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Theoretical Framework
Multi-Year Mass Media Campaign Plan

Prepared for:
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Food Safety and Inspection Service
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Introduction

The United States Department of Agriculture (USDA) Food Safety and Inspection Service (FSIS) has contracted with ORC Macro and its subcontractor APCO Worldwide to create a social marketing framework and mass media campaign plan that will promote safe food handling practices among consumers. To develop the framework and campaign plan, ORC Macro and APCO Worldwide are examining relevant communication and behavior change theories that will inform the campaign, reviewing previously conducted research with consumers related to safe food handling practices and similar issues, and reviewing media coverage of USDA and related campaigns.

This report describes relevant communication and behavior change theories that form the theoretical framework for the mass media campaign plan. Social marketing, risk communication, behavior change, and communication and information processing theories provide a solid foundation for the mass media campaign plan. This report describes the major components of these theories and their application to the mass media campaign plan development.

Social Marketing

Social marketing is a conceptual approach to mass media campaigns. Social marketing has been defined as "the application of commercial marketing technologies to the analysis, planning, execution, and evaluation of programs designed to influence the voluntary behavior of target audiences in order to improve their personal welfare and that of their society" (Andreasen, 1995, p.7).

> **The Mass Media Campaign Plan Should:**
>
> - **Target behavior change**
> - **Leverage resources**
> - **Create audience-centered strategies and tactics**
> - **Use the Four P's of marketing: Product, Price, Place, and Promotion**
> - **Gain an understanding of the target audience through research**
> - **Group audiences into segments that have similar characteristics**
> - **Recognize and address competition**

The social marketing approach differs from how public health agencies have typically developed programs or communication materials. In the past, health educators often focused on providing information to the public on a particular topic, with the hope that the people who needed the information would realize that they are at risk and change their behavior as a result (Weinreich, 2003). In contrast, social marketing targets a particular segment of the population, using persuasive messages and audience research and participation.

The key principles of social marketing are:

- ➢ Targeting behavior change,
- ➢ Leveraging resources,
- ➢ Creating audience-centered strategies and tactics,
- ➢ Using the *Four P's* of marketing: Product, Price, Place, and Promotion,
- ➢ Understanding the target audience through research,
- ➢ Grouping audiences into segments that have similar characteristics, and

> ➢ Recognizing competition (Andreasen, 1995).

Targeting Consumer Food Safety Behaviors

Research has shown high levels of awareness and moderately high levels of knowledge about food safety behaviors among consumers (FDA, 2001). Therefore, the mass media campaign plan will target safe food handling behaviors, rather than awareness or knowledge. The specific behaviors being targeted are Clean, Separate, Cook and Chill. Social marketing, by focusing on changing consumer behavior, provides the framework needed for the development of an effective campaign that targets these four behaviors. A key step in the development of this campaign is to analyze the four target behaviors and identify factors that affect the performance of these behaviors and might be addressed in the campaign.

> **The Mass Media Campaign Plan Should:**
> - **Target safe food handling behaviors rather than awareness or knowledge**

Leveraging Resources

Leveraging campaign resources is inherent to social marketing. The federal resources available for health-related mass media campaigns are limited and it is important to use those resources effectively and efficiently, obtaining the most exposure out of the funding. Partnerships are a way that social marketers leverage resources to achieve the desired objectives of a campaign. By partnering with two highly-visible media, the mass media campaign plan will leverage the influence and reputation of those media and create a larger impact on consumers. The campaign plan will also describe how to leverage USDA/FSIS's extensive network of partners, including the Partnership for Food Safety Education. In addition, the campaign will describe how to gain leverage through paid and earned media.

> **The Mass Media Campaign Plan Should:**
> - **Leverage resources through partnerships and earned media coverage**

Creating Audience-Centered Strategies and Tactics

In the past, health promotion campaigns tried to persuade the target audience to adopt the views of scientists and researchers (Frewer, 2004). In contrast, a social marketing approach recognizes that individuals take action only when they believe it is in their interests (Andreasen, 1995). Therefore, social marketing persuasion strategies start with understanding audience needs, wants, values, and perceptions. This focus on the audience is critical to the development of a strong mass media campaign plan that will address specific behaviors of the target audiences and will consider audience characteristics in message development. By reaching out to audiences and determining how to best package the desired behaviors to fit with audience needs, wants, values, and perceptions, a social marketing framework increases the effectiveness of a campaign.

