Public involvement and risk communication in food safety governance: Lessons from *Listeria monocytogenes* and vulnerable groups

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A thesis submitted to the Faculty of Graduate Studies

Master of Natural Resource Management

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By

Maciej Mikulsen

A Thesis/Practicum submitted o the Faculty of Graduate Studies of The

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Signatures

Abstract

The listeriosis outbreak of 2008 brought attention to the state of food safety in Canada. The federal government fell under considerable criticism for its response to the outbreak and for the safety shortcomings that led to the food contamination. The criticisms did not, however, focus on the state of public involvement and risk communication in the food safety arena. Much attention has been devoted in the literature on how the public can be involved effectively in decision-making as well as on what makes risk communication effective – just not in a Canadian context and certainly not since the listeriosis outbreak. With that in mind, this research was undertaken to *explore* public involvement and risk communication in food safety governance in Canada through a particular focus on *Listeria monocytogenes* and vulnerable groups. The objectives were to 1) describe (and assess) public involvement and risk communication in food safety governance, 2) identify changes made to public involvement and risk communication since the 2008 listeriosis outbreak, and 3) make general recommendations to improve public involvement and risk communication in food safety governance, and specific recommendations to improve *Listeria monocytogenes* related public involvement and risk communicati**on** undertakings.

Three data collection procedures were employed in this qualitative study. The document review was the first, and included an analysis of various publicly available government documents. Next, 16 interviews were conducted with a total of 19 respondents who were representative of various interest groups, including, and not limited to, federal government agencies, industry and non-profit consumer organizations. Lastly, two focus groups were conducted with respondents between 61 and 78 years of age.

The findings show that, historically, Health Canada (HC) has involved the public in decision-making to a greater extent than has the Canadian Food Inspection Agency (CFIA).

Nevertheless, HC engagement level (i.e., higher level) involvement opportunities have primarily been offered to scientific and technical experts rather than to the lay public. The findings also demonstrate that while HC has articulated and affirmed the importance of being open and transparent, and has shown initiative in support of this affirmation, it has lacked consistency and thoroughness in actually being open and transparent.

HC and the CFIA have instituted certain changes since the listeriosis outbreak. They have shown a greater propensity since the listeriosis outbreak to try to understand the behaviors of consumers generally, and vulnerable populations in particular. Still, the federal approach to risk communication has been overly general and reliant on the Internet, has failed to provide opportunities for dialogue with the vulnerable or general groups with whom it is communicating and is not based on foodborne surveillance data. The results also suggest that a large disjuncture exists between technical and lay risk perceptions. In conclusion, this study has shown that the risk to vulnerable groups (particularly seniors) posed by the bacterium *Listeria monocytogenes* has not been significantly mitigated through any public involvement undertakings with the lay public nor through any fundamental activities in the area of risk communication.

Notwithstanding this conclusion, HC (and to a lesser extent, the CFIA), in occupying a leadership position in food safety can reinvigorate how the lay public is involved in decision-making by providing them with a seat on technical and scientific advisory committees and by making improvements to the manner in which it reports upon public involvement exercises. HC and the CFIA can also institute improvements to their risk communication approach by promoting and facilitating collaboration among food safety organizations, by facilitating opportunities for dialogue between officials and the general public, and by exploring the potential use of alternative risk communication vehicles, such as food labels.

Acknowledgements

I would like to begin by stating that the NRI has a special thing going and I'm glad to have been apart of the NRI experience. In some way I am sad that my time here has come to an end.

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List of Abbreviations

AAC	Academic Advisory Committee
CFIA	Canadian Food Inspection Agency
FD	Food Directorate
FSA	Food Standards Agency
GEDS	Government Electronic Directory Service
HC	Health Canada
HPFB	Health Products and Food Branch
L. monocytogenes	Listeria Monocytogenes
OCAPI	Office of Consumer and Public Involvement
PAC	Public advisory Committee
PI	Public Involvement
PHAC	Public Health Agency of Canada
RC	Risk Communication

CHAPTER I - Introduction

1.1 Preamble

Canada's food security system was tested during an outbreak of listeriosis in the summer of 2008. The crisis exposed weaknesses in the Canadian approach to food safety governance and became a catalyst for change, particularly within the federal food safety partnership, which includes Health Canada and the Canadian Food Inspection Agency. This descriptive and exploratory study focused on public involvement and risk communication. The purpose of this research was to *explore* public involvement and risk communication in food safety governance in Canada with a particular focus on *Listeria monocytogenes* and vulnerable groups.

1.2 Context

Industrial-scale meat processing is characterized by a highly centralized industry reliant on systematic and automated production processes. This system results in broad public exposure to the hazards associated with food production and requires an effective governance strategy to minimize risk and ensure food safety. Mohmaed Salih (2009, p.501) provides a general, yet useful, definition of governance that applies to food safety in Canada: "the exercise of power in an institutional context with the main aim of directing, controlling, and regulating activities concerned with the public interest."

The Canadian food safety governance framework is largely recognized as being technocratic in its approach (Isaac, 2002; Skogstad, 2006). Technocratic forms of governance are underpinned by a view of science as highly legitimate and scientists as possessing authoritative power. Decision-making processes in a technocratic system are structured in such a way that members of the public (here I speak of the public generally and vulnerable populations/interest

groups specifically) are rarely meaningfully involved. They are communicated to but not communicated with, and are rarely active participants in decision-making processes. Ely et al. (2009) offer an alternative version of governance (Figure 1.1), to replace the technocratic forms that dominated in the first half of the 20th century. The core features of Ely et al.'s (2009) general framework for food safety governance are *communication* and *public involvement* (the latter denoted in Figure 1.1 as participation). In this governance framework, communication and public involvement are expressed, respectively, in the form of continuous public communication on processes and results, and feedback of stakeholder knowledge and values (Ely et al., 2009). (The other aspects of Figure 1.1 are explained in section 2.2.3.)

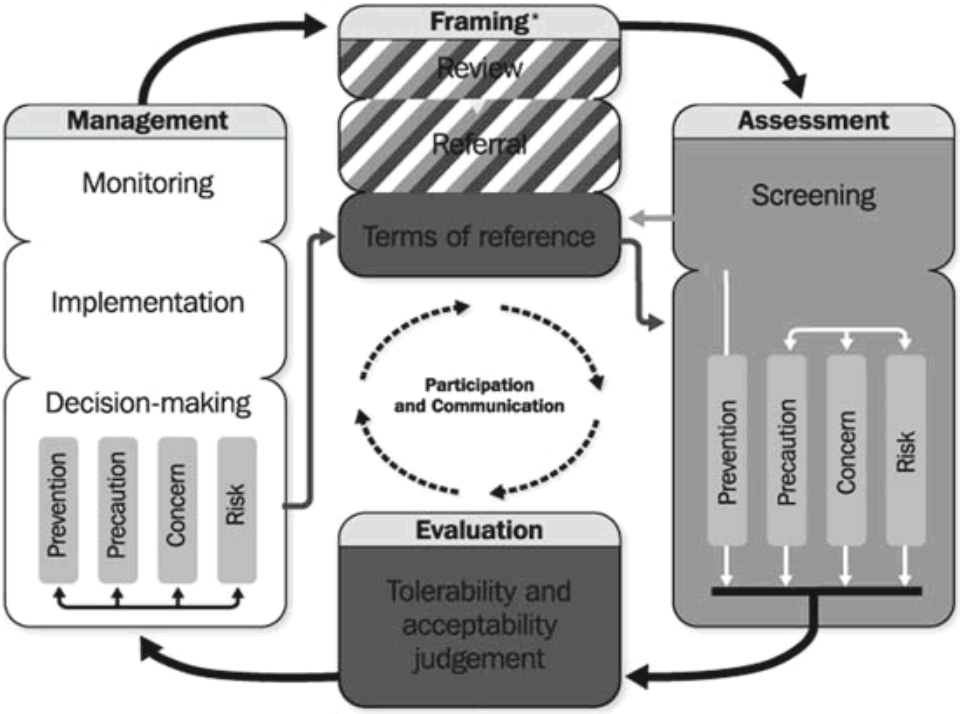

Figure 1.1: A general framework for food safety governance with participation and communication as the core (Source: Ely et al., 2009)

The food safety governance framework in Canada is a complex amalgam of federal and provincial agencies. To varying degrees, each agency is involved in monitoring the food

production process, overseeing industry compliance and acting in the interest of public health safety. The complexity of the food safety system is made evident by the divergent mandates and various degrees of influence each agency possesses.

The Canadian listeriosis outbreak, which occurred during the summer of 2008, resulted in 57 illnesses of which 22 were confirmed deaths (Health Canada, 2009b). Primary responsibility for the outbreak rests with Maple Leaf Foods, the processor and main distributor of the contaminated ready-to-eat meats that were the source of the disease. However, various federal and provincial agencies including, and not limited to, the Canadian Food Inspection Agency (CFIA), Health Canada (HC), and the Public Health Agency of Canada (PHAC) had a role to play in mitigating, preparing for, responding to, and recovering from the outbreak.

