:

Message,
Source,
Channel,
Receiver,
Effect,
Feedback,
Setting.

> "The communication process involves a Message from a Source being sent via a Channel to a Receiver with a certain Effect intended with opportunities for Feedback, all taking place in a particular Setting. Being a process, these components are inter-linked."[9]

[9] http://www.undg.org/docs/9555/COMBI-Manual-ENH-Jan-2006.pdf

As with defining the behavioral objectives, determining the communication process should be research and theory-based and context-specific.

Testing the relative effectiveness of different communication channels:

- Huebner and Meltzoff (2005) compared three instructional methods for teaching parents Dialogic Reading techniques: (1) in-person training with video, (2) self-instruction with video and telephone follow-up, (3) self-instruction with video only. At post-test, no difference in use of DR techniques was found between the three groups (pre-test scores were available for a comparable group not directly part of the instruction group and were used as baseline). Therefore it may be possible to consider alternative strategies to communicate certain messages than face-to-face meetings and trainings to carry out certain behaviors may be effectively conducted using videos and phones in some contexts.
- Avvisati et al (2011) conducted a randomized controlled trial in France with parents of 6th graders to test the effectiveness of different modes of communication to invite parents to participate in school meetings. Parents were randomly assigned to one of the following conditions: letter only, letter + DVD, SMS only, letter + SMS + phone call, letter + SMS + phone call + DVD or control. Results showed no difference in participation between the control group and parents who only received a letter, while participation was higher for families who received an SMS and even higher for families invited by phone on top of receiving the SMS. The authors conclude that it is not a lack of information that explains lack of participation but rather the mode of invitation. Families participate more when they feel "wanted."

What makes a behavior change communication intervention successful?

Behaviors can be difficult to change because they are generally habitual, normative, and preventive. Habitual behaviors are performed without much thought; normative behaviors are based on powerful forces of traditional and social approval; and preventive behaviors may lack a salient, immediate outcome (Aboud & Singla 2012). Complex behaviors are more difficult to change than simple ones (Bongaarts et al 2012), and adopting new behaviors, or replacing old behaviors with new ones, is generally easier than prompting someone to stop doing (or avoid starting) an unhealthy behavior. In addition, as Wood et al (2012) noted in the context of a home water treatment intervention, new habitual behaviors that require fundamental changes in routines are more difficult to change than one-off behaviors. This suggests that a literacy intervention should include skills building and cues to promote the habitual behavior, such as connecting it to an existing habitual behavior (such as homework).

Although behaviors can be difficult to change, there have been successful interventions, especially from the public health sector. A review of these successul interventions shows that they share the following characteristics:

- **Multiple Reinforcing Communications Channels and Techniques**

Interventions that use a single channel or technique are generally less effective. Baker et al (2013) notes that core interventions required for achieving results in infant and young child feeding programs include interpersonal communication, community mobilization, mass media, and evidence-based policy dialogue and advocacy. Briscoe and Aboud (2012) examined 24 studies showing success promoting four health behaviors: the use of bed nets, hand washing, face washing and complementary feeding. All of the studies showed effectiveness in observed behavior, self-reported behavior, or objective health

measures; knowledge was also measured in a number of studies. The authors organized the techniques used into six categories—**information, performance, problem solving, social support** (from peers and/or authority figures), **materials** and **media**—and noted that "the most successful interventions use three or even four categories of techniques, engaging participants at the behavioral, social, sensory, and cognitive levels."

According to this review, the most common techniques used were performance, social support, materials in the form of supplies needed to perform the behaviors, and small media, such as posters, picture cards, and community-level entertainment approaches. This reiterates a common theme in the SBCC literature: **the most successful interventions use a variety of methods and media, and they go well beyond information to cover skill building, modeling, ongoing support from peers or others, and other active interventions**. Media channels can include mass media such as radio or television, small media, and electronic media such as Internet or mobile phones. Information, performance and social support can be achieved through individual approaches such as peer counseling, and community-level approaches such as events and meetings, often featuring entertainment as well as local opinion leaders to champion the behavior.

