

Evidence-based Malaria BCC: From Theory to Program Evaluation

Module 1: Telling Stories About Behavior: Theory As Narrative – Handout

Module 1 of 5

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Learning objectives

At the end of this presentation, participants should:

- Understand the importance of having a program theory that describes how and why members of an intended audience will change in response to your program.
- Describe key features of four theories commonly used to guide strategic planning, program design and impact evaluation.
- Be able to recognize applications of communication theories in examples of health messaging.

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Part 1: Introduction: What is a theory and why is it important?

Hello, everyone, and welcome to this eLearning series on evidence-based malaria behavior change communication from theory to program evaluation. My name is Doug Storey, and I am the Director for Communication Science and Research at the Center for Communication Programs at the John Hopkins Bloomberg School of Public Health. This first module focuses on using theory effectively in programs—telling stories about behavior, theory as narrative.

At the end of this presentation, you will understand the importance of having a program theory that describes how and why members of an intended audience change their behavior in response to your program. You will learn to describe some key features of four theories commonly used to guide strategic planning, program design and impact evaluation in behavior change programs, and you will have some practice in recognizing applications of communication theories in some examples of health messages.

This presentation is divided into several parts as shown on your screen. We'll start with an introduction about theory and why it's important and then I'll give you some examples of how theories tell a story. We'll then talk about four common theories of communication and behavior and we'll divide that discussion into two parts, so you can take a break in between. Then we'll talk about the big picture: how these theories of communication fit into a larger framework for understanding the pathways to a healthy society. And finally we'll have a little practice exercise and will give you a chance to look at a video and find some of the theories and the concepts that we talked about in the rest of the lesson. At the end we'll summarize what you have learned and we'll provide you a list of some additional resources that you can use to understand more or learn more about how theories play a role in behavior change communication.

Let's begin with the first section: What is the purpose of having a theory and using a theory to design, implement and evaluate health communication programs? What do we hope to accomplish with an understanding of theory?

On this first slide, you see one of the very first known stories about the process of communication. This comes from *The Republic* by Plato, an early Greek book about philosophy, and it takes the form of a conversation between a teacher and a student.

“Behold! Human beings living in a sort of underground den; they have been here since childhood, and have their legs and necks bound so as to prevent them from turning their heads. At a distance above and behind them the light of a fire is blazing, and between the fire and the people there is a low wall, like the screen which marionette players have before them, over which they show the puppets.”

“I see,” he said.

“And do you see,” I said, “humans passing along the wall carrying things which appear over the wall: figures of men and animals, made of wood and stone and various materials; and some of the carriers, as you would expect, are talking and others are silent?”

“This is a strange image,” he said, “and the bound ones are strange people.”

“They are like us,” I replied; “they see only their own shadows and those of the objects, which the fire throws on the opposite wall of the cave.”

“True,” he said: “how could they see anything else if they were never allowed to move their heads?”

“And what about the things that are carried by? Would they see only shadows?”

“Yes,” he said.

“And if they were able to talk with one another, would they not suppose that they were discussing what was actually before them?”

What does the story tell you about communication? It tells you, first of all, that people assume that what they see is real. But not everything that people see is immediately understood; they have to talk with each other in order to understand the world around them. Communication is a process of interaction with other people as a way of understanding the world and determining or deciding what to do in that world.

What is a theory? Theory is really nothing but a kind of narrative or a story. A theory is an explanation of a process or a phenomenon based on systematic observation. We conduct research, we watch what people do, we ask them questions about what they do and from that, we develop an explanation for why they make the choices that they do.

Narrative or a story is something that describes a sequence of connected events and characters performing the events. It happens in a particular space, at a particular time and it contains implicit or explicit suggestions about the decisions people make, what motivates them, the barriers and the facilitators—the things that make it easier or more difficult to perform behavior around that event.

Research indicates that we actually may be “hard-wired” to describe our experiences and our memories in the form of stories. A famous education psychologist, Jerome Bruner, conducted a lot of experiments to understand human learning and as many scientists do at the end of an experiment, he debriefed his subject, he debriefed the participants in his study and he asked them to tell him what they thought was going on in the study. As he listened to them, they would say things like, “Well, I came into a room and I was shown a video and then I was asked certain questions about it and the researcher wanted to know what I thought about it and what

I would do as a result.” As Bruner listened to this debriefs, he realized that his experimental subjects were organizing what they had just experienced in the laboratory in the form a story.

Basically, in this experience, Bruner wrote an interesting book in 1991 called *The Narrative Construction of Reality*, in which he wrote that we organize our experience and our memories of human happenings mainly in a form of narrative, stories, excuses, myths and reasons for doing and not doing certain things.

Humans have a natural tendency to organize the information and their experiences in a form of a story. Theories are a kind of narrative and in the rest of this presentation, we are going to talk a little bit about how theories tell a story about human behavior in a way that we can understand our audiences and use that understanding to develop effective behavior change communication.

Part 2: Narrative: How theories tell a story

In Part 2 of this talk I'd like to introduce you to a few very simple communication theories, some of the earliest and the simplest ones that have come out of communication research beginning in the 20th century. And I'm going to use those to illustrate how a theory tells a story.

In communication study there are two historic streams or two historic trends in communication studies. Both of them date back to the early Greeks. We heard earlier about *The Republic* by Plato. Aristotle, another Greek scholar, was also writing at that same time, and he described two forms of communications in two books that are attributed to him. One was called *Poetics* and the other was called *Rhetoric*.

In the book of *Poetics*, Aristotle described what he called the art of expression, that is using communication to express yourself, to paint beautiful pictures, word pictures of the world, to express emotion, to share your innermost feelings and your reactions to the world around you with other people. In the book of *Rhetoric*, Aristotle described the science of persuasion. He described how communication can be used for persuasion, for politics, for community organization and coordination, for education, for learning and teaching.

And one thing that's interesting to note about this is that these two different stories about how communication works for expression or for persuasion are reflected in the way that our academic study of communication has been organized over the centuries. Poetics is reflected in schools of humanities where students learn literature, film, music and popular culture. Some departments of communication focus on the social science side or the rhetoric and persuasive side of communication in departments of psychology, sociology and political science.