Examining federal activities since the listeriosis outbreak sheds light on food safety governance. This examination included public involvement and risk communication activities undertaken by HC and the CFIA. In the analysis, the 'public' denotes two subgroups. Those belonging in the first group are participants acting in a professional capacity (scientific and technical experts), and are identified throughout the document as professional stakeholders. Those belonging to the second subgroup are comprised of participants acting in a non-professional capacity. Though this group is heterogeneous and comprised of a multitude of affected stake-holding publics and un-affected lay publics, for ease of comparative analysis and simplicity's sake they are treated as a homogenous group and referred to in this document as the *lay public* and sometimes, laypersons, two terms which are consistent with the literature (refer to section 2.3.5 for more discussion on this).

Applying disaster management concepts, particularly the management cycle of

mitigation, supported this examination. According to Warfield (2008), effective disaster management includes, "the shaping of public policies and plans that either modify the causes of disasters or mitigate the effects on people, property and infrastructure." *Mitigation* can be likened to *prevention* in medical jargon, encompassing activities and behaviors that lessen the impact of a disaster, such as a foodborne disease outbreak. In order to effectively govern food safety in Canada, federal agencies require procedural avenues of interaction with the public. These avenues should facilitate knowledge sharing and establish clear and enforceable standards for meaningful public involvement both before and after an outbreak.

1.3 Purpose and objectives

The purpose of this research was to *explore* public involvement and risk communication in food safety governance in Canada with a particular focus on *Listeria monocytogenes* and vulnerable groups. The specific objectives were to:

1) describe (and assess) public involvement and risk communication in food safety governance;
2) identify changes made to public involvement and risk communication since the 2008 listeriosis outbreak; and,
3) make general recommendations to improve public involvement and risk communication in food safety governance and specific recommendations to improve *Listeria monocytogenes* related public involvement and risk communication undertakings.

I hope, in this work, I have identified ways to improve public involvement and risk communication with respect to the hazards associated with foodborne illness, including the bacterium *Listeria monocytogenes*. I believe that the food safety governance framework in Canada would be strengthened through more inclusive public involvement and communication

processes. These processes can and should include reciprocal educational materials and deliberative learning opportunities that engage the lay public and facilitate a dialogue that can lead to more meaningful decision-making. It is also my view that a greater degree of public confidence can be achieved if outbreaks of the type caused by *L. monocytogenes* can be prevented. Moreover, foodborne illness can be reduced by engaging the public on issues relating to the assessment and management of, and communication regarding, the hazards of food production.

1.4 Methods

This study used a qualitative strategy (Creswell, 2009) to investigate public involvement and risk communication programs and processes. During the study, the importance of the listeriosis outbreak was readily evident, although the outbreak itself was not the primary focus of the work. Rather, the listeriosis outbreak was a historical event that provided an opportunity to understand public involvement and risk communication in food safety governance.

Data collection and analysis began with a review of federal guidance documents and materials related to public involvement and risk communication. Materials, such as *The Health Canada Policy Toolkit for Public Involvement in Decision Making* (Health Canada, 2000b), were the focus of the document review. The review also included an assortment of materials found on the websites of HC, the CFIA and the PHAC. In their totality, these documents enabled me to describe public involvement and risk communication activities undertaken by the federal food safety actors and enabled me to explore the gaps in public involvement and communication in food safety governance.

The second data collection method was semi-structured personal interviews with key

respondents. It was my aim to conduct interviews with three officials from each of HC, the CFIA and the PHAC. This component of data collection was designed to shed further light on the objectives and methods these departments/agencies had used in the area of public involvement and risk communication. It is through these interviews that department or agency officials were questioned on their public involvement and risk communication activities. Interviews were also carried out with a broad range of non-governmental respondents affiliated with consumer groups, not for profit food safety organizations, the food industry, non-governmental health organizations and academia. Interviews with these respondents brought an even greater breadth of understanding than would otherwise have been generated from the document review and governmental respondent interviews alone.

The third data collection method, focus group, was conducted with two groups of seniors 65 years of age or older (safe for one participant who was 61) who reside in Winnipeg, Manitoba and who prepare and shop for their own food. This demographic was chosen because it has a heightened vulnerability to *L. monocytogenes.* Focus group participants were asked to share their knowledge, opinions and beliefs regarding the risks of *L. monocytogenes*, and discuss risk communication. The aim of the focus group was to identify more meaningful forms of risk communication that might enable community members to better understand their vulnerabilities, food safety hazards, and risk assessment in non-outbreak conditions.

The data were analyzed using *content analysis,* which is defined by Patton (1990) as the identification of core consistencies and meanings in a body of qualitative material (Kondracki, Wellman & Amundson, 2002). The usefulness of content analysis extends to studies in which the data are presented in text form. The functionality of content analysis in this research was,

therefore, confirmed by the fact that this study employed methods of data collection in which text was a fundamental attribute. Relational analysis, a subset of content analysis, was also employed in this project. Relational analysis serves in the codification of patterns in semantically divergent statements or ideas (Colorado State University, 1993-2009). The primary analytical frameworks were derived from the literature on public involvement and risk communication. In particular, the public involvement analysis relied on work conducted by Arnstein (1969), Fiorno (1990) and Rowe & Frewer (2000), while the risk communication analysis was based on work done by Renn (2009) and Sellnow et al. (2009). The codification of data was based principally on the assessment categories derived by the aforementioned authors.

1.5 Organization of the Study

This thesis is organized into six chapters. The first chapter presents the context and background for the research. The second chapter reviews the literature pertinent to the research, and includes sections on food safety, governance, the mitigation phase of the disaster management cycle, risk assessment, public involvement and risk communication. The third chapter describes the methodology employed for this research, the methods of which include a document review, interviews and two focus groups. The chapter also describes the frameworks that were used as a guide for the analysis. Chapter four presents the results regarding the public involvement component of the first and second objectives. Likewise, chapter five provides the results with respect to the risk communication component of the first and second objectives. Chapter six addresses the third objective by making recommendations to improve public involvement and risk communication in food safety governance. In doing so, it presents results and discussion regarding recommendations, and draws from the implications of chapters four

and five. Chapters six completes the thesis by offering concluding remarks on the project.

CHAPTER II – Literature Review

2.1 Food Safety

2.1.1 Introduction

Berry (1990, p.145) articulates a position that the modern western consumer easily takes for granted; namely, that, "eating, is an agricultural act." This view underscores the premise that food is a fundamental natural resource that is at the core of human existence. In fact, at its basic level, eating trumps all other basic human needs, except the need for water. It is doubtful, then, that people would or do take food for granted on a basic level. I presume that most people have felt and responded to hunger with a genuine, if not visceral, appreciation for the food presented before them.

Perhaps not so doubtful, however, is the detachment that exists between food products and modes of food production, and between consumers and producers. At the grocery store, consumers are exposed to a seemingly endless supply of food options about which, by and large, they have little knowledge. Further, they have little control over how, under what conditions, with which ingredients, and with which processes the food they wish to purchase has been grown, processed and manufactured. This detachment stems from a modern reorganization of food production in which agricultural intensification and technological advancements are important parts (Forge, 2003). Ilbery, Morris, Buller, Maybe, and Kneafsey (2005, p.116) write that, "the growing detachment between the production of agricultural outputs and the manufacture and supply of food to the wider population has been one of the principle characteristics of the modern agrofood sector." That consumers are detached from the complexity of food production does not imply that they are disinterested in these processes; disillusioned perhaps, disinterested no. In fact, there is considerable public interest in the hazards

associated with food products and the extent to which these hazards compromise food safety (Kaferstein & Abdussalam, 1999). These hazards manifest themselves in a range of attributes, including the accidental contamination of food products during processing (U.S. Department of Agriculture Food Safety and Inspection Service, 2006).

Developed countries, including Canada, have an abundance of food resources. Socioeconomic differences aside, Canadian citizens are not plagued by the same food related crises that a large proportion of citizens in the developing world face. Famine, systemic malnourishment and persistent food shortages are not developed-world issues. That said, Canadian consumers are concerned with the state of food production generally and, historically, have shifted their concerns to food safety issues as they have arisen. This shift has occurred even while many experts exalt that the modern food supply has become safer (Roberts, 2009). The 'Western' shift from a developing world mentality in which concerns over food are related to scarcity and availability, to a developed world mentality over concerns of product quality and safety has been well documented by Waarden (2006). Written primarily from a European perspective, his thoughts apply equally to Canada. Waarden (2006) attributes the rise in Western consumer expectations as having been influenced by a number of cultural and economic factors, the sum total of which represents rising consumer expectations over food safety. Waarden (2006, p.530) writes,

> Citizens expect politicians to act, ward off any imminent threats, and use all available scientific knowledge and other resources and powers of the state to do so. This is reinforced by the diffusion of information through the mass media and the Internet about the reactions and demands of citizens elsewhere. A veritable race of rising expectation is the result.

Jonge, Trijp, Goddard and Frewer (2008) echo Waarden's (2006) sentiments. Focusing their attention on various food crises and the extent to which such crises have influenced confidence in food safety in Canada and The Netherlands, their analysis reveals consumer perceptions have been adversely influenced by food crisis situations (Jonge et al., 2008). Outside Canada, the thoroughly documented bovine spongiform encephalopathy (BSE) scandal in Britain has had perhaps the largest impact on consumer perceptions of food safety. The scandal seriously undermined the level of trust afforded to government agencies and political actors by the public. In Canada, the most recent food safety scare has been the listeriosis outbreak of 2008.