For an intervention in Bangladesh that increased hand washing with soap after fecal contact from less than 30% at baseline to more than 85% post-intervention, field workers implemented a series of activities designed to move participants along the phases of the Stages of Change model (Briscoe and Aboud, 2012). In each phase, the field workers used different techniques:

- **Information**: Field workers held small group meetings in target compounds discussing the results of a formative assessment in an effort to raise awareness about how often people washed their hands, as well as the relationship between hand-washing and child health. This phase was aimed at moving compound members from the pre-contemplation to the contemplation stage
- **Materials, Demonstration**: Field workers placed soap or hand sanitizer at key locations in the compound, such as cooking areas, latrines and water sources, and demonstrated how and when to use it. This phase was designed to move participants from the contemplation stage to the preparation for action stage.
- **Social Support, Media**: The field staff then assembled mothers from each household and asked them to encourage and remind each other to wash their hands at critical times, to move to the action stage. Field workers also placed posters at key locations to serve as cues to action.
- **Social Support, Materials**: Field workers visited the compound two to three times a week during the intervention to replenish supplies, and place a sticker on the door of each home that had used the most supplies. This supported both the action and the maintenance phases of the Stages of Change model.

- **Community and Group Approaches**

As was highlighted by the Diffusion of Innovation model, the importance of group approaches cannot be overemphasized, especially in developing countries. Social norms and pressures have a major influence on behavior, and this is key not just for initiating the behavior, but also for reinforcing it through feedback to make successes visible and support maintenance. For example, several studies have shown strong results with women's groups that used a participatory learning and action intervention approach in domains including maternal health, child health, and infant/young child feeding. This is in line with the Integrative Model which explains that social norms play an important role in determining an individual's intention to perform a behavior.

- Prost et al (2013) reviewed interventions that used learning and action cycles in women's groups to improve maternal and neonatal health, and found substantial reduction in neonatal and maternal death in four low-resource settings (Bangladesh, India, Malawi and Nepal). They developed a working hypothesis for how women's groups bring about improvements in birth outcomes: "The intervention builds the capacities of communities to organize and mobilize to take individual, group, and community action to address the structural and intermediary effects of health."
- In a Bangladesh study, government field workers organized group discussions with women in the homes of opinion leaders, and this social network approach was twice as effective as a conventional field worker control at increasing the use of modern contraception (Kincaid 2000). The use of opinion leaders' homes as discussion locations is important: This approach offers not only community support, but also implicit and explicit endorsement of the behavior by leaders, which is important in changing community norms.
- A large study in rural Malawi showed that a women's group intervention mobilizing communities for improved maternal and child health had substantial effects on maternal, neonatal and infant mortality. The women's group intervention showed results with or without the addition of individual peer counseling (Lewycka et al 2013).
- A maternal and neonatal health intervention in rural Nepal used interpersonal peer communication by trained community volunteers. Although this did not include a formal group approach, the intervention included a booklet of laminated cards conveying key messages, and results of a qualitative process evaluation showed that the booklet was frequently shared, discussed, and consulted among household and community members. So, even though the initial approach was not group-based, the booklet served as a cue for participants to discuss the issues with their existing social groups, such as families, households and neighbors (McPherson et al 2010).

- **Emotion and aspirations: Appeals to the heart as well as the mind**

The idea that successful interventions should appeal to emotions and aspirations would seem to flow naturally from the idea that rational or cognitive approaches are insufficient and that attitudes and norms towards a behavior as discussed in the Integrative model are critical determinants of intention to perform a behavior. In general, the less willing and able the audience is to change, the more the

intervention has to be creative, entertaining, and emotive (Aboud & Singla 2012). "Edutainment" approaches such as soap operas, skits and songs use drama and music to evoke an emotional response. Positive emotions are most commonly elicited, although negative approaches using fear or threat appeals are effective in some domains, such as anti-tobacco and road safety. Panter-Brick and colleagues (2006) used locally composed songs to encourage repair of bed nets in the Gambia; the songs presented mosquitos as an enemy and encouraged the repair to protect children and families from disease. The use of a culturally compelling approach promoted positive feelings in the community about the action, while also ensuring that the message was repeated frequently. The audience can also be encouraged to look to a better future, with the behavior promoted as one means to that end. For example, in family planning programs a message may be that having fewer children ensures a better future quality of life for parents and children. In early-grade literacy, a corresponding message might be that reading helps lead to early and sustained school success for children, with benefits for their future success in life.