So these two contrasting classical narratives about communication continue to inform the contemporary study and teaching and use of communication. On the one hand, communication

can be used to communicate, to express ourselves. On the other hand, communication is used to influence others.

One of the earliest, simplest narratives or theories in the era of modern communication science is what David Berlo referred to as the bucket theory of communication. According to this theory, experts like us—health communication experts who want to influence public health in some way—provide information to non-experts, to our audiences, to receivers; or perhaps a doctor tells a patient what they should do to immunize their children, or to practice good hygiene, or to avoid malaria.

This very simple model of communication, if it were described as a narrative, if it were told as a story, might sound something like this:

Once upon a time, there was a young mother who lived on the eastern coast of Tanzania. She had a 1-year-old daughter. A year earlier her 1-year-old son had died of a fever. She didn't really know why. She fed him the best food she could afford, but he had no appetite and always seemed weak and listless. This was true of many children and adults in the community, but for some reason her son suddenly developed a fever, began shaking and died. Recently she took her daughter, who had seemed listless for the past week, for immunization. And the nurse at the clinic told her that her daughter had been bitten by a mosquito and needed medicine. She gave the woman medicine to give her child, the mother did so, and her daughter grew stronger.

It's that last part that describes the bucket theory, the sender-receiver model. She went to the clinic, the nurse told her what to do, she did it and the effect was positive. Her daughter grew well. But is this how communication really works? If we tell someone to do something, do they always do it? Of course not.

So as more research was conducted, newer and more accurate models were developed. Here's one that grew out of research on the transmission of radio signals applied to human communication. This model was developed by Claude Shannon who is a telecommunication researcher and electrical engineer at the Bell Telephone Laboratories in New Jersey. And Warren Weaver was an English professor. The two of them put their heads together to come up with a model of communication that described how humans received information and made sense of it.

In Shannon's research a source of information, let's say a radio station, broadcasted information through the air to an audience that receives it on their radio set at home. What Shannon was interested in was how noise is introduced into that system. Radio signals can be degraded by electrical storms or by other atmospheric conditions, which causes interference so that when the signal reaches a receiver, that message is not complete or it may not be well understood; it may not be completely received.

Shannon's solution to this was redundancy; in other words, the signal was transmitted repeatedly and a receiver on the other end could automatically or electronically piece the messages together so that what the receiver saw or heard was complete. Another important part of this model was a feedback loop in which the receiver could send information back to the source to verify what the message was meant to say.

Now when Weaver applied this to human communication, he described a situation in which a source, let's say a doctor, provides information to a patient, let's say about malaria prevention. But noise can also enter into that system in various ways. The doctor may use language that the client doesn't understand. Or the doctor may talk too quickly so that the receiver can't get all of the information the doctor is trying to convey. Both of those are examples of noise in human communication. Of course a client can ask the doctor to repeat the information or to clarify what has been said, so this model represented an adaptation of a radio transmission model to human communication.

What would this sound like in our malaria example for our mother in Tanzania and her child who has malaria?

Once upon a time, there was a young mother who lived on the eastern coast of Tanzania. She had a one-year-old daughter. A year earlier her 1-year-old son had died of a fever. She didn't really know why. She fed him the best food she could afford but he had no appetite and always seemed weak and listless. This was true of many children and adults in the community but for some reason he suddenly developed a fever, began shaking and died.

Recently, she overheard someone on the radio talking about medicine for babies who had recurring fever, but she didn't really hear what it was, or where to get it, and there was a lot of medical information too that she didn't understand. Her daughter had been experiencing fever. So the mother went to a nearby drug shop to get the medicine but the drug shop owner said that there were lots of medicines for fever and that she should take her daughter to the health clinic for a test so she could get the right kind of medicine. So the mother took her daughter to the clinic for a test, and gave her the medicine prescribed by the doctor. Her daughter's fever stopped and she grew stronger.

Now this narrative says that people don't always get the message the way it was meant to be understood. A lot of things can create "noise" or cause the message to be distorted or misunderstood. In radio signals, the noise comes from atmosphere interference or static or resistance in the transmission lines. In human communication, this can result from lack of prior knowledge by the client from information that is too technical for the audience, or just from poor-quality messages.

Feedback can help overcome noise by repeating or clarifying important information as the drug shop owner did in the story I just told.

In the 1940s some important studies of political communication found that while some people made decisions about who to vote for based on news on the media, other people never read the news but relied instead on information they got from other people who had read the news. This describes a combination of direct and indirect effects of communication as shown in the picture on the screen.

What would the story from this perspective sound like? The first part of the story is the same.

Once upon a time, there was a young mother who lived on the eastern coast of Tanzania. She had a 1-year-old daughter, and so on and so on.

But recently a neighbor told her about something that she had heard on the radio, about getting your baby tested at the clinic if she has a recurring fever. And the neighbor said that the test tells you what causes the fever and what kind of medicine to take for it. So the mother took her daughter to the clinic and asked for the test. But the clinic worker said that her daughter didn't need the test and just gave her some liquid Panadol to control the fever. The mother didn't think this sounded right but she went home anyway and gave her daughter the Panadol. The fever went down that night but it came back the next day, so she went back to the clinic and demanded the test and the right medicine for her daughter. Her fever stopped and the daughter grew stronger.

This narrative says that the behavior is often influenced not just by immediate communication, but by interpersonal communication, and sometimes by both. So when someone passes along information to another person, the opportunity exists for a discussion or a conversation to happen about that information in a way that you cannot talk back to or have a conversation with the mass media.

Now it's important to focus your narrative, the story that you develop for your program, on specific changes that might occur and where different members of your audience might be in the process of change. This is called the "stages of change" model. And I've shown you an example on the screen here.

For example, many people are aware of malaria but of course some are not. And others who have heard about malaria may not know exactly how it is transmitted or whether or not they themselves might be at risk. Other people might know that sleeping under a bed net can help prevent malaria transmission, but they are not convinced to use one, or think it might be too hot or inconvenient. Still others may think that bed net use is a good idea, but have never decided to purchase or obtain one, and so on.