2.1.2 Industrialization and Food Consumption

Historically, the method by which human populations have met their food requirements has varied (and I recognize that these variations continue to exist). This variation can be squarely placed within three human epochs; pre-agricultural times, spanning 3 million to 8000 BP; agricultural times, spanning 8000 BP to the mid 19th century; and agro-industrial times, spanning the mid 19th century until the present (Agropolis Museum, 2009). Technology is the primary mechanism that has afforded human populations to pass from one stage to the next (Smil, 2002). Defined here as "the practical application of knowledge especially in a particular area" (Merriam-Webster's collegiate dictionary (10th ed.), 1993), technology provided nomadic people the mechanisms to settle and subside on a community level of food production, facilitated the emergence of civilization through the generation of surplus food production and, in more modern developments, has allowed industrial societies to produce an overabundance of food (Smil, 2002).

The technological and economic developments of the industrial era have changed the way citizens in the developed world meet their need for food and are the hallmarks of the agro-

industrial period in human history. The most noteworthy technological factors that have led to the emergence of industrialization are the development of the steam engine, improvements to machinery and the more abundant utilization of water wheels (Hudson, 1992). Industrialization, as distinct from agricultural industrialization, involved mutually reinforcing historical developments. During the industrial revolution, improvements in agricultural technologies in Britain freed up labor. At the same time, continuous improvements of mechanization in agricultural industrialization facilitated the initial rural to urban population shift brought about through the initial process of industrialization. Smil (2002, p.31) has elaborated on the shift in the mode of agricultural production that was due to the effects of industrialization:

> The replacement of muscles by internal combustion engines and electric motors and the substitution of organic recycling by inorganic fertilizers have drastically cut labor needs in agriculture and led to huge declines in rural populations and to the worldwide rise in urbanization…in the US rural labor fell from more than 60% of the total workforce in 1850, to less than 40% in 1900, 15% in 1950 and a mere 2% since 1975.

The emergence of monocultural production and the propensity for agricultural specialization are two additional technological features of industrial agriculture development (Buer, 1973). The rural to urban population shift, a phenomenon that is currently being observed in emerging industrializing nations such as China and India, is a physical representation of the divide between food producers and consumers and a product of technological *progress* in food production. This shift has invariably strengthened the separation between the subject and objects of food production.

Alienation is a condition of agricultural progress. Here, I speak of alienation not as a

product of class powerlessness or as a precursor of revolutionary social change but, rather, as a functional, or dysfunctional response to the process of agricultural industrialization that denotes separation of the subject of food production from the object. The degree of alienation that exists between human beings and the environment is ascribed to technological advancements that act as conduits of human dominion over nature. DeGregori (2002 p.17) writes of the relationship between agricultural progress and alienation: "Agriculture, a pillar of all civilizations, requires alienation of some plant life forms. Domestication of plants and animals gave rise to life forms that could not continue to exist without humans providing some separation from nature." While DeGregori (2002) refers to the alienation of food producers (farmers) from their larger environment in the context that producers control the means of food production, this process extends to the larger food consumer–producer dichotomy. Modernization, mechanization, specialization and urbanization, all functional processes synonymous with 'progress,' are also means through which the food consumer base has grown and has led to a greater degree of citizen-food alienation.

Unequivocally, modern industrial farming supports a larger carrying capacity than does any other mode of human food production, including foraging, pastoralism, shifting farming and traditional farming (Smil, 2002). Modern industrial farming, then, allows the few to meet the food requirements of the many, a situation that has generated opportunities for greater wealth within the multi-billion dollar food industry.

2.1.3 Production Trends and Food Safety in Meat Processing

The largest sector in the food production industry is meat processing/packing. In 2007, this industry had annual shipments totaling $21.4 billion (Can) (Canadian Meat Council, 2008), which comprises a significant portion of food related economic activity in Canada. The meat

processing industry has changed considerably over the last half-century. During this period, the prevailing tendency towards increased efficiency has resulted in industry consolidation and vertical integration. These structural processes are largely born out of the fluctuating consumer demand for meat products. For instance, the per capita consumption of beef products dropped markedly between 1975 and 2006. The recorded apex of annual per capita beef consumption of 50 kg in 1975 (Brocklebank & Hobbs, 2004) fell to 32 kg by 2006 (Statistics Canada, 2006). Brocklebank & Hobbs (2004, p.1) link the shift in consumer demand with changes in the structure of the meat industry:

> Over the past decade, substantial changes have taken place in the beef industry, with increased consolidation and closer coordination along the supply chain. These changes are partly a result of twenty years of declining consumption that plagued the beef industry during the 1980s and 1990s. During this period, consumers began to demand high-quality food products offering convenience and variety.

Taking a closer look at industry consolidation and vertical integration reveals a desire for industry members to increase productivity thus allowing them to retain or increase market share.

Industry consolidation is the first of two measures taken in the beef packing and processing sector that has resulted in improvements to productivity (Brocklebank & Hobbs, 2004). The high capital investment required to institute cost reducing technologies benefits financially robust entities that have the capacity to absorb the costs associated with growth. These larger entities have the financial capability to either acquire smaller competitors or to make significantly large enough investments in their own facilities that enable them to out-compete competitors. Smaller, less financially dynamic entities lose market share and inevitably

suffer the perils of economies of scale.

Vertical coordination is the second organizational change to have afflicted the meat processing industry. Vertical coordination refers to the, "means by which products move through the supply chain from producer to consumer" (Brocklebank & Hobbs, 2004, p.3). Vertical coordination in the meat processing industry is regarded as an effort by industry to become responsive to shifts in consumer demand. Coordination between sectors enables the industry, also, to reach a larger consumer market (Brocklebank & Hobbs, 2004).

Industry consolidation and coordination have had an impact on the food safety regime in Canada. These structural changes have created vulnerabilities that have become increasingly difficult to manage, as evidenced by the prevalence of outbreak scenarios. The changes have created industry vulnerability that falls into two inter-related categories: those relating to distributional and temporal issues and those relating to increased exposure to pathogen contamination. According to the Public Health Agency of Canada (2009, p.5):

> Outbreaks are increasingly more widespread, affecting persons in many different places, and spread out over several weeks. Long shelf lives, wider distribution of ready-to-eat foods, and increased travel and trade opportunities, all contribute to this new scenario in which contracting and spreading a foodborne illness can occur locally, regionally, nationally and internationally.

The temporal and geographic complexities of exposure to contaminated products make detection and control of outbreaks a difficult task. While industry consolidation and vertical coordination streamline production processes and lead to increased efficiency, they also concentrate production within few industry players. The potential range of exposure is therefore, heightened by the larger consumer market and the wider distribution network of individual

producers (Public Health Agency of Canada, 2009). As such, even while it may be financially prudent for any given industry member to reduce costs through greater product integration, it may also lead to increased vulnerabilities in the food production system.

Ready-to-eat meats are the primary conduits of a certain class of foodborne pathogens, including *L. monocytogenes*. Ready-to-eat meats 'add value' to products and in doing so create additional hazard points at which contamination might occur. Ready-to-eat meats also fall in a class of products that can sit on grocery shelves for significantly long periods of time (Sellnow et al., 2009), and thus potentially delay the points in time at which contaminated products are consumed. Given the above, it is evident that consumers require a high degree of reassurance that food producers in general, and meat processors specifically, can reliably deliver products that are free from harmful pathogens. In Canada, confidence in the production process is reinforced and maintained through various institutional means.

2.1.4 Food Safety Institutions in Canada

The provision of unsafe food comes with measurable losses to a given society. It impacts those directly affected, it uses the health care system's resources and it costs the industry tremendously (particularly because the contamination of food products has an impact on people's confidence in the quality of food products). A primary means by which food safety could be attained is through market mechanisms. In actual fact, however, the market alone has proven ineffectual in providing adequately safe food.

There are a number of fundamental economic reasons for which the market, or any given private food industry player, is unable to provide adequate food safety. The discussion begins with the notion that food safety is a good like any other, in which the supply and demand for it intersect to generate a market-clearing price (Henson and Traill, 1993). Outlining the basic

supply and demand principles that bound the food safety market, Henson and Traill (1993, p.153) write that, "the demand for food safety is determined by consumers' willingness to pay for additional safety, reflecting the value placed upon the benefits they derive," and, "the supply of safety is determined by the cost of producing incremental reductions in risk." Left to its own devices, the market is unable to provide a socially optimal level of safe food products. For this reason, government intervention is necessary to correct or mitigate market imperfections (Henson and Traill, 1993). In Canada, there exist two food safety related federal agencies that rely on both command and control regulation and industry self-regulation methods of market intervention.