> **The Mass Media Campaign Plan Should:**
> - **Address audience needs, wants, values, and perceptions**
> - **Take these factors into account to target specific behaviors and audience characteristics in messages**

Using the *Four P's* of Marketing: Product, Price, Place, and Promotion

Social marketing draws on the elements of the commercial marketing mix: product, price, place, and promotion. The *product* is what is being "sold" to the consumer. For social marketing campaigns the product is usually a behavior, but can

> **The Mass Media Campaign Plan Should:**
> - Increase actual and perceived benefits and decrease actual and perceived costs of safe food handling behaviors
> - Address environmental factors related to safe food handling

be knowledge, attitudes, beliefs, or behavioral intention. For the mass media campaign plan the product is safe food handling behavior, specifically Clean, Separate, Cook, and Chill.

The *price* is what the consumer must do, or give up, to obtain the product, such as time, effort, social approval, money, an enjoyable behavior, etc. Decisions to perform a behavior are based on the considerations of both benefits and costs. Social marketers work to decrease the costs of a behavior and increase the benefits. The costs of safe food handling might include the need to purchase a food thermometer or non-wood cooking implements, the effort of properly washing and storing food and cooking implements, or the cost of repairing a malfunctioning refrigerator.

The *place* refers to the environment in which the target audience is expected to perform the behavior. The target behavior (product) should be easy for the audience to perform. The tools that the audience needs to properly perform the behavior need to be readily accessible. For example, to check the internal temperature of meat, a thermometer is needed. If the person had the motivation and desire to perform the behavior, but does not have, or cannot access, a thermometer, he or she cannot check the internal temperature of the meat.

Promotion is the use of various communication vehicles to create and sustain demand for the product. The product is promoted through a variety of channels, including mass and interpersonal, and may include rewarding consumers for performing the desired behaviors. The mass media campaign plan will employ a variety of channels, including television, radio, magazines, events, and interpersonal communication to promote safe food handling behaviors.

Additional components of the marketing matrix for social marketing are publics, partnership, policy, and purse strings (Weinreich, 2003). *Publics* are external and internal stakeholders, including target and secondary audiences, policymakers, gatekeepers, and the communicators themselves. *Partnerships* are other organizations in the community that can help the communicator be effective. *Policy* is the parameters within which a communication plan must operate as well as an opportunity to change policies that would reinforce the product. Finally, *purse strings* are the amount and sources of funding, which may have some stipulations on the use of those funds.

Understanding the Target Audience through Research

Given that the social marketing approach is centered around the target audience's needs, wants, values, and

> **The Mass Media Campaign Plan Should:**
> - Include plans for using formative research and pretesting of messages, products, plans
> - Include plans for process and outcome evaluations

perceptions, it is critical for the marketer to develop a deep understanding of those needs, wants, values, and perceptions. Social marketers conduct formative research to understand the audience before the campaign is developed. Campaign components are pretested with the audience before they are implemented to examine the audience's reaction to the messages, products, or places. Once a campaign is implemented, process evaluations examine the effectiveness of the campaign implementation and examine reactions by the target audience. Finally, outcome evaluations measure whether the campaign is creating changes in behavior. ORC Macro and APCO will be conducting formative research, pretesting messages and materials with target audiences, and developing plans for process and outcome evaluations that will continually improve the mass media campaign plan.

Grouping Audiences into Segments that have Similar Characteristics

Formative research points out the ways that members of the target audience are different, including differing needs, wants, values, and perceptions.

> **The Mass Media Campaign Plan Should:**
> - **Segment audiences and develop distinct campaign plans and elements for those segments**

Therefore, to achieve the greatest effect, the mass media campaign plan must be tailored to consider those differences. While it is impractical to treat each target audience member individually, it is possible to group audience members into segments for strategic purposes. The segments become the focus for distinct campaign elements and emphases. By segmenting the audience into relatively homogenous groups, social marketing increases the effectiveness of messages and materials. Messages and materials are tailored to the unique characteristics, values, wants, and needs of each audience segment. Based on audience research, strategic planning meetings with USDA/FSIS, and a strategy summit, target audiences for the mass media campaign plan will be identified.