So in developing a narrative for a program we want to focus on where the audience is in the process of change and how he or she gets from point A to point B. What factors explain the decisions that are made, the suggestions from a program that are resistant, the reasons for refusal or compliance, what causes back siding and so on.

The narrative or the story that you develop about this process of change will become your program theory or explanation of why and how you think your health intervention will succeed. Various theories can help you think this through.

The early ones that I described, the bucket theory, the transmission model, the model of indirect effects are helpful but incomplete. And in the next section of this talk we'll talk about four common theories of communication behavior that can help you think effectively about the way that people make decisions about malaria prevention, malaria treatment and other behaviors related to malaria.

Part 3: Four common theories of communication and behavior: Reasoned action and social learning

In Part 3 of this talk, we'll focus on the first two of the four common theories of communication and behavior. Those are reasoned action and social learning. Before we focus on each of those, I'd like to give you an overview. There are many theories available to health communication researchers and practitioners. There are four that are very commonly used. The rest of this section will focus on those. These four theories ultimately share an emphasis on individual behavior but emphasize different factors, different predictors or combinations of factors that influence behavior.

The four theories are:

1. The theory of reasoned action or a newer variation on that called the theory of planned behavior. We sometimes refer to these as TRA or TPD. These theories focus primarily on cognitive or rational processes around decision-making.
2. Fear management or risk management theory is particularly relevant for some health issues like HIV/AIDS prevention. This theory, sometimes called the extended parallel process model, focuses on how cognition and emotion work together in parallel to motivate behavior.
3. Observational learning or social learning focuses on how people learn to behave by observing other people and comparing those other people to their own personal situation.
4. Finally, the diffusion of innovations, which in some ways is the most social of these theories, focuses on the structure of the social environment (e.g., a neighborhood and networks), and how these influence access to information and the behavioral response to that information.

Because I am trained in a communications science tradition, I consider some of the theories that come out of public health, like the health belief model and Prochaska's stages of change model, which is based on the practice of psychiatry. I consider them to be more recent reformulations of older, well-established communication theories. I don't include them in my

list of core theories, but if you're familiar with these and you prefer to use them, you certainly can.

Any theories are helpful in developing a behavior change communication strategy. What's important is to consider the unique characteristics or unique factors that each theory describes and use your theories in a practical way to help you understand the behavior of your audience.

One helpful way to organize this series is along a continuum—from theories that focus more on individuals to theories that focus more on societal structures or on networks, on communities, for example. I've shown how the four core theories can be arranged in this way. Reasoned action tends to be more individual. Fear management tends to be more individual. Observational learning and diffusion of innovations tend to be more social and structural. You should choose a theory that matches the context of the behavior you're trying to influence.

Reasoned action/planned behavior

Let's start with the theory of reasoned action or the theory of planned behavior. The basic assumptions of this theory are that people make decisions thoughtfully or rationally. Those decisions are based on what people expect will happen to them if they choose a particular action. Will good things happen? Will bad things happen? Will they feel inconvenienced? Will they feel confident and happy about the decision that they've made? Those decisions are also based on what people think others want them to do or, in fact, what other people do around them. They base those decisions, in part, on what makes it harder or easier to act.

One of the key parts of the theory of reasoned action and the theory of planned behavior is a belief. What is a belief? A belief is information about a person or an object or an issue and it may be a fact or it may be merely opinion. For example, Barack Obama is _____. You fill in the blank. What do you believe about Barack Obama? What about bed nets? Bed nets are _____. Convenient? Safe? Useful? Protective? What about sit-ups? Doing sit-ups every day will _____. Make your stomach muscles tighter? Whatever you fill in the blank with is your belief about that object.

Another important part of reasoned action is the attitude. What is an attitude? It's a positive or negative feeling about a person, an object or an issue. What are your feelings about Barack Obama? Do you like him? Do you not like him? What about bed nets? What about doing sit-ups? I know I don't particularly like doing sit-ups, but I do them anyway because I think they're good for my health. Your attitude is a positive or negative feeling about that object. These can affect the way that you respond to a behavior because it makes it more attractive or less attractive.

According to the theory of reasoned action (and its newer version, the theory of planned behavior), people base their intentions on two main things: 1) their attitudes toward the behavior, that is, whether performing the behavior is a good thing or a bad thing to do. 2) Their

subjective norms regarding the behavior, that is, whether other people around you are performing it and think that you should too.

The theory of planned behavior adds one more piece to the model. In both of these, beliefs about the behavior are based on whether or not you think the behavior will lead to certain outcomes and what you think of those outcomes. Are they desirable or undesirable? For example, what will happen if I sleep under a bed net? Will it be too hot to sleep or will I sleep better knowing that I'm safe from mosquito bites? How I feel about those possible outcomes affects my attitude towards bed net use.

Subjective norms are affected by what I think other people who are important to me (friends, my family, my neighbors, maybe my clergy or religious leader in the community, other community leaders perhaps) think I should do and whether or not I feel compelled to follow their preferences. For example, will my wife want us to sleep under a bed net? Does she want our children to? How strongly am I motivated to do what she wants me to do?

For some behaviors, the attitude part—what you believe will happen as a result of the behavior—is more important than the subjective norm part. For other behaviors, the normative part is more important. Often, norms are more important when the behavior is a social one, such as contraceptive use or recycling or perhaps malaria eradication in the community. Research can help determine which of these factors, beliefs or norms is more likely to influence the behavior in question.

As I said, the theory of planned behavior adds another piece to this model. It adds the idea that some behaviors may not be under our control. There may be things that stand in your way even if you want to do something. For example, can I get an insecticide-treated net if I want one? Does the local clinic have malaria prophylaxis drugs? Can I get my wife to the clinic three times during pregnancy for her to receive treatment for malaria? These things and what you believe about them also influence your motivation. If you feel helpless to perform a behavior, your intention to act will be lower.