In general, the responsibility for food safety in Canada is a shared endeavor. It is shared among consumers at the handling stage, the food processing industry at the manufacturing, processing and distribution stages, and various federal, provincial, territorial and municipal governments at different stages throughout the system (Weatherill, 2009). While it may not be readily apparent, consumer handling is the leading cause of foodborne illness in Canada (Weatherill, 2009). In fact, the Canadian Food Inspection Agency (CFIA) reports there to be as many as 13 million cases of foodborne illness in Canada every year (Weatherill, 2009), the vast majority occurring at the final stage of the food consumption chain – the consumer handling stage. The issue of food safety, however, cannot be limited to a discussion of the relative probability of contracting a pathogen at the food handling stage. Problems of food safety outside of individual citizen control are those most likely to affect perceptions and undermine confidence in the food-processing sector (Slovic, 1993).

While market mechanisms and voluntary corporate initiatives are important mitigating factors in the area of food safety, regulations enforced through monitoring are the primary

mechanism for controlling the hazards of industrial food processing (Shofield & Shaoul, 2000). In Canada, three federal regulatory agencies are central actors. They are Health Canada (HC), the Canadian Food Inspection Agency (CFIA) and the Public Health Agency of Canada (PHAC).

HC is at the centre of this institutional configuration. It provides leadership through the formulation of policies and regulations, the sum of which cover a broad spectrum of issues (Skogstad, 2006). While the policies and standards created by HC are strengthened through their entrenchment in the Food and Drug Act and other legislation, HC is not directly involved in the enforcement of its regulatory regime. That having been said, HC does play a role in food safety compliance, albeit indirectly, given that it is involved in the evaluation of the CFIA's inspection activities (Health Canada, 2009a).

The agency responsible for enforcing regulatory compliance in the food-processing sector is the CFIA. Broadly speaking, the CFIA carries out 14 inspection programs related to foods, plants and animals (Safe Canada, 2009). In so doing, it enforces the food safety and nutritional quality standards imposed by Health Canada (Safe Canada, 2009). The generalized activities identified by the agency as central to its mandate include the protection of consumers and the marketplace from unfair practices, integrating the Hazard Analysis Critical Control Point (HACCP) approach into the food safety system, sampling and testing products and responding to food safety emergencies.

The PHAC fulfills neither a regulatory nor an enforcement function with respect to food safety. It is, however, the main agency responsible for public health in Canada, with a primary goal to, "protect and improve the health of Canadians" (Public Health Agency of Canada, 2008b). Among other responsibilities, the PHAC is mandated to protect Canadians from infectious diseases and to prepare and respond to public health emergencies (Public Health

Agency of Canada, 2008b). The CFIA advocates a preventative approach and conducts research, institutes programs and provides services directed for Canadians towards bettering their health (Public Health Agency of Canada, 2008).

2.1.5 Vulnerabilities in Food Safety: Listeriosis 2008

New types of pathogens have made their way into the meat processing cycle and manifest themselves in a manner unlike the traditional diseases found in animal food products. Historically, symptoms could traditionally be identified at the farm level and lesions could easily be detected during meat inspection at slaughter (Blaha, 2000). In modern meat processing, pathogens and diseases fall undetected unless targeted through multi-dimensional, risk based monitoring systems (Blaha, 2000). *L. monocytogenes* is one such pathogen that has appeared in 20th century food processing and which symbolizes the defining characteristics of the emergence of pathogens in modern meat processing. In fact, Seeliger (1988) reports *L. monocytogenes* to have been identified for the first time during the first quarter of the 20th century.

The bacterial byproducts of what Stassart and Whatmore (2002, p.449) determine to be the "cheap abundance and superfluous choices enjoyed by those of us accustomed to an industrial diet" are well documented. *L. monocytogenes* is one such bacterial microbe to have emerged in the last century and has become a significant foodborne pathogen to humans (Schlech, 2000). The disease, listeriosis, caused by *L. monocytogenes*, is a commonly fatal infection of the bloodstream and central nervous system (Schlech, 2000). Its increased prevalence in Canadian society can largely be attributed to the changing modes of industrial food processing. Schlech (2000, p.770) writes of listeriosis:

> Its recent importance has little to do with altered pathogenicity of the organism but everything to do with late 20th century changes in food processing and

distribution in the 'global village' as well as the increased prevalence of host factors that enhance the risk of infection.

While ready-to-eat meat products are increasingly popular amongst today's consumers, the fact that these products have an 'added value' component raises the probability of contamination (Weatherill, 2009).

The Canadian listeriosis outbreak, which occurred during the summer of 2008, resulted in 57 illnesses of which 22 were confirmed deaths (Health Canada, 2009b). Culpability for the outbreak cannot rest solely with Maple Leaf Foods, the processor and main distributor of the contaminated ready-to-eat meats that were the source of the disease. After all, private corporations and industry members have not been left entirely to their own devices in setting and complying with standards.

As mentioned in section 2.1.3, it has been well documented that structural changes in the meat processing/packing system have caused an emergence of temporal and geographic vulnerabilities. Still, the risks associated with these vulnerabilities are not spread uniformly across all societal demographics. With respect to *L. monocytogenes*, the greatest risks are amongst the elderly, pregnant women and people with autoimmune-deficiencies.

It is a certainty that the hazards of food production manifest themselves in all aspects of the farm to fork continuum of production. The layperson, even one who has an awareness of his or her own vulnerability, does not posses the requisite information or knowledge to identify, respond to, and understand all of the hazards of food production (Fiorno, 1990). Consumers have control over direct preparation of food products and therefore viewed to have control over the consequences of their actions in their immediate environment. For all other areas of potential contamination, consumers defer to institutional actors, who posses scientific and technical

expertise, who have access to specialized equipment and who are trained or skilled in detecting hazardous materials in food products (Randall, 2009). These institutional actors fulfill their roles in an arena that is highly scientific and, on the basis of science, these actors are presumed to command a high level of credibility and authority (Skogstad, 2006).

One need only read a summary of Sheila Weatherill's (2009) report of the listeriosis outbreak to see the breadth of issues that she determined to be contributing factors for the outbreak. (Ms Weatherill was the independent investigator appointed by the federal government in January 2009 to conduct an inquiry of the listeriosis outbreak, and her report was released in July 2009.) It is noteworthy, however, to identify two important regulatory decisions that preceded the listeriosis outbreak, which have largely been omitted from government mandated, investigative reports such as the one made by Weatherill (2009). While the extent to which these factors caused the crisis can be disputed, they underline the importance of scientific decision making in risk assessment and political decision making in risk management. They are also two factors that have come under public and academic scrutiny. The first factor concerns the standard for the acceptable level of *L. monocytogenes* found within ready-to-eat meat products. Prior to the outbreak, Health Canada deemed up to 100 *Listeria* bacteria per gram of ready-to-eat meat at the beginning of a product's life to be acceptable (Health Canada, 2004a). In comparison, the acceptable level in ready-to-eat meat in the United States is zero (United States DHHS Food and Drug Administration's Center for Food Safety and Applied Nutrition (FDA/CFSAN), 2003).

The second regulatory decision, which is the one more temporally linked with the outbreak, concerns the CFIA's enforcement activities. The CFIA's traditional presence in food inspection was to directly monitor industry activities. In early 2008, four months prior to the outbreak, the CFIA's role in the food safety regime changed to one in which it provided

oversight of industry self-inspection (Attaran et al., 2008). In other words, the Canadian federal government's food safety enforcement strategy shifted enforcement from the CFIA to the meat industry (Attaran et al., 2008). While it is impossible to say with complete certainty that the aforementioned regulatory and enforcement factors contributed to the crisis, it is rather clear that the outbreak occurred in a context in which the efficacy and democratic legitimacy of decision-making can be contested (Attaran et al., 2008).

2.2 Governance in Food Safety

2.2.1 Technocratic, Decisionist and Co-evolutionary Models

Governance, the fundamental notion of which refers to a system of decision-making, is a term used widely in food safety discourse. Mohamed Salih (2009, p.501) provides a useful characterization of governance, defining it as, "the exercise of power in an institutional context with the main aim of directing, controlling, and regulating activities concerned with the public interest." Two fundamental forms of legitimacy, bestowed by 'society' at large, underpin an effective governance strategy. The first form, scientific/professional legitimacy (referred to henceforth as scientific legitimacy), refers to the authoritative basis of decision making, where those with scientific and technical knowledge are given authority to establish issues, provide solutions to those issues or do both. The second form, democratic legitimacy, is a term used to denote a transparent and inclusive decision-making process. That is, democratic legitimacy may be reached when all actors can contribute to the decision-making process (Millstone, 2007). Democratic legitimacy hinges on the methods with which an assortment of public actors, elected and/or appointed, makes representational decisions. Here, one can see the intersection of science and politics, of scientific legitimacy and democratic legitimacy at the heart of governance.

Within the food safety sphere, the interplay between the scientific and policy realms has

been expressed within a range of governance frameworks. Here, I identify and elaborate upon three models that represent the evolution of thinking about the relationship between science and policy-making (Millstone, 2007). The first two forms, technocracy and decisionism, are cumbersome, have been depended upon extensively in real world scenarios and are largely exclusive to 'outsider' perspectives. The third form, co-evolutionary, is characterized as inclusive and adaptable, and tries to address the weaknesses prevalent to the first two models.