Recognizing Competition

The social marketing approach acknowledges that every behavior of the audience requires choice and giving up other behaviors. Therefore, the

> **The Mass Media Campaign Plan Should:**
> - **Account for competing behaviors and messages**

campaign must keep in mind not only what the marketer is trying to convey, but also what the target audience sees as the major alternatives. For example, to avoid safe food handling practices, the target audience might increase their consumption of pre-prepared and restaurant foods. However, this might not decrease, and might increase, the risk of foodborne illness and other negative consequences.

Risk Perceptions and Risk Communication

Theories of risk perception and risk communication add to the social marketing framework by indicating how audiences will perceive foodborne illness risks and how best to
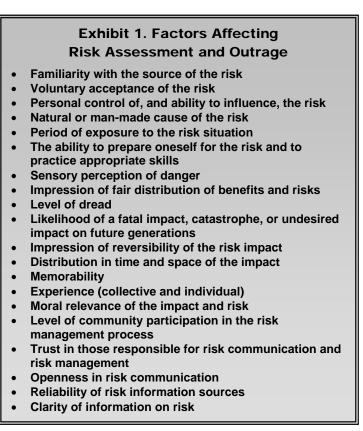
> **The Mass Media Campaign Plan Should:**
> - **Address consumers' perceptions that the risks associated with improper food handling are low.**

communicate those risks. Risk perceptions influence people's behaviors and response more than

technical risk assessments (Frewer, 2004). Various qualitative factors (Exhibit 1) affect perceptions of risk (Slovic et al., 1981; Sandman 1987; Slovic, 1987; Slovic 1993; Slovic, 2000; Renn and Rohrmann, 2000).

Research conducted by Slovic and his colleagues (Slovic, 1987, 1993, and 2000) has consistently demonstrated that factors such as whether a risk is perceived to be involuntary, potentially catastrophic, or uncontrolled are more important determinants of public response than technical risk information alone. Most members of the public are concerned about long-term effects of risk, equity, fairness, and lack of personal control (Renn, 2004). People are more comfortable with threats that they can foresee and plan for rather than threats that could materialize themselves at any time regardless of how unlikely that might be (Renn, 2004). In addition, people often feel much more comfortable with familiar hazards, such as car accidents, as opposed to unfamiliar hazards such as radiation, and they appear willing to tolerate much higher risks from the

> **Exhibit 1. Factors Affecting Risk Assessment and Outrage**
>
> - **Familiarity with the source of the risk**
> - **Voluntary acceptance of the risk**
> - **Personal control of, and ability to influence, the risk**
> - **Natural or man-made cause of the risk**
> - **Period of exposure to the risk situation**
> - **The ability to prepare oneself for the risk and to practice appropriate skills**
> - **Sensory perception of danger**
> - **Impression of fair distribution of benefits and risks**
> - **Level of dread**
> - **Likelihood of a fatal impact, catastrophe, or undesired impact on future generations**
> - **Impression of reversibility of the risk impact**
> - **Distribution in time and space of the impact**
> - **Memorability**
> - **Experience (collective and individual)**
> - **Moral relevance of the impact and risk**
> - **Level of community participation in the risk management process**
> - **Trust in those responsible for risk communication and risk management**
> - **Openness in risk communication**
> - **Reliability of risk information sources**
> - **Clarity of information on risk**

former than the latter. Some consequences, such as fatalities, in particular death of children or large numbers of people simultaneously, are more troublesome than other consequences. Similarly, not all ways of dying or falling ill are regarded as equal, with cancer or slow neurodegenerative disease being more dreaded than sudden, accidental death.

These qualitative factors in risk assessment offer a plausible explanation for the fact that risk sources deemed of low-risk by technical assessments can be a source of great concern by the public. Conversely, a high risk may be of less concern to the public. The discrepancy between the technical risk assessment and risk perception is not due to uncertainty about statistically derived expectations, but is an indication of a multidimensional risk assessment matrix (Renn, 2004).