We can use TRA or TPD in a lot of ways to help us think through the reasons that our audience may or may not take healthy action regarding malaria. We can use it to develop messages that affect beliefs, that influence our perceptions of what others think or want us to do and our control beliefs and so on. We can use it to identify who our primary audience is, who has influence over them and how we should position our communication in a way that people will be convinced or motivated to adopt the behavior.

If we go back to our story of the mother on the eastern coast of Tanzania, what would the reasoned action narrative sound like? The story begins the same way:

Once upon a time, there was a young mother who lived on the eastern coast of Tanzania. She had a 1-year-old daughter but a year earlier her 1-year-old son had died of a fever and she didn't know why, and so on and so on.

The reasoned action part of the story might go like this:

Recently, the young woman's sister told her that when a baby has fever, it should be tested at the clinic to determine what causes the fever and what kind of medicine to take. She said that when her own son had fever, a nurse told her about the test and helped her treat her son so that his fever went away. The young woman was worried about whether the test was safe and she was worried about the cost of the medicine. Her friend, who also had a daughter, told her that all fevers are the same. There's a lot of cheap medicine that you could get for fever. She advised going to the chemist instead of getting her baby tested first. The young woman knew that her sister cared deeply for her and cared about her daughter too and she valued her sister's advice. In spite of her doubts, she decided to follow her sister's suggestion. She went to the clinic for the test and got the malaria medicine for her daughter whose fever stopped and she grew stronger.

This theory emphasizes the beliefs about what will happen if you adopt the behavior. The woman was worried about cost. She was worried about the safety of the medicine. Her friend was trying to convince her not to practice this behavior because there are lots of cheaper solutions. The woman listened to the advice of her sister instead because she knew her sister cared about them and she valued the input of her sister. It was her sister, the subjective norms of the people around her that day, that convinced her that going to the clinic and getting the proper test and the proper medicine was the right thing to do.

Social learning

Our second theory, observational or social learning, was based on studies of how children learn aggressive behavior from watching others. In a series of experiments, Bandura and his colleagues showed that children who saw others behaving aggressively without being punished were likely to mimic or copy those aggressive behaviors. They did these studies in a preschool, a nursery school. They organized the experiment by having an adult come into the room and beat up on a plastic blow-up doll. These were called Bobo dolls. You may have seen them. They're plastic dolls with a heavy weight in the bottom so that if you knock them over, they bounce back again. The adult hit the Bobo doll with toys and said things like "sock 'em in the nose," "knock him down," "kick him," "Oooh, he keeps coming back for more. He sure is a tough fellow."

After beating up on the doll, the adult left the room and they watched what the children did. As you can imagine, the children did exactly what the adult had done. They used the same toys to hit the doll and they said the same things, "sock 'em in the nose," "knock him down," "kick him," "pow" and so on. This was evidence to Bandura and his colleagues that children could learn aggressive behavior by observing what other people did and whether or not they were punished for those actions.

As they conducted more experiments, they introduced other variables into the study. For example, another adult would scold the first adult about their behavior and say something like, "You shouldn't beat up on the poor doll. It's not nice." They observed the children afterwards and they discovered the children were less likely to perform the aggressive behavior if they saw the model had been scolded for that behavior.

Basically, this theory says that people learn by observing what other people do. By observing what happens to those people as a result of their behavioral choice, for example, are they rewarded or punished socially or materially or even physically. Then they evaluate the relevance and the importance of those consequences for their own life and rehearse the behavior, usually first in their mind, mentally rehearsing the behavior, and then attempting to reproduce the action themselves if they feel confident or positive about it.

The most common application of this theory is in modeling behaviors that we want people to adopt, showing what happens to people who act in a certain way and demonstrating how to perform the behavior oneself.

Just like reasoned action, we can use social learning to think about what motivates the behavior of our audience, about what messages could convince people to change and how to reward or reinforce the behavior once it starts so it will continue. We can show the behavior in a visually simple way. We can encourage people to try the behavior. We can provide feedback to them when they make an attempt. We can show how individuals support each other to practice that behavior and achieve the benefits that the behavior provides.

How would you re-write that care-seeking narrative about malaria in Tanzania from a social learning perspective? What would you focus on to tell that story? Let me give you a moment to think about that.

How would you re-write the narrative from a social learning perspective? Perhaps you could tell how the young mother sees a neighbor going to the clinic and getting malaria medicine and what happens to their children as a result. She might recognize that those friends and neighbors are similar to her and she might identify with them and with their family and with their children. She might see that the children come home from the clinic and get better and don't have a fever as often as they used to or not at all.

Think about how you might use this theory to tell the story of the behavior of your audience. Let's take a short break and come back and we'll talk about the second two theories of these four common ones that are used for communication and behavior change programs, diffusion and fear or risk management.

Part 4: Four common theories of communication and behavior: Diffusion and fear management

Welcome back. In this second part of the Four Common Theories of Communication and Behavior, we'll focus on Diffusion of Innovations and Fear or Risk Management, sometimes called the Extended Parallel Process Model.

Diffusion

The diffusion of innovations, or diffusion theory, is a narrative about interaction, information sharing, and decision-making within a social network. Some of the basic assumptions of diffusion theory are that people choose to act based on how they perceive the action in the context of their daily lives, what they see other people doing, and how people talk about and share information about that action within their community, within their family, within peer networks, and so on.

New ideas often come from opinion leaders or from someone outside the community, but they are rejected or adopted within social networks of people who share common interests and values, like the people in your neighborhood, or in your work place.

One of the most famous studies of the diffusion of innovations was done in South Korea in the 1970s. This picture on your slide is the picture of Oryu Li, one of the villages where this study was conducted. In this village, you see the houses of the families arranged around the village, and you see in red circled the house of Mrs. Chung. Mrs. Chung was an older woman. She was an outsider to this village. She had grown up and lived in another village for many years, but her husband had died, and after that happened, she moved to Oryu Li.