The technocratic model of governance is rooted in positivism. Early positivists, such as Auguste Comte (1798-1857), declared empirical observation as the only source of true knowledge (Millstone, 2007). They viewed abstract forms of knowledge and metaphysical world views as illegitimate and envisioned impartial experts as replacements for technically incompetent public administrators (Millstone, 2007). The early 20th century saw positivists endorse technocratic forms of governance in which scientific and technological experts were given ruling authority (Millstone, 2007). Thus, the technocratic model of decision-making is orientated around a worldview underpinned by the authority of science, in which scientific persons are assumed to be objective and impartial. Figure 2.1 presents a directional framework of the technocratic model of governance. It begins with scientific and technical facts produced by legitimized experts. These experts and only these experts possess the requisite skills and objective reasoning to produce knowledge from facts (Millstone, 2007). Technocratic forms of governance are underpinned by a view of science as highly legitimate and scientists as possessing authoritative power. As such, when any given decision-making process yields results that policy makers endorse as being based on 'sound science,' the technocratic form of decision making has been evoked with the implicit assumption that policy decisions are most effectively reached through science (Millstone, 2007). Clearly then, the technocratic model of decision

making displays a high level of scientific legitimacy and little democratic legitimacy, as made evident by the fact that policy decisions are framed and decided upon exclusively by experts.

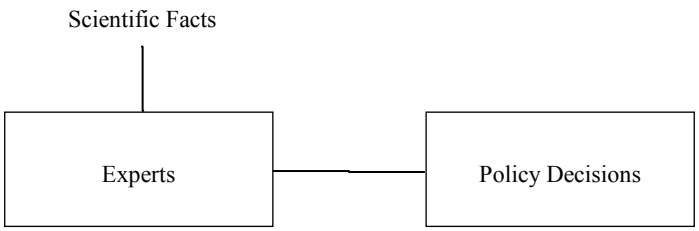

Figure 2.1: The Technocratic Model: 'policy is based (only) on sound science' (source: Millstone, 2007)

The decisionist and inverted decisionist models of governance more accurately reflect the intersection of the policy and scientific spheres than does the technocratic model. The distinguishing feature of the decisionist models is the incorporation of democratic legitimacy (publicly elected officials, for instance) in the decision-making process. Figure 2.2 (p.24) provides a graphical representation of the decisionist model whereby elected representatives frame the parameters (choice of policy goals and ends) within which experts determine appropriate courses of action (experts with facts select the means). The parameters framed by elected representatives reflect the socio-economic, political and ethical conditions found to exist

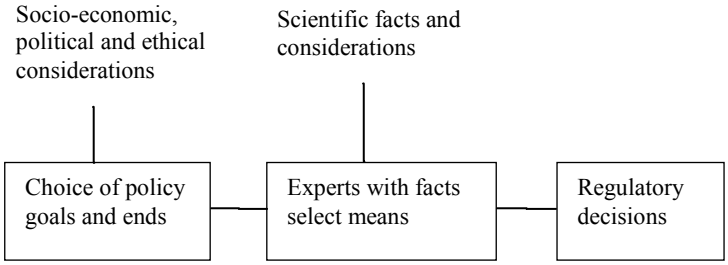

Figure 2.2: The Weberian decisionist model – politics first, then experts and bureaucrats (source: Millstone, 2007)

in any given society. The pioneers of the decisionist model - Émile Durkheim (1858-1917) and Max Weber (1864-1920) - envisioned an approach to governance that took decision-making

powers away from career bureaucrats (Millstone, 2007). To that end, those possessing scientific and technical knowledge are entrusted to formulate regulatory decisions within a context framed by elected representatives. The decisionist approach is predicated on elected officials having the wherewithal to frame policy objectives and to turn to scientific experts for the solid facts of the policy agenda. The inverted decisionist model is represented in Figure 2.3. It features essentially

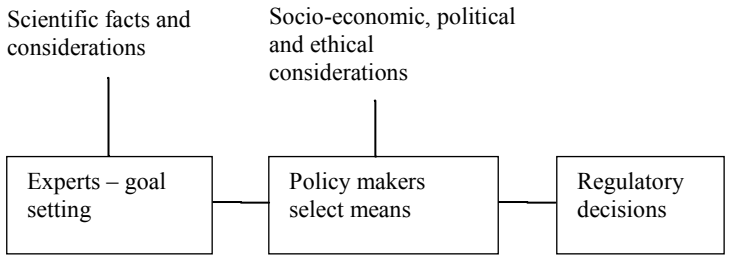

Figure 2.3: The inverted-decisionist model – policy makers select means (source: Millstone, 2007)

the same decision-making processes but inverts their order with experts setting goals and policy makers selecting the means.

Central to both the technocratic and decisionist models is the assumption that science, as a value free, neutral and objective methodology of knowledge creation, is able to provide accurate solutions to complicated problems. The implicit biases contained within both the technocratic and decisionist models of governance render them ineffectual in attaining acceptable levels of democratic legitimacy, and because of this they can undermine any degree of credibility that is assigned to scientific and technical decision-making. The co-evolutionary model of decision-making has emerged to resolve some of these concerns.

The co-evolutionary model of governance emerged from a need to acknowledge values and subjectivity in the decision-making process. Jasanoff (1990, p.230) observes:

> Although pleas for maintaining a strict separation between science and politics continue to run like a leitmotif through the policy literature, the artificiality of

this…can no longer be doubted. Studies of scientific advisors leave in tatters the notion that it is possible, in practice, to restrict the advisory process to technical issues or that the subjective values of scientists are irrelevant to decision-making.

The co-evolutionary model is graphically represented in Figure 2.4.

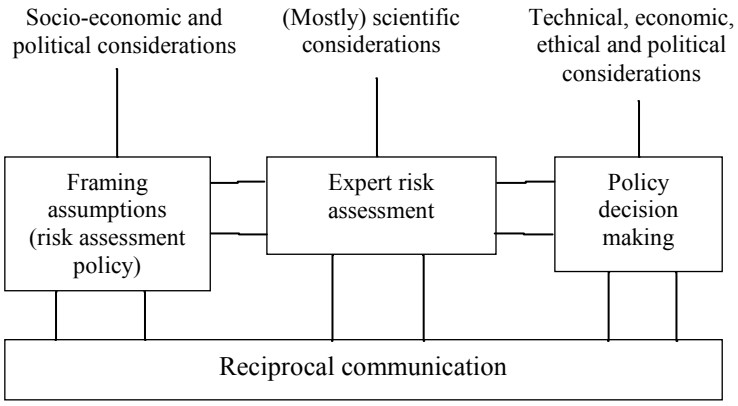

Figure 2.4: The Co-evolutionary model of decision-making (source: Millstone 2007)

In this model communication flows in a multi-directional fashion. The model recognizes that scientific deliberations are not insulated from a social, institutional or cultural context, as is typically assumed under the technocratic and decisionist models. The model views communication as a continual process that requires reflexivity on the part of all actors and at all stages of the decision-making process.

2.2.2 Governance and Canadian Food Safety

HC, in occupying the federal leadership role in food safety, is a scientifically orientated institution that operates with a high degree of autonomy. Food safety falls within HC's generalized scope of activities that includes scientific research, disease prevention and the promotion of active living (Health Canada, 2009a). Health Canada's relative political autonomy and its highly scientific modus operandi has led Skogstad (2006, p.218) to assert that it most closely resembles a technocratic policy style:

> Food safety in Canada comes closest to meeting the requirements for a technocratic regulatory policy style even though the institutional framework does not concentrate decision-making authority with respect to food safety in a single ministry…The framework facilitates a technocratic regulatory policy style because officials within Health Canada do their work generally free of parliamentary pressure.

Others, such as Isaac (2002), affirm Skogstad's (2006) observation that food safety governance in Canada is technocratic in nature. Isaac (2002, p.199) writes: "In Canada, a technocratic regulatory style prevails: Participation in the regulatory decision-making process is narrow and judicious, in that it is limited to traditional actors and experts." Interested parties have generally had limited roles to play in food safety governance in Canada. Historically, decision makers have insulated themselves heavily from citizens, consumers, and environmental groups with an interest in food safety (Skogstad, 2006).

2.2.3 Public Involvement and Communication in a Revised Framework

The balance between scientific and democratic legitimacy lies at the core of governance. How that balance is reached, its adequacy and just what it represents has led to considerable speculation. According to Zwanenberg and Milestone (2005, p.2), there is a general level of apprehension amongst policy participants and commentators about whether reaching a balance between scientific and democratic legitimacy is possible:

> …if scientific deliberations are influenced by political factors then the scientific legitimacy of those processes and their outcomes will be undermined, and if scientific experts drive political processes the democratic legitimacy of those processes will be compromised.

How can food safety decision-making become both scientifically and democratically legitimate? Most writers interested in improving food safety governance would agree that the technocratic and decisionist models of governance presented earlier are insufficient (Ely et al., 2009; Millstone, 2007). Those models fail to create a decision-making process that is both politically and scientifically transparent and legitimate. The co-evolutionary method of governance most closely embodies an approach that represents a merger between the scientific and policy spheres. Ely et al. (2009) have formulated a revised framework of food safety governance, presented in Figure 2.5 (p.30), that is an elaboration of Millstone's (2006) generalized, co-evolutionary model in so much that the central components in the revised approach are based upon public participation and inclusive communication at all phases of the food safety decision-making cycle, including framing, assessment, evaluation and management.