Consumers believe that the risks associated with improper food handling are low (USDA & ORC Macro, 1995). There are several factors unique to safe food handling by consumers that make consumers perceive the risk of foodborne illness from home food preparation is low. These factors include:

> ➤ Personal control over the risk by consumers,
> ➤ A low level of dread for the consequences of improper food handling,

➢ Given the time delay of many foodborne illnesses, it may be difficult to see the association between food handling practices and foodborne illness, and

➢ Perception of low likelihood of death as a result of improper food handling.

Therefore, messages about the risk of foodborne illness and the consequences of improper food handling will need to address any misconceptions about risks and consequences.

Behavior Change Theories

Given that the mass media campaign plan will address consumer food handling behaviors, the campaign materials and messages should be based in behavior change theory. The four behavior change theories addressed below are: the Transtheoretical Model of Behavior Change (also called the Stages of Change Model), the Health Belief Model, the Theory of Reasoned Action, and Social Learning Theory.

Transtheoretical Model of Behavior Change (Stages of Change)

According to the Transtheoretical Model of Behavior Change, people tend to exhibit varying degrees of readiness or actual involvement in the behavior change process. The model

> **The Mass Media Campaign Plan Should:**
>
> • **Consider audiences' stage of change in segmentation plans and outcome expectations**

places individuals in five stages that indicate their readiness to attempt, make, or sustain behavior change. The five stages are *precontemplation*, *contemplation*, *preparation*, *action*, and *maintenance* (Exhibit 2). Stages are specific to different behaviors and change is often cyclical, meaning that behaviors may slip from one stage back to a previous stage (Prochaska & DiClemente, 1983). The varying levels of motivation and involvement of individuals in the different stages may require different interventions, materials, or messages.

Exhibit 2. Stages of Change Model	
Stage	**Description**
Precontemplation	The individual is not intending to change or even thinking about change in the foreseeable future (usually measured as the next 6 months).
Contemplation	The individual is not prepared to take action at present, but is intending to within the next 6 months.
Preparation	The individual is actively considering changing his or her behavior in the immediate future (e.g., within the next month).
Action	The individual has actually made an overt behavior change in the recent past, but the changes are not well established (has been maintained for six months or less).
Maintenance	The individual has changed his or her behavior, maintained the change for more than six months, and is working to sustain the change.

Research shows strong existing awareness of safe food handling behaviors (Clean, Separate, Cook and Chill) and indicates that many consumers have considered changing their behaviors and may have actually tried to change their behavior, but fewer have made specific behavior changes or maintained safe food preparation practices (FDA, 2001; USDA & RTI, 2002).

Therefore, the messages for the campaign should show consumers how to change their behavior and provide the support for maintaining those changes.

Health Belief Model

The Health Belief Model (Becker & Maiman, 1975; Rosenstock, 1966; Rosenstock, 1974) proposes that people are more likely to engage in preventive behaviors if they believe that:
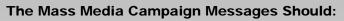
> **The Mass Media Campaign Messages Should:**
> - **Address susceptibility, severity, barriers, benefits, and self-efficacy**
> - **Provide cues to action**

- ➢ They are susceptible to the potential problem (*perceived susceptibility*),
- ➢ The problem has serious consequences (*perceived severity*),
- ➢ There are few barriers to taking the preventive action (*perceived barriers*),
- ➢ The preventive action will be effective in minimizing the risk (*perceived benefits*), and
- ➢ They are capable of performing and maintaining the behavior as is needed to obtain the desired effect (*self-efficacy*).

Additionally, individuals are more likely to engage in preventive behavior if they receive *cues to action*, which are environmental cues that stimulate individuals to take action. The Health Belief Model also takes into account *modifying factors* that include demographic and sociopsychological variables.

Applying the Health Belief Model to safe food preparation, consumers should be more motivated to Cook, Clean, Separate, and Chill if they believe that: (1) they or those who eat their food are likely to acquire a foodborne illness; (2) foodborne illness would have significant negative consequences; (3) practicing safe food preparation behaviors would not be difficult or problematic; (4) that safe food preparation behaviors would be helpful in preventing foodborne illness; and (5) they are capable of practicing safe food preparation behaviors correctly to avoid foodborne illness. Finally, consumers would also need cues to action, such as the mass media campaign, advice from others, illness of a family member or friend, or reminders on cooking shows or in recipes.