Mrs. Chung became the leader of a mothers' club in Oryu Li. She organized the women to improve their homes, to improve the quality of their kitchens, and she introduced other ideas to them, like the practice of family planning. Mrs. Chung represents one of the key concepts in the diffusion of innovations, which is called the strength of weak ties. Because Mrs. Chung was an outsider, it was a little bit easier for her to introduce new ideas into the village. In other words, while people in a village may have strong ties to each other, they know each other well, they do things together, they go to the market, and so on. An outsider may be a very powerful influence in the community because they have access to information from outside the community.

Here's another picture of the same village of Oryu Li. It looks a bit different, doesn't it? The circles, the small circles with the numbers in them in this picture represent the women who lived in the houses you saw on the previous slide. Researchers asked each of those women who they talked to in the village about family planning. For each woman who was mentioned, they would draw a line. For example, can you find "Mrs. 44" in this picture? "Mrs. 44" is in the upper center of the picture. There are five lines going from "Mrs. 44" to other women in the village, meaning that "Mrs. 44" reported talking to four other women in the community about family planning.

Can you find “Mrs. 21?” “Mrs. 21” is in the lower center of the diagram, and you can see that she has only one line going from her up to “Mrs. 4” on the right top of the sociogram. That indicates that “Mrs. 21” reported talking to only one other person in the village about family planning.

Now, can you find Mrs. Chung? Mrs. Chung, number 13, is marked in the red circle on the far right of the diagram. You could see that Mrs. Chung reported talking to a lot of other women in the village.

This illustrates another important principle of diffusion of innovations. Mrs. Chung is what we call an opinion leader. An opinion leader is someone that other people in the community or in the neighborhood or in the work place turn to for advice, someone they trust, someone they talk to, someone they approach for information when they have a question.

A third feature of the diffusion of innovations that can be very helpful in understanding audience behaviors and designing behavior change communication programs is how people perceive the action or the innovation that we are trying to promote. Does it offer some advantage over the current behavior? Is the new behavior compatible with what you currently do? Is it compatible with your beliefs and with your values? Is the new behavior difficult to perform, or is it easy? How complex is it? Can it be tried without too much risk before making a decision? Finally, are there opportunities to see what happens to other people who adopt this behavior?

These perceptions are called relative advantage, compatibility, complexity, trialability and observability. You might notice that some of these concepts are similar to things we heard about in social learning. Observability, for example, refers to opportunities to see what others do. Remember in social learning, people learned by watching what others did and what happened to them. You can see that these theories sometimes overlap a little bit, but they also have their own unique features.

Diffusion theory points to slightly different things to think about. How does the audience perceive the new behavior or the new product we are offering, those five characteristics that we just talked about? Who are the important people in the community or in the media that people trust and listen to or turn to for advice? How can we create messages to change how people think about the behavior in order to make it appear more beneficial or easier to do or to show what happens when you do it?

What would the care-seeking narrative be from a diffusion perspective? How would we describe the young woman in Tanzania dealing with malaria and a daughter who is feverish? What story would you tell?

We might focus on how she perceives this new behavior of testing her child for fever. Is it convenient? Is it compatible? Does it have an advantage over what she has been doing and the way that she's been treating her daughter in the past? Where does she get information about

this? Does it come from her neighbors? Does it come from her family? Does it come from the media? What are her sources of communication, sources of information within the neighborhood, or within her village?

Who else is doing that behavior? Who else is taking their children for malaria testing and treating them, and what's happening to them? Can she see that their children are healthier if they've taken them to the clinic for a test and given them the right medicine they need in order to prevent malarial fever? How are power and access distributed in the community? Who has information? Who are the opinion leaders, and who is influential? Who influences the health behaviors of women and families in the community?

All of these things are unique to the diffusion perspective. If we see that some of these issues are important in a particular community, we may think about using diffusion to tell that narrative.

Fear management

The last theory I'd like to talk about is risk or threat management theory. This theory actually goes by a number of different names. Some people call it extended parallel processing (EPPM) because it refers to the interaction between cognition and emotion, between rationality and emotion and decision-making. Other people refer to a similar theory, the risk perception attitude framework, but all of them share some common features. Some of the basic assumptions of this approach are that fear can be motivation or incapacitating. It can be positive or negative in terms of decision-making. Fear usually motivates people to act, but too much fear can be a bad thing.

Some of the early research on fear appeal messages showed that some messages were so frightening that people tried to avoid even thinking about the issue and ignored the campaign messages. For example, some early studies promoting dental health or tooth brushing showed people horrible pictures of gum disease with the intention of scaring them about gum disease and motivating them to take up daily tooth brushing as a solution. But some people found those pictures so repulsive, so horrible that they refused to look at them and wouldn't even think about this issue because they didn't want to experience that fear and revulsion.

There are two components to this model, two aspects of it. One is the fear or threat component, which refers to the emotional reaction that people have. It's usually the emotion that determines motivation. Threat, or fear, has two components to it itself. One is severity. This refers to how serious people believe the threat to be. In the case of malaria, how serious do people think malarial disease is? Can it cause death or not? The second part of threat is susceptibility, which refers to the belief that the disease or the threat can actually happen to you. While you may think that malaria is a serious disease, you may not think that you, yourself, are at risk of contracting malaria. Together, severity and susceptibility define how threat is perceived.

The second part of this model is efficacy or confidence in your ability to control or manage the threat or the risk or the fear that you feel in the face of a threat. Efficacy is the cognitive or rational part of this model in comparison to the emotional part that threat represents. Efficacy, like threat, has several components or several aspects. One is response efficacy, which refers to a perception that a proposed solution will actually control the threat. For example, do you believe that bed nets can prevent malaria transmission?

The second part of efficacy is self-efficacy, which refers to the perception that you, yourself, can perform the action in order to control the threat. For example, self-efficacy might refer to whether you think it's possible to use a bed net consistently in order to prevent malaria.

The third part of efficacy refers to barriers, a perception of what might stand in your way that would prevent you from practicing the behavior in order to reduce the threat.

How does this theory help us to develop a communication strategy? One of the nice things about this perspective, risk management or EPPM, is that it can help us to segment our audience into different groups who might require a different kind of narrative.