The general framework consists of the two well-established stages of risk analysis, assessment and management, as well as two additional stages, framing and evaluation. Framing is a term that relates to activities that provide the context within which assessment is conducted (Ely et al., 2009). The various framework activities - review, referral, and terms of reference - include the institutional and legal arrangement that determine the assignment of responsibility and the articulation of rights and obligations (Ely et al., 2009).

The assessment stage of the general framework encompasses activities that determine the risks and benefits from alternative products, processes, investments, standards, regulations and strategies (Ely et al., 2009). The process of assessment includes gathering and deliberating over information and perspectives that are pertinent to the decision-making process (Ely et al., 2009). The first process in the assessment phase is screening, which has decision makers determining the particular assessment approach to be used. The four measures that comprise this phase in the

framework are prevention, risk based assessment, precaution, and concern assessment (Ely et al., 2009). The continuum along which they fall is based on the extent to which a particular threat is found to be "certainly and unambiguously serious" (Ely et al., 2009). High seriousness and low ambiguity should trigger the preventative phase (which exists on one end of the continuum) while low certainty and high ambiguity should trigger the concern assessment phase (which exists on the opposite end of the continuum) (Ely et al., 2009).

The evaluation stage requires risk managers and regulators to consider value based factors as well as the results of the scientific based risk assessment (Ely et al., 2009). Within the process of evaluation fall two integral steps: to reach a value based judgment on the tolerability or acceptability of a particular food safety threat and to initiate a management process that results in suggestions for the most suitable management approach (Ely et al., 2009). Tolerability and acceptability are terms used to denote the overall approval of regulatory decisions and management activities. Tolerability and acceptability are informed by value-based considerations. So while assessment produces knowledge claims, evaluation deals with value claims (Ely et al., 2009). To that extent, the consideration of public risk valuations is an essential component of this phase in the general framework.

Management is based upon the results of the evaluation exercise. Management refers to measures that may include, "numerical limits for concentrations of substances in food items, standards for production and consumption, performance control, food preparation guidelines, monetary incentives, labels, and others" (Renn & Dreyer, 2009, p.76). The various steps required to make informed management decisions are the identification of possible measures, their assessment, their evaluation and the selection of appropriate measures (Ely et al., 2009). The component of the evaluation phase in which stakeholder value judgments of the tolerability and

accessibility of threats is made plays a large part in determining an appropriate management approach.

The core features of Ely et al.'s (2009) general framework for food safety governance are *communication* and *public involvement* (the latter denoted in Figure 2.5 as participation), which are expressed, respectively, in the form of continuous public communication about processes and results, and feedback of stakeholder knowledge and values. This model, then, expands the areas in which communication and involvement have traditionally been carried out – at a point after risk assessment and risk management (Ely et al., 2009). The revised framework is designed to erode the barriers to participation and communication that exist in governance regimes, technocratic or otherwise.

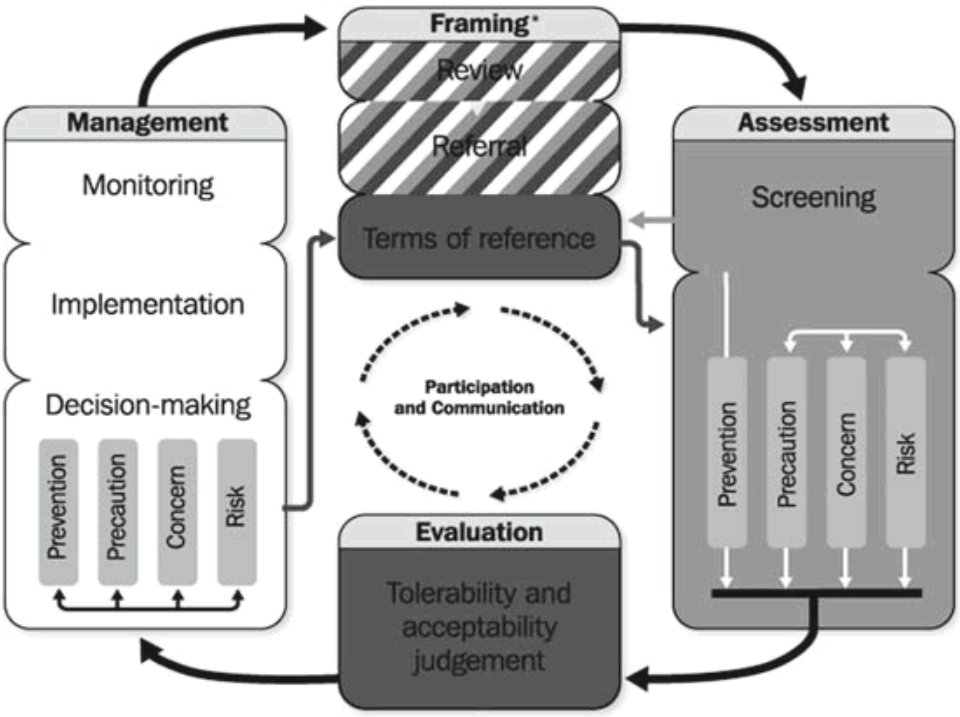

Figure 2.5: A general framework for food safety governance with participation and communication as the core (Source: Ely et al., 2009)

Improving food safety governance requires a re-orientation of risk communication

activities so they are consistent with the principles of what Leiss (1996) identifies as the third phase in the evolution of risk communication, i.e., a highly participatory, dialogical phase, focused on building trust among risk assessment and management stakeholders (see section 2.3.3). Renn (2009) provides a thorough examination of risk communication, as it would take place in such a participatory model. In so doing, he articulates the need for risk communication to span the continuum of framing, assessment, evaluation and management, the key stages of the risk analysis framework. Under a more inclusive food governance framework, there is a place for both scientific and lay participants to exchange perspectives. Within this framework, communication and public involvement efforts should involve, to varying degrees, documentation, information, dialogue and inclusive decision-making (Renn, 2009). While experts on one hand develop quantifiable risk probabilities and lay people on the other hand, by and large, hold qualitative based values (Leiss, 2004), the latter's inclusion in the decision-making process is not irreconcilable.

2.3 Mitigation, Risk and Public Involvement

2.3.1 Mitigation in, and Food Safety applied to, the Disaster Management Cycle

Much attention has been devoted to disaster management planning and the principles contained therein. The disaster management cycle has four central phases, which are listed here in their sequential order: mitigation; preparedness; response and recovery. Vasilescu and Khan (2008, p.46) present a comprehensive definition of disaster management: the "sum total of all activities, programs and measures which can be taken before, during and after a disaster with the purpose to avoid a disaster, reduce its impact or recover from its losses."

Traditionally, much effort has been devoted to the response and recovery phases of the disaster cycle. Recent findings, however, suggest that the focus in disaster management planning

is shifting away from the response and recovery phases towards the mitigation phase in the cycle (Pearce, 2003); which is defined as activities that reduce the effects that a disaster will have on people (World Health Organization, 1992). Furthermore, there is an additional recognition that the most effective mitigation efforts require full-fledged involvement on part of the particular community or vulnerable group that would bear the impact of a disaster. Pearce (2003, p.212) articulates this point: "It is recognized that while a top-down policy is needed, it is really the local-level bottom-up policy that provides the impetus for the implementation of mitigation strategies and a successful disaster management process."

The shift in focus from the response and recovery phases to the mitigation phase of the disaster management cycle requires a reorientation of priorities. Lindsay (2003) argues that the shift requires a greater emphasis on the effect of a disaster on a particular community, rather than on the specific cause of the event. He writes of this shift: "This...refocuses disaster management from battling the hazard agent to minimizing the event's harmful consequences through a combination of pre-event mitigation and the coordinated use of community coping resources in response to the impact" (Lindsay, 2003, p.292).

Key points of the reoriented focus have been summarized by Pierce (2003) and listed in

Table 2.1: The focus shift in disaster management (source: Disaster Preparedness Resource Centre, 1998 in Pearce, 2003)

From old focus:	**To new focus:**
Hazard	Vulnerability
Reactive	Proactive
Single agency	Partnership
Science driven	Multidisciplinary approach
Response management	Risk management
Planning for communities	Planning with communities
Communicating to communities	Communicating with communities

Table 2.1. While disaster management principles emerged from the need to deal effectively with

natural hazards, such as earthquakes, landslides, volcanic eruptions, fires, floods and cyclones, the shift in priorities referred to above signals an emerging opportunity to apply disaster management principles to areas of interest that go beyond natural hazards. In fact, the literature on the disaster management cycle shows it to apply to any event in which the combination of hazards and population vulnerability causes damage, casualties and disruption (Vasilescu and Khan, 2008). This approach shows hazards to be natural or human-made and falling under five broad categories: geological; water / climactic; environmental / biological, chemical / industrial / nuclear; and, accidental (Vasilescu & Khan, 2008). For the purpose of this research, it is useful to specify that biological hazards include but are not limited to food poisoning and human epidemics.

Figure 2.6 (p.33) is a graphical representation of a foodborne disaster, such as the listeriosis outbreak of 2008, which is the product of the relationship between vulnerability and hazards. The underlying causes, the dynamic pressure, and unsafe conditions that create population vulnerability (vulnerable groups – pregnant woman, seniors, people with immune-deficiencies), together with a triggering event or hazard (food contaminated with *L. monocytogenes*), are the conditions that lead to a disaster (listeriosis outbreak).