Theory of Reasoned Action

The Theory of Reasoned Action (Ajzen & Fishbein, 1980) states that individuals decide to engage in behaviors based on the outcomes that they expect to occur because of that behavior. The theory states that

> **The Mass Media Campaign Messages Should:**
> - **Attempt to increase perceptions of positive consequences of safe food handling and decrease the perceptions of negative consequences**
> - **Create positive feelings about safe food handling**

behavior is predicted by behavioral intention, which in turn is predicted by the individual's *attitude* and *subjective norm*. *Attitude* is a person's positive or negative feelings toward the behavior, i.e., is the behavior desirable or not. Two variables feed into this attitude: *behavioral beliefs*, which are the perceived consequences of the behavior, and *outcome evaluation*, which is the personal evaluation of the consequences as positive or negative. *Subjective norm* is a person's perceived social pressures to think or behave in a certain way, i.e., what others think the

individual should do. Subjective norms affect an individual even when no one witnesses the behavior. Two variables make up *subjective norm*: *normative beliefs*, which are a person's perceptions of what significant others think, believe, or do, and the *motivation* to comply with these referents.

According to the Theory of Reasoned Action, for consumers to practice safe food preparation, they must believe safe food preparation is desirable and will result in positive outcomes with few or no consequences. In addition, they must believe that significant others want them to practice safe food preparation and be motivated to comply with the desires of others. To address the subjective norm, the campaign might appeal to food preparers through their significant others, e.g., children, partners, or parents.

Social Learning Theory

In Social Learning Theory (Bandura, 1977), behavior is explained as a three-way, dynamic, reciprocal process in which personal factors, environmental influences, and behavior continually interact. A basic premise of Social Learning Theory is that people learn not only through their own

> **The Mass Media Campaign Messages Should:**
> - **Provide the knowledge and skills needed to prepare food safely**
> - **Create positive expectations of safe food handling**
> - **Boost individuals' confidence in their ability to prepare food safely**
> - **Show respected individuals preparing food safely**
> - **Reinforce safe food preparation through rewards**

experiences, but also by observing the actions of others and the results of those actions. Selected key concepts of Social Learning Theory are defined in Exhibit 3.

Exhibit 3. Social Learning Theory	
Concept	**Description**
Behavioral Capability	Knowledge and skills needed to perform the behavior, i.e., what to do and how to do it.
Expectations	Beliefs about likely results of the behavior.
Self-Efficacy	The individual's confidence in his or her ability to successfully perform the behavior.
Observational Learning (Modeling)	Process of learning what to expect by observing others performing the behavior. Observational learning is most powerful when the person being observed is powerful, respected, or considered to be like the individual.
Reinforcement	Responses to a person's behavior that increase or decrease the chances that the behavior will be repeated. Positive reinforcements are often called rewards. Negative reinforcements include punishment and lack or any response or result.

Social Learning Theory indicates that the campaign messages should:

- ➢ Provide the knowledge and skills needed to prepare food safely,
- ➢ Indicate that by performing these behaviors food will be safer and those who consume the food will be less likely to acquire a foodborne illness,
- ➢ Boost individuals' confidence in their ability to prepare food safely,

- ➢ Show respected individuals preparing food safely, and
- ➢ Reinforce safe food preparation through rewards.

Communication and Information Processing Theories

Extended Parallel Processing Model

The Extended Parallel Processing Model suggests that when people perceive a serious and relevant threat, they become frightened (Witte, 1992, 1993, 1998). Once frightened, people are motivated to take action to reduce their fear. According to Extended Parallel Processing Model, individuals

> **The Mass Media Campaign Messages Should:**
> - **Increase beliefs about the effectiveness of safe food handling**
> - **Boost individuals' confidence in their ability to prepare food safely**
> - **Provide specific and easy behaviors that individuals can do to reduce their fear of foodborne illness**

take two general paths in response to the fear appeal. People can become motivated to control the danger of the threat or to control their fear about the threat. To control the danger, individuals consciously think about the danger and how to get rid of it. They review recommended behaviors, such as those advocated in a campaign, and adopt one or more of those behaviors as a means to control the danger. In contrast, when people are motivated to control their fear, they try to eliminate or reduce their fear through denial, defensive avoidance, or psychological reactance. Finally, if people do not perceive a significant or relevant threat, they will not be motivated to take action.