- **Provides factual information, and dispels myths and misconceptions**

This can include any information that facilitates adoption of the behavior, including techniques, sources of materials, coping with common barriers, and solving problems that may hinder sustained behavior change. As the Integrative Model describes, skills and ability are a critical determinant for behavior adoption. Furthermore, depending on the behavior and the population, myths and misconceptions—often the basis of community norms—may act as barriers to the behavior. For example, if a woman believes family planning will make her infertile, she may be less likely to adopt it. If parents believe that children don't need to learn to read until grade three or four, they will be less motivated to act. The intervention should seek to change those beliefs to ease acceptance of the behavior.

- **Aims to motivate the intended audience to action:**

Successful strategic communication messages include a call to action and provide cues to action. To promote exercising, a communications campaign may encourage the target audience to leave running shoes by the door as a visual cue to action. Similarly in education, a brightly colored reading log located in the classroom may serve as a cue to action for children to borrow books from the classroom and read outside of school.

Steps 3 and 4: Develop and Test; Implement and Monitor

Once a strategy has been established, materials, concepts, and messages have to be developed. At this stage, it is critical for all communication materials to be pilot tested with stakeholders and the intended audience to ensure that they are context and culturally appropriate. Communication objectives may need to be adjusted based on the results of this testing, just as behavioral objectives may need to be adjusted as a result of the situational analysis.

As mentioned the most effective communication strategies use multiple reinforcing channels – an appropriate blend of different but integrated actions – and need to deliver quality programming that

can compete with commercially produced materials (whether print materials, TV ads or radio spots, etc) (Bertrand et al 2011). The COMBI approach recommends communication actions around these five main categories:

1. Administrative mobilization/public advocacy/public relations: e.g. support of teachers and school officials may be essential if they need to help promote certain messages to parents
2. Community mobilization: actions could include community meetings, use of traditional music, song, community drama, etc
3. Advertising: use of advertising techniques via radio, television, newspapers, etc
4. Personal selling/Interpersonal communication/Counseling: involvement of community volunteers, facilitators, etc.
5. Point-of-Service promotion: promoting the behavior at service points such as health centers, community centers, etc.

Once the strategy is implemented, it is also very important to monitor it. Indicators for monitoring the intervention are directly linked with activities planned as well as the behavioral and communication objectives. As with any intervention, monitoring is critical to allow for any necessary mid-course corrections.