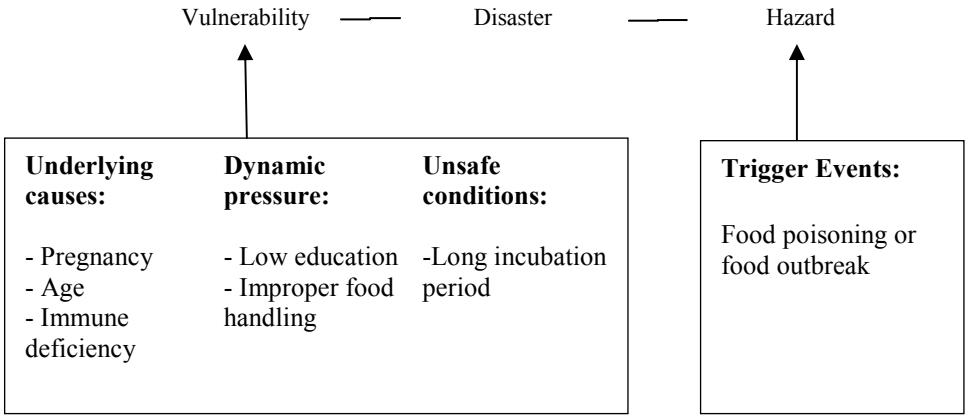

Figure 2.6: Vulnerability x Hazard = Disaster

Lindsay (2003) recognizes the importance of mitigation efforts in disaster prevention. He argues that an effective mitigation effort requires a thorough understanding of population vulnerability (Lindsay, 2003). There are considerable similarities between the health and disaster determinants of population vulnerability. Integrating the two approaches into one framework could help guide the effective use of resources and can help to underpin the theoretical basis of institutional action. The health determinants of population vulnerability are clearly articulated by Health Canada (1996, in Lindsay, 2003): income and social status; social support networks; education; employment and working conditions; social environments; physical environments; biology and genetic endowment; personal health practices and coping skills; healthy child development and health services; gender; and culture. While Lindsay (2003, p.296) struggles to compile a thorough list for determinants of disaster vulnerability, he indicates that, "the factors that have been identified as increasing vulnerability to disaster have also been identified as increasing vulnerability to poor health." Lindsay concludes that income and social status are the fundamental determinants of disaster vulnerability and health (Lindsay, 2003).

2.3.2 Uncertainty and Risk Assessment

Canada's approach to food safety is risk-based. The central activities of a risk-based approach can be differentiated between risk assessment and risk management. Risk assessment is conducted by Health Canada while risk management is conducted by the Canadian Food Inspection Agency. Evidently, the organizational structure of the food safety regime is highly centralized, with regulatory decision-making confined to one agency, HC, and enforcement activities confined to another, CFIA. That two separate agencies are responsible for the two related activities helps to ensure that the system fulfills its required tasks free from bias. Other countries, including Germany, Ireland, Japan and the Netherlands have instituted divisions in

assessment and management along the same lines as has Canada (United States Government Accountability Office, 2008).

Technical based risk assessment, with its focus on probabilities and magnitudes, is reliant on scientific methodologies. Given the domestic and international reliance on scientific based risk assessment, science commands considerable authority internationally and in the Canadian food safety governance framework. In fact, "international law requires food safety measures to be based on scientific principles and scientific evidence" (Skogstad, 2006, p.215). Scientific based risk assessments have been highly legitimated through their perceived ability to aid in guiding policy making. For this reason, it is the preferred method for the determination of potential health effects of a hazard on an individual or population (Forge, 2003).

There are four primary stages in scientific based microbiological risk assessment: hazard identification, hazard characterization, exposure assessment, and risk characterization (Forge, 2003). Risk characterization, the final step, is defined by the World Health Organization (2009, p.2) as, "the qualitative and/or quantitative estimation, including attendant uncertainties, of the probability of occurrence and severity of known or potential adverse health effects in a given population based on hazard identification, hazard characterization and exposure assessment." This definition identifies the purpose of scientific based risk assessment: to determine probabilities of specific events occurring and the magnitude of specific consequences (Kasperson et al., 1988). In its own right, scientific based risk assessment provides valuable answers to problems that are quantitative in nature.

Scientific based risk assessment is an important and necessary tool used to help guide and, in some case, unilaterally determine policy decisions. Complex problems often require technical solutions based on scientific methodologies. For this reason, scientific based risk

assessments will likely always be valued as decision-making tools.

Numerous divisions between scientific risk assessments and layperson risk perceptions exist. First, risk experts mainly present risk information in quantitative terms while the public at large thinks about risk issues in qualitative terms (Leiss, 2004). For those who view science as the only legitimate expression of risk estimates, qualitative valuations of risk are incompatible with quantitative determinations. The second divide between scientific and public risk assessments has to do with the difference between technical and perceived risk trade offs (Leiss, 2004). While quantitative risk assessments typically assign equal weight to probability and magnitude, such that high probability low magnitude and low probability high magnitude outcomes hold equal value, layperson valuations of risk assessment do not (Kasperson et al., 1988).

Lay people are influenced by factors such as their level of control over the risk, whether exposure is voluntary or not, familiarity with the hazard and the catastrophic potential of a risk consequence (Kasperson et al., 1988; Frewer, 2004). Leiss (2004, p.402) writes:

> The public is firmly convinced that it matters greatly whether one is exposed 'voluntarily' or 'involuntarily' to risks, even if the consequences of the former (such as smoking) should exceed most of the latter by a wide margin. This belief appears to be rooted in the importance of values of personal choice and individual autonomy.

The literature on risk perception shows the degree to which a particular behavioral risk is voluntary or involuntary has a fundamental impact on an individual's decision to undertake that particular risky behavior (Leiss, 2004). This explains why a large proportion of the public might feel less safe to fly than to drive even while technical risk analysis shows there to be a greater

risk in driving than in flying. Both the public's amplification (perception of risk is higher than technically measured) and attenuation (perception of risk is lower than technically measured) of risk are responsible for the disjuncture between scientific and public appraisals of risk, which confounds risk analysis (Kasperson et al., 1988). The disjuncture between scientific and layperson perceptions of risk are exacerbated when the risk is invisible and has the potential to create negative health effects after a long incubation period (Renn, 2009). This is the particular set of conditions that foodborne hazards, such as the *L. monocytogenes* bacterium, create.

A social-psychological explanation of the impact that perception has on one's risk taking behavior is rooted in cognitive dissonance theory. Cognitive dissonance, a term coined by Leon Festinger (1957), refers to a discomfort caused to an individual from holding two contradictory beliefs. In order to reduce this psychological discomfort, individuals reaffirm or seek confirming evidence, while at the same time dismiss disconfirming evidence. Taking an experimental approach, Cao and Just (2010) explored the condition of cognitive dissonance under foodborne risk. Their results reveal that familiarity of food products (more familiarity results in more cognitive dissonance) impacts the effect of cognitive dissonance. Cao and Just's (2010) conclusion, that public information should account for people's knowledge and perception, supports the ensuing discussion.

Three principal arguments have been presented that dispute the efficacy of decision-making that is based exclusively on scientific risk assessment (Kasperson et al., 1988; Leiss, 2004). Those endorsing the normative argument contend that purely technical or scientific determinants are incompatible with democratic ideals. The substantive argument is that non-scientific lay-judgments about risks are as important as scientific ones. Finally, according to the instrumental argument, decision-making, which is based in part on input from sources other than

those espoused by the dominant group, serves a legitimizing function for the decision-making authority.

A forum of information sharing in which scientifically based knowledge claims, such as probability based risk assessments, and public value claims, including qualitative risk perceptions, helps to build public perceptions of trust in food safety governance (Ely et al., 2009). From such a forum can emerge an evaluation process through which the tolerability and acceptability of possible courses of action are identified.

While I recognize that public involvement and risk communication overlay each of the framing, assessment, evaluation and management phases of the food safety governance framework formulated by Ely et al. (2009) (see section 2.2.3), the focus of this research is public involvement and risk communication in the evaluation and management phases, which I view as overlapping the mitigation phase of the disaster management cycle.

At the evaluation stage, the public may be solicited to provide risk valuations and may be presented with opportunities to learn about the scientific basis of risk assessment. The essence of risk communication in the evaluation phase is for all interested parties to share messages and to gain understanding of various regulatory options. It is an opportunity to create dialogue and to engage in mutual learning. Climbing the continuum of inclusiveness (from less inclusive to more inclusive) in this stage can lead to trust building. Risk communication in the management phase emphasizes the efficacy of risk communication messages and is, therefore, more instrumental in nature.

Public involvement denotes the public's engagement in the process of sharing risk communication messages in the evaluation stage. My conception of it also includes the question of the extent to which the public's input influences management decisions in the evaluation

stage. In other words, the regulatory results of the evaluation process (what option is selected) can be based in part on public input. Similarly, the management decisions that flow out of the regulatory results (how will the hazards be managed and how will the public learn mitigation strategies?) can also be based in part on the public's input. These distinctions are subtle and yet useful because public involvement and risk communication are terms used to denote different meanings.