Efficacy perceptions can be divided into high or low. For example, some people might feel very confident that they can control the threat posed by malaria, while other people may feel very little confidence in their ability to control the threat of malaria. Threat perceptions can be divided into high or low. Some people might feel highly threatened by malaria, while others might not feel threatened at all.

This 2x2 chart shows four very different kinds of audiences for malaria messaging. On the one hand, you have some people who feel threatened by malaria and also feel confident that they can do something to prevent that threat. We might call these people "engaged." These are people who think that malaria might happen and also know that they can protect themselves if it occurs.

A second group we might call "confident," but not engaged. These are people who feel confident that they can control the threat of malaria but don't think that the threat is very real or very high. These are people who believe they can protect themselves from malaria but don't think it will happen.

Let's compare these to the people in the second column on the right. Here you have people who might be concerned about malaria because they perceive the threat but don't think they can do anything to protect themselves.

The fourth group is the people who don't think malaria will happen and don't think they could do anything about it anyway. You might call these people "disengaged."

Each of these four groups might require a different kind of messaging strategy. The engaged people who are already confident and perceive the threat might just need cues to action to encourage them to seek malaria treatment or to use a bed net.

The confident people might need education about realistic risk perception. We may need to convince them that malaria does, in fact, pose a threat to their community and to themselves.

The concerned people who perceive the threat, but don't know what to do about it, could be educated about measures that they can take to prevent malaria or to treat it if they fall sick.

The disengaged group that neither perceives threat nor has confidence to deal with it might need both education about the realistic risk that they face, and they would need education about what to do in order to address that risk.

In some situations, we might want to consider using the risk perception or risk management, fear management framework for our programs. We would use this, perhaps, to help us identify how audiences think of the health issue. Do they consider it serious? Do they actually feel threatened? Are they fearful, or are they unconcerned? We can use this framework to help us identify what people think the solutions might be, how they can avoid the danger, and whether those solutions can actually be achieved.

We might use this framework to help identify messages that change perceptions of threatened efficacy. Can we increase how serious someone regards the threat of malaria to be? Can we help them understand whether they actually are at risk or susceptible to malaria? Can we increase their knowledge of what to do about malaria, to prevent it or to treat it? Can we show them how others have responded and what the consequences, what the outcomes of those behaviors might be—healthier children, fewer cases of malaria, and so on? We can show them how others have overcome barriers to the behavior.

What would your care-seeking narrative be from this perspective? How would you tell the story of the young woman in Tanzania who wanted to protect her daughter from malaria?

In this case, you might focus your narrative on how serious the young woman perceives the threat of malaria to be. Can malaria fever be fatal? Does she think that her own daughter can fall sick?

We might also focus that story on what she thinks can be done about it—getting her child tested, getting herself tested during pregnancy, using a bed net to prevent mosquito bites in the first place. We might also focus on whether she thinks that she is able to achieve those behaviors, to practice good preventive malaria behavior or seek treatment at the appropriate time.

That concludes the summary of our four theories. I think it's important for you to understand that all of these theories are simply descriptions of how people behave. If we think of theories as stories, we can use them creatively to develop strategies and messages for our programs.

If our messages, our theories, are based on the evidence, are based on what people in the communities actually do, then the messages that we produce should reflect the story in that community, the story of how people decide which behaviors to practice and what stands in their way or makes it easier for them to do so. The better your messages match to a theory, the more likely it is that your messages will have the outcomes that you desire.

In summary, let me quote Kurt Lewin from 1954. Kurt Lewin was one of the giants of the social psychology of communication, and he said, "There is nothing as practical as a good theory."

The theories that I've been describing to you in this lecture are really just tools for thinking about what causes the behaviors that you want to influence. Why do people act the way they do? What factors are most likely to encourage or facilitate the behaviors that your program wants to encourage? Is there anything that you've forgotten to consider, any explanation, any motivation, any fear or concern that your audience might have that would prevent them from doing what you would like them to do? How can your program use communication to overcome barriers, to help people take protective action in the face of challenges or in the face of poor resources or resistance from their friends or family?

After a short break, I'd like to come back and talk about the big picture about how these theories of individual behavior fit into a larger model of health and society.

Part 5: The big picture: Pathways to a health-competent society

Welcome back. In this last section of the discussion about theories, I'd like to take a step back and consider the big picture. In this talk we've been focusing mostly on individual behaviors. That is, how individuals choose to prevent malaria or seek treatment when they fall sick. But it's important to realize that programs may need to consider other factors beyond the individual. A lot of communication occurs within service delivery systems between clients or between patients and physicians or health outreach workers and individuals in the community. Other communications might occur at the political or the policy environment level; for example, media advocacy or the communication of health policies to health workers and health systems. In other words, there may be a story to tell at those levels too. How do things happening at these upper levels affect the stories at the level of the community and the individual? Pathways to a health-competent society is one of those larger, big picture models that describes how communication can help to improve communication, and health services, and communities in order to support the behavior of individuals.

It's beyond the scope of this lecture to describe this model in great detail, but I wanted you to understand that the individual behavior theories do fit into a larger explanation of health in society. This Pathways framework brings together individual theories of behavior, including the four main ones we discussed as well as theories at the service and policy level. Can you find some of these core concepts in the larger model of health communication in society? Look in the middle in the column that's labeled "health competence facilitators." Do you see social norms? Do you see efficacy? Do you see collective efficacy? How about at the bottom in the individual level of health competence facilitators? Do you see emotion, beliefs and attitudes, perceived risks, self-efficacy? These are some of the concepts we've been discussing in our lecture today but the framework doesn't tell a single story of individual or even of community level behavior.

This is something like a Chinese restaurant menu; everything is there that you could possibly want to eat but if you try to eat everything you'll probably make yourself sick. Instead use a model like this as a checklist or a set of building blocks as you begin to choose which story to tell for a particular program. Research can help you figure out which of the concepts and which parts of this model are relevant for a given setting or for a particular audience or for a particular program. The underlying conditions on the left are your starting point. The sustainable health outcomes on the right are your destination. Which path or story is the best way to get from the starting point to the destination? Now this is a generic pathways framework that we developed some years ago for a broad integrated family health program but the next slide shows one developed specifically for malaria. Here you can see that some of the factors in a general model still appear; emotion and values, beliefs and attitudes, leadership, networks and so on.