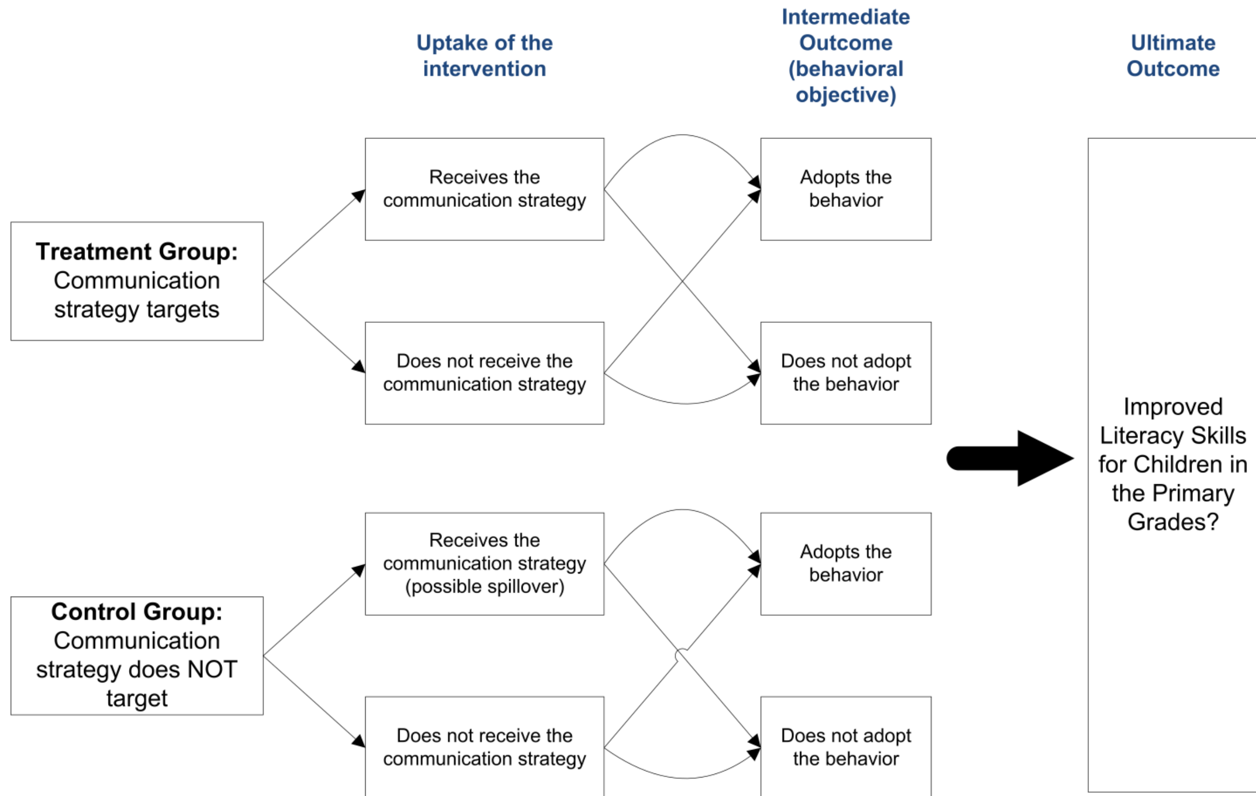
Step 5: Evaluate impact

While evaluating the impact of the intervention comes in as the last step, after the design, development, and implementation of the strategy, this activity needs to be planned from the outset. Many evaluations of interventions only compare pre- and post-intervention results. However, in order to conduct a rigorous impact evaluation that can attribute changes to the intervention, an experimental or quasi-experimental design is needed. Indeed, the most rigorous evaluations include a control group to which the treatment group can be compared. Ideally, the areas or groups where the intervention can be implemented will be restricted in order to allow for a control group. This control group would not receive the treatment, or would receive it at a later date if the intervention is proven successful. In some cases, it may not be possible to have a control group, for instance if the communication strategy is implemented at the national level (e.g. national media campaigns). In those cases, other strategies may be used to evaluate the impact of the intervention. However, whether a control group is identified or not, it is critical to plan the evaluation from the outset so that a baseline assessment can be conducted prior to intervention roll-out.

One issue with many evaluations of interventions is that behavioral outcomes are not monitored. Studies also do not always take into account uptake rate (e.g. the percentage of participants who attend training sessions from those who were invited). A well-designed impact evaluation would ideally collect information on all of these variables: receipt of the communication strategy (e.g. who was invited to meetings, who received the pamphlets, who was exposed to posters, TV ads, etc), take up when appropriate (e.g. who attended the training from those invited) adoption of the behavior and finally effect on literacy skills, as illustrated in Figure 4 below. By doing this, if the intervention does not lead to

positive impacts, we would be able to determine where in the pathway failure occurred – if literacy outcomes were not achieved as a result of a lack of behavior adoption, or if the behavior change has no impact on children's reading skills.

Figure 4. Impact Evaluation and Outcomes



4. CONCLUSIONS

This paper provides an introduction to some of the theories, models and frameworks used in designing communication strategies to influence behavior. Key take-aways include:

- Behavioral theories explain the determinants of behavior such as the Health Belief Model, Social Cognitive Theory and the Integrative Model. In general, determinants of behavior fall under attitudes, norms, self-efficacy, environmental factors, and skills and ability.
- Behavior change models explain the process of behavior adoption and maintenance, such as the Stages of Change model which explains this process at the individual level, the Diffusion of Innovation model which explains this process at the community/social level and the Social Ecological models which go beyond the individual and community level and include the enabling environment.
- These theories and models can inform both the formative research process as well as the intervention design. But the process of intervention design should *always* starts with formative research and inquiry in order to define specific behavioral objectives as well as to understand barriers to behavior adoption and change and tipping points that can help promote the behavior. A framework like the P-Process is useful for guiding the intervention design and implementation process.
- During the formative research and intervention design stages, the Pathways model can be a useful tool for translating the static Social Ecological Model into a dynamic process that links the knowledge gained from the formative research to specific activities leading to specific outcomes. The formative research can situate the communication strategy within the larger intervention program design and is essential to formulate communication objectives.
- Like other types of interventions, communication strategies need to be piloted and tested to ensure that the target audience responds to them as desired.
- In general, successful interventions use multiple reinforcing channels of communication, act at the individual and group level, appeal to emotions and provide factual information or skills training.

While this paper aims to be an introductory practitioner's guide, readers may want to consult other resources as they are considering developing their own strategic communication intervention. A list of useful resources is provided in Appendix B [to be provided in final draft if of interest to USAID].

In sum, designing interventions to impact the behaviors of individuals, households and communities should be based on theory and evidence. Behavior change is not an event that happens immediately but is a complex process that requires a deep understanding of the target audience.

REFERENCES

Avvisati, F., et al. (2011). "Communication des colleges et implication des parents d'eleves." Rapport pour le Fonds d'experimentation pour la jeunesse.

Bertrand, J. T., et al. (2011). Health Communication: A Catalyst to Behaviour Change. Routledge Handbook of Global Public Health, Routledge 340-352.

Briscoe, C. and F. Aboud (2012). "Behaviour change communication targeting four health behaviours in developing countries: a review of change techniques." Soc Sci Med 75(4): 612-621.

Center for Communication Programs (2008). Communication for better health. Population Reports, Johns Hopkins Bloomberg School of Public Health.

COI (2009). Communications and Behaviour Change, UK Central Office of Information.

Darnton, A. (2008). Reference Report: An overview of behaviour change models and their uses, Centre for Sustainable Development, University of Westminster.

Fishbein, M. (2000). The role of theory in HIV prevention. AIDS Care, 12, 273–278.

Fishbein, M., & Cappella, J. N. (2006). The role of theory in developing effective health communications. Journal of Communication, 56, S1-S17. doi: 10.1111/j.1460-2466.2006.00280.x

Health Communication Capacity Collaborative (2013). The P-Process. Five steps to strategic communication. Baltimore: Johns Hopkins Bloomberg School of Public Health, Center for Communication Programs, Health Communication Partnership.

Kincaid, D. L. (2000). "Social networks, ideation, and contraceptive behavior in Bangladesh: a longitudinal analysis." Social Science & Medicine 50(2): 215-231.

Lewycka, S., C. Mwansambo, et al. (2013). "Effect of women's groups and volunteer peer counselling on rates of mortality, morbidity, and health behaviours in mothers and children in rural Malawi (MaiMwana): a factorial, cluster-randomised controlled trial." The Lancet 381(9879): 1721-1735.

Lieberman, E. S., et al. (2012). Does information lead to more active citizenship? An Evaluation of the Impact of the Uwezo Initiative in Kenya.

Luby, S. P., Kadir, M. A., Yushuf Sharker, M. A., Yeasmin, F., Unicomb, L., & Sirajul Islam, M. (2010). A community-randomised controlled trial promoting waterless hand sanitizer and handwashing with soap, Dhaka, Bangladesh. Tropical Medicine & International Health, 15(12), 1508–1516.

McPherson, R., J. Tamang, et al. (2010). "Process evaluation of a community-based intervention promoting multiple maternal and neonatal care practices in rural Nepal." BMC Pregnancy Childbirth 10(1): 31.

Nguyen, T. (2008). "Information, Role Models and Perceived Returns to Education: Experimental Evidence from Madagascar."

Yzer, 2012. The integrative model of behavioral prediction as a tool for designing health messages. Health Communication Message Design: Theory and Practice. Editor, Hyunyi Cho. Thousand Oaks, Calif: SAGE Publications, 2012.