Perceived efficacy determines whether an individual will engage in danger control or fear control. *Perceived efficacy* includes *response efficacy*, an individual's beliefs about the effectiveness of the recommended behavior, and *self-efficacy*, an individual's beliefs about his or her ability to perform the recommended behavior. People engage in danger control when they believe they can easily and effectively avert the threat through recommended behavior. In contrast, people engage in fear control processes when they do not think they are able to adopt a recommended response to avert a serious and relevant threat because it is too hard or too costly, takes too much time, or will not effectively avert the threat. Therefore, if any of the mass media campaign messages contain fear appeals, it is critical that the messages include specific and easy behaviors that individuals can practice to reduce their fear of foodborne illness and other negative consequences.

Elaboration Likelihood Model

The Elaboration Likelihood Model (Petty & Cacioppo, 1986a, 1986b) portrays message receivers as active participants in the persuasion process. The Elaboration Likelihood Model describes two routes to persuasion:

> **The Mass Media Campaign Messages Should:**
> - **Present numerous reasons to engage in safe food handling**
> - **Be delivered by a credible source to whom the target audience relates.**

central and peripheral. The central route to persuasion consists of thoughtful consideration of the persuasive arguments in the message, and occurs only when a receiver possesses both the motivation and ability to think about the message and topic. The central route results in an

attitude that is enduring, resistant to change, and predictive of behavior. The peripheral route occurs when the receiver lacks ability and/or motivation to engage in much thought on the issue. Using the peripheral route, the listener decides whether to agree with the message based on cues other than the strength of the arguments in the message, such as whether the source is credible or attractive, the number (but not the quality) of arguments in the message, or length of the message. The peripheral route results in an attitude that is temporary, susceptible, and unpredictive of behavior.

To ensure that the target audiences follow the central route to persuasion, the mass media campaign's messages must motivate the target audience to think about the message and safe food handling practices. In addition, the message should present numerous reasons to engage in safe food handling and be delivered by a credible source to whom the target audience relates.

Conclusions

Social marketing, risk communication, behavior change, and communication and information processing theories provide insight into the types of messages that the mass media campaign should develop and how target audiences will respond to those messages.

The mass media campaign plan should:

- ➢ Target safe food handling behaviors rather than awareness or knowledge,
- ➢ Leverage resources through partnerships and earned media coverage,
- ➢ Address audience needs, wants, values, and perceptions,
- ➢ Take these factors into account to target specific behaviors and audience characteristics in messages,
- ➢ Increase actual and perceived benefits and decrease actual and perceived costs of safe food handling behaviors,
- ➢ Address environmental factors related to safe food handling,
- ➢ Include plans for formative research and pretesting of messages, products, plans,
- ➢ Include plans for process and outcome evaluations,
- ➢ Segment audiences and develop distinct campaign plans and elements for those segments,
- ➢ Account for competing behaviors and messages,
- ➢ Address consumers' perceptions that the risks associated with improper food handling are low, and
- ➢ Consider audiences' stage of change in segmentation plans and outcome expectations.

The messages developed for the mass media campaign messages should:

- ➢ Address susceptibility, severity, barriers, benefits, and self-efficacy,
- ➢ Provide cues to action,
- ➢ Attempt to increase perceptions of positive consequences of safe food handling and decrease the perceptions of negative consequences,
- ➢ Create positive feelings about safe food handling,
- ➢ Provide the knowledge and skills needed to prepare food safely,
- ➢ Create positive expectations of safe food handling,

- ➢ Boost individuals' confidence in their ability to prepare food safely,
- ➢ Show respected individuals preparing food safely,
- ➢ Reinforce safe food preparation through rewards,
- ➢ Increase beliefs about the effectiveness of safe food handling,
- ➢ Boost individuals' confidence in their ability to prepare food safely,
- ➢ Provide specific and easy behaviors that individuals can do to reduce their fear of foodborne illness,
- ➢ Present numerous reasons to engage in safe food handling, and
- ➢ Be delivered by a credible source to whom the target audience relates.

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