But there are some unique pieces of the story that apply specifically to malaria if the program goal is to reduce the burden of malaria by 80 percent or some target by the end of 2013. Can you find some of those unique elements related to malaria? Look in the domains of communication column for example. Here you find something like the availability of insecticide-treated bed nets and treatment packages in service delivery systems. Look in the behavioral outcomes column. Here you see things like IPT 1 and IPT 2 adherence. These are aspects of successful service performance. How about in the lowest level of community and individual behaviors? Here you see things like leaders advocating for malaria prevention. Here you see things like adherence to treatment and pregnant women attending antenatal visits where they learn more about malaria.

So you can see that a larger model like this can be used to see the role of individual communication in the larger picture of health improvement and can help you to identify the right story to tell in getting your audience from the underlying conditions or their starting point, to the sustainable health outcomes that your program desires. Let's stop here with our

discussion of theories and frameworks for behavior change communication. This has been a lot of detail, a lot of things to absorb and to think about for your programs. It can take people years to fully understand the research and the theory behind some of these ideas but we give you this introduction to get you started thinking about practical ways to apply some of these theories to the work that you do from day to day. In the last section of this lecture we're going to give you a little practice at doing this. We're going to show you a video and ask you to identify some of the theories that appear in a particular malaria message. So let's take a short break and then come back and look at the video.

Part 6: Practice: Find the theory in a malaria message

In this final section of the lecture, I'd like to give you a little practice finding theory in malaria messages. We are going to play a game called "find the theory." On the next slide you will be able to watch a video about Annie Anopheles and IPT; this comes from a malaria prevention program in Zambia. As you watch that video I'd like you to try to identify any of the elements from one or more of the theoretical perspectives we've been discussing. Does any one framework stand out more than others? On this slide you see a list of some of the key concepts from the theories we've been discussing. Under reasoned action, for example, you see beliefs about the consequences of a behavior and attitudes toward the behavior, whether you feel positively or negatively about it, for example.

You see subjective norms, what you think other people think about the behavior or want you to do. We see intentions to behave and beliefs about whether you can control the behavior yourself. Under social learning we see things like the presence of positive and negative role models, people who demonstrate the behavior. You see the concept of observing and evaluating what happens to others.

People think about how they are similar to the model or different and they think about their own efficacy to practice that behavior. Under threat management we see some of the key concepts like the interaction between cognition or reason and emotion. We see the concepts of perceived severity and susceptibility and again efficacy perceptions about the response and about your own ability to practice that behavior. Under diffusion we see some of the concepts like observability, relative advantage, compatibility, trialability, the complexity or simplicity of the behavior, the concept of opinion leaders and the idea of social networks or learning from the people around you.

Look at this list carefully and notice that some concepts appear in more than one theory but each theory has some of its unique elements. If you don't remember some of this, you might want to look back at the different theories and review what each one focuses on before going

ahead with this exercise. When you are ready please go to the next slide and watch the [5-minute malaria cartoon from Zambia](#) (YouTube) featuring the villainous Annie Anopheles who tries to talk a man and his wife out of listening to a doctor. The doctor wants them to have a safe pregnancy by using intermittent treatment during pregnancy (ITP). When you've finished viewing the video, try to identify some of the theory concepts in this chart that you have seen in the message.



Video

Father: Hello. I am Mr. Caputo. This is my first born, Mary. My lovely wife, Vana Mary, may not look pregnant, but she is with our second child and will soon be very fat. Today, I'm taking Vana Mary to the health facility. Even though she has already had one healthy child and knows what to do, it is important for her to regularly visit the health facility to make sure she and the baby are strong and healthy.

Mother: Rashmiri, stop all that talking. Who are you talking to? We need to leave for the health facility.

Father: She is always complaining about my talking. Okay, okay. Coming!

Provider: Vana Mary, your weight, blood pressure, heart rate measurements are all good. Now, remember to come back after two months, when the baby starts to move, for your first dose of Fansidar to prevent malaria in pregnancy. This is called intermittent preventive treatment or IPT.

Mosquito: Fansidar! You don't want that. Remember how it made you feel sick during your last pregnancy?

Mother: Oh, um. But, Mr. Banda, during my last pregnancy I had awful side effects from taking Fansidar pills. I felt weak, dizzy, and sick.

It is true. She was not well. How can these pills be helping her and the baby when they are making her feel sick?

Provider: Yes, if you take Fansidar on an empty stomach, or with no food you will feel sick. This feeling will only last a short while and will not harm the mother or baby. However, if you take it with a handful of groundnuts or a banana, you will feel much better. So when you come back for your first dose make sure to bring something to eat with you.

Couple: Oh!

Mosquito: But you, you are well protected against malaria.

Mother: But, Mr. Banda, I sleep under an insecticide-treated bed net and besides these days there are fewer mosquitoes around. Won't this give me enough protection?

Provider: It is good that you sleep under an insecticide-treated net to protect yourself from malaria inside the home, but for a pregnant woman this is not enough. Think of all the times you sit outside your home on cool nights chatting with family and friends. There's nothing to protect you from the bite of malaria carrying mosquitoes at those times.

Mosquito: Why worry? Malaria is treatable.

Father: But, Mr. Banda, there is treatment for malaria now. If Vana Mary gets malaria, we will come back to see you at the first sign of sickness.

Provider: But did you know that a woman can get malaria during her pregnancy and not even know it? She will show no signs at all of being sick and may even test negative. Meanwhile, the malaria will be harming her and the unborn baby. Malaria in pregnancy can lead to serious health problems and even death to the mother and child. Don't take any risks, Rashmiri and Vana Mary. Fansidar is the best way to prevent malaria in pregnancy.

Couple: Oh! In that case we will definitely come back for Fansida.

Mother: And I will remember to bring a mango or some groundnuts.

Mosquito: No, don't!

Mother: [swats the mosquito]

All: Pregnant women, protect yourself and your unborn child from malaria. Go to health facility three times to receive Fansidar once the baby starts to move.

Announcement: This program was brought to you by the Ministry of Health in partnership with HCP and MACEPA, and with support from the U.S. President's Malaria Initiative.

Lecture

What did you think about that malaria cartoon? And what were some of the theories and the theoretical concepts that you saw in that narrative? Did you see the concept of role modeling in which the husband and the wife are positive role models? They go to the clinic together during pregnancy and ask questions about malaria treatment. What about perceived consequences from the theory of reasoned action? The husband and his wife are worried that she'll feel sick from the side effect of Fansidar. What about self-efficacy? The doctor explains how to avoid those side effects of Fansidar by bringing food, snacks such as bananas, that she can take along with the Fansidar in order to prevent nausea. Maybe you saw the concept of perceived benefits. The doctor explains how treatment adds protection that bed net use cannot.

What about risk perception—did you see that in the message? The man and his wife say that they didn't know that the risk of malaria starts immediately when a woman becomes pregnant even before symptoms appear. What about intentions? Did you notice that in the message? The man and the wife say they will definitely come for Fansidar at the right times during her pregnancy. What about the concept of significant others? The doctor in this case is someone who the couple trusts and who they are motivated to listen to. You can see that theoretical concepts can be used very effectively to create a message that is more likely to have the effects that you want to create in your audience.

This concludes our lecture about the use of theories to tell stories about your audience and to develop messages and communication strategies in your program. In summary, I'd like you to think about how you can create and use your own program theory. A program theory is your own description of how your audience behaves and why they make the behavioral decisions that they do. You don't have to choose one of the theories we've talked about today or even some other theory with which you are familiar.

What's important is that you use the concepts in those theories to understand your audience and develop the right stories for them. When you develop that story, of course you want to check it against the available data. What do you actually know about the audience? Have you

done your formative research to understand what motivates them? What their concerns are? What prevents them from choosing a behavior?

If you don't know what the right elements of your story, what the right parts of your story should be, perhaps you should collect more data about your audience in order to understand the basis for their actions. You might identify environmental constraints and barriers that your audience will face so that you can build those into your story and identify the skills and knowledge that they might need in order to perform the behavior. From your data and the knowledge of your audience you need to identify the best channels or the activities for delivering those messages. Should it be through television? Should it be through radio? Should it be through community events or through service delivery points in a clinic?

Once you have identified your program theory or your behavioral narrative or story for your audience, you might want to think about how that fits into a larger model of health in society using something like the integrated pathways model. Once you are confident and comfortable with your program theory, then you can begin to develop your messages and materials that you will use in your program.

Let's don't forget that at the end of your program you will need to evaluate it using your own program theory as the guide for what to measure to demonstrate that your story and your messaging had the effect that you wanted. This is only the first of your five modules. As you go through the rest of these, you will learn more about how to use your program theory to build an effective malaria prevention program. This brings us to the end of this module. I want to thank you for your attention and I hope this module will be helpful to you in developing your programs for malaria prevention.

Resources

- The prologue of this manual provides an overview of several health communication theories:
 - de Fossard, E. (1996). *How to Write a Radio Serial Drama for Social Development: A Script Writer's Manual*. Baltimore, MD: Johns Hopkins University School of Public Health.
<http://www.jhuccp.org/sites/all/files/How%20to%20Write%20Radio%20Serial%20Drama%20for%20Soc%20Develop%20.pdf>
- These toolkits contains several readings on health communication theory:

- K4 Health. Toolkits: Communication Theory Readings. Retrieved from: <http://www.k4health.org/toolkits/tanzania-ace/communication-theory-readings>
- K4 Health. Toolkits: Communication Theories and Models. Retrieved from: <http://www.k4health.org/toolkits/uganda-fpcommunication/communication-theories-and-models-0>
- Social learning theory:
 - Bandura, A. (2004). Health Promotion by Social Cognitive Means. *Health Education Behavior*, 31, 143–164. Retrieved from: <http://people.oregonstate.edu/~flayb/MY%20COURSES/H671%20Advanced%20Theories%20of%20Health%20Behavior%20-%20Fall%202012/Readings/Bandura%2004%20HP%20by%20social%20cognitive%20means.pdf>
- Threat management:
 - Cho, H. & Witte, K. (2005). Managing Fear in Public Health Campaigns: A Theory-Based Formative Evaluation Process. *Health Promotion Practice*, 6, 482–490. Retrieved from: <http://hpp.sagepub.com/content/6/4/482.full.pdf>
- Diffusion theory:
 - K4 Health. Toolkits: Reading 6A: Chapter 1, “The miracle of Oryu Li” & Chapter 2, “The convergence model of communication and network analysis” from Communication Networks: Toward a New Paradigm for Research. Retrieved from: <http://www.k4health.org/toolkits/tanzania-ace/reading-6a-chapter-1-%E2%80%9C-miracle-oryu-li%E2%80%9D-chapter-2-%E2%80%9C-convergence-model>
- Theory of planned behavior:
 - Ajzen, I. Theory of planned behavior. Retrieved from: <http://people.umass.edu/aizen/tpb.html>

Speaker biography



Douglas Storey is an Associate Director at CCP and faculty member at the Bloomberg School of Public Health where he teaches courses on strategic health communication programs. He has 30 years of experience in health communication, development communication and evaluation research, and has lived and worked in 29 countries. His work spans a wide range of topics including reproductive health, maternal and child health, avian and pandemic flu, preventive health behavior, environmental communication, community capacity building and strategic communication planning. He has consulted on health behavior communication research, evaluation and strategic planning for numerous international organizations and foundations. Dr. Storey is ex-officio Chair of the Health Communication Division of the International Communication Association.

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To access the full course content, including slides and videos, go to [SBC Learning Central](#). [Getting Started \(PDF\)](#).

Acknowledgments

This presentation is made possible by the generous support of the American people through the U.S. Agency for International Development. The contents are the responsibility of the presenter and do not necessarily reflect the views of USAID or the U.S. government.