The following section of the literature review focuses on current models and theories in risk communication as they pertain to the evaluation stage of the framework presented above. The subsequent section focuses on concepts and principles in public involvement, including frameworks for assessment.

2.3.3 Risk Communication as Public Involvement

Leiss (1996, p.86) defines risk communication as the, "flow of information and risk evaluations back and forth between academic experts, regulatory practitioners, interest groups, and the general public." Communication can be viewed as being on a continuum between complete top down, unidirectional information dissemination, and a process of multi-directional, multi-stakeholder information sharing. The style of risk communication that is part of the technocratic governance model, in which the public has a passive, receiving role, is consistent with the first and second phases in Leiss' (1996) three-phase history of risk communication. According to Leiss (1996), the evolution of risk communication principles over the last 35 years can be understood in terms of three phases, each having emerged from the last.

Phase I (1975-1984), "stressed the quantitative expressions of risk estimates and argued that priorities for regulator action and public concerns should be established on the basis of comparative risk estimates" (Leiss, 1996, p.87). Phase I was highly deterministic in nature,

whereby scientific experts employed objective methods of analysis (scientific method, statistical analysis) to produce value free 'truths'. Messages were unfiltered and delivered directly to the target audience with the expectation that the numbers would project truth. This phase of risk analysis was met with contempt from the public for what Leiss (1996, p.88) called the, "arrogance of technical expertise."

Phase II (1985-1994), retained the deterministic, scientifically orientated generation of information found to exist within phase I, but also included the application of public relations strategies that deal with the heterogeneity of the population that is the 'object' of communication. This phase emerged from the recognition that the presentation of numerical figures and statistical representations in and of themselves were ineffectual methods of persuasion. Thus, phase II is characterized by recognition that the usefulness of any given message is predicated on shaping the message to fit its target audience. According to Leiss (1996, p.87), the characteristics of successful communication are, "source credibility, message clarity, effective use of channels, and, above all, a focus on the needs and perceived reality of the audiences." Despite this advancement, this phase included the same basic flaw as the first phase; messages were created to persuade the public and, consequently, sustained a unidirectional communication process (Renn, 2009). So while the second phase recognized the importance of understanding public risk perception, the deterministic intent and content of the message that characterized the first phase of risk communication remained unchanged. Understandably, during the first and second phases, the public lost a considerable amount of confidence in scientists, regulators and industrialists (Frewer, 2004). This prompted the development of the third phase, which focuses on the restoration of trust.

The current and third phase of risk communication, which emerged in 1996, was

developed to move away from a top-down method of communication towards a process of two-way risk communication in which all parties engage in a social learning process. Renn (2009, p.122) writes: "this current phase of risk communication stresses a two-way communication process in which it is not only the members of the public who are expected to engage in a social learning process, but also the risk assessors and risk managers." The essence of the third phase is a process of trust building (Leiss, 1996). In having recognized that trust is not as easily created or maintained as is distrust (Slovic, 1993), an approach is required in which the concerns of stakeholders are addressed and responded to in a legitimate and genuine way. According to the OECD (2002 in Renn, 2009, p.122):

> The ultimate goal of risk communication is to assist stakeholders and the general public in understanding the rationale of risk assessment results and risk management decisions, and to help them arrive at a balanced judgment that reflects factual evidence about the matter at hand in relation to their own interests and values.

Hence, while positivistic, quantitative risk analysis is still important in the third phase, it is not exclusively relied upon.

According to the United States Government Accountabilities Office (2008, p.17), Health Canada has a mandate to communicate to the public the risks associated with the consumption of certain foodstuffs:

> At the consumer end of the spectrum, the food safety agency educates Canadians about safe food-handling practices and various food safety risks through its Web site, food safety fact sheets, and the Canadian Partnership for Consumer Food Safety Education, a group of industry, consumer, and government organizations

that jointly develop and implement a national program to educate consumers on how to safely handle food.

Health Canada recognizes the importance of risk communication as an essential feature of its mandate to maintain and improve the health of Canadians. It also recognizes that shortfalls in communication have existed in the past and in an effort to rectify gaps in effective risk communication, Health Canada has produced a publicly accessible strategy document meant to guide the department and Public Health Agency of Canada officials towards integrating effective risk communication into their work (Health Canada, 2006a). This document is a manifestation of the third phase of risk communication.

The literature based upon the third phase of risk communication practice focuses on a number of generalized objectives, which are usually centered on the risk management agency as communicator and the public as the audience (Renn, 2009). Renn (2009) identifies four such objectives: enlightening the receiver of the information; building confidence in risk management; inducing risk reduction through communication; and, cooperative decision making. For Renn (2009) these functions represent the various stages in the evolution of risk communication – informing, persuading and engaging. For these objectives to be met, the risk communication process requires specific types of communication strategies.

The literature describes there to be four general risk communication strategies (Chess et al., 1989; Lundgren, 1994; Renn, 2009). The first, *documentation*, satisfies that a given process has been conducted with transparency (Renn, 2009). This form of communication, while democratic in a general sense, creates only a rudimentary level of legitimacy insomuch that it makes publicly accessible the justification of any particular decision. The second form of communication, *information*, serves to enlighten the target of communication (Renn, 2009). This

form of communication is based upon the premise that the audience can assign meaning from the information presented. The third form of communication, *two-way communication or mutual dialogue*, is aimed at creating opportunities of two-way learning (Renn, 2009). The focus in this form of communication is not on informing or persuading the target audience (as in the previous two forms) but, rather, on the mutual and meaningful exchange of messages (Sellnow et al., 2009). The fourth form of communication, *mutual decision-making and involvement*, is based upon including the public in the decision-making process because public concerns form the basis (in part) of the decision-making context (Renn, 2008). Inclusive and effective forms of public involvement require that each type of communication described above be woven into the decision-making process.

2.3.4 A Best Practice Approach to the Process View of Risk Communication.

The notion that effective risk communication is a process that begins with dialogue that leads to decision making and is based upon, in part, scientific risk assessment and, in part, citizen valuations of risk, moves beyond unilateral models of information dissemination. For risk communication to play a more functional role in decision-making, it needs to encapsulate greater interaction among interested parties and more inclusion of competing messages into the framework of decision-making. Establishing risk communication as a democratic dialogue, the National Research Council (1989, p.21) formulated the following definition:

> Risk communication is an interactive process of exchange of information and opinion among individuals, groups, and institutions. It involves multiple messages about the nature of risk and other messages, not strictly about risk, that express concerns, opinions, or reaction to risk messages or to legal or institutional arrangement for risk management.

Sellnow et al. (2009) affirm the definition presented above, recognizing that the process of risk communication requires the articulation of competing messages. The presumption contained therein is that effective risk communication is multidirectional and captures a range of perspectives. The negotiation of these competing perspectives should not necessarily produce outcomes based on complete consensus. Rather, the goal for managers should be to create a convergence of perspectives around any particular issue (Sellnow et al., 2009).

Sellnow et al.'s (2009) process view of communication is grounded in a best practice approach. The best practices have been generated from the research literature on risk communication (Sellnow et al., 2009), and are based largely on the third phase of risk communication, in which a dialogue between 'competing' perspectives is emphasized. Informed also by openness, honesty, equity and fairness (Sellnow et al., 2009), the best practices have the potential to bring mutual understanding - a convergence - of opposing views. There are nine best practices: infuse risk communication into policy decisions; treat risk communication as a process; account for uncertainty inherent in risk; design risk messages to be culturally sensitive; acknowledge diverse levels of risk tolerance; involve the public in dialogue about risk; present risk messages with honesty; meet risk perception needs by remaining open and accessible to the public; and, collaborate and coordinate about risk with credible information sources. These practices are not designed to function in isolation of each other but, rather, complement each other towards building understanding among risk stakeholders (Sellnow et al., 2009).

2.3.5 Who is the Public?

Interest groups, the lay public, citizens, amateurs, stakeholders, the larger public, are all terms used in the literature to denote the 'public' in public involvement. Often, the term is used broadly. A case in point is Fiorno's (1990) analysis, which focuses on the public as a single

group comprised of amateurs (or citizens) and distinguishes them from another 'public' - those in their professional or career roles (Fiorno, 1990). Meanwhile, Dreyer and Renn (2009, p.4) fail to precisely define the public, but instead impress upon the reader that the public includes, " a diversity of social groups and the wider public." Though the aforementioned authors define the lay public in homogenous terms, the danger in so doing means that the plurality of perspectives might be ignored (Diduck, 2010). The notion of multiple publics emerged in response to this danger whereby managers viewed the public, "as a shifting multiplicity of organizations, individuals, interests and coalitions" (Diduck, 2010, p.556).

I recognize that the public is not a homogenous group but, instead, an amalgam of various parties, each carrying their individual interests and perspectives. Of particular note are those individuals or groups who are understood to posses a heightened interest on an issue or topic, due to a measured or perceived vulnerability. Vulnerable publics are particularly important in the context of microbial food safety. One might argue then, that the involvement of vulnerable groups in decision-making is deserving of greater consideration than the involvement of non-vulnerable groups - though both may fall within the category of lay public.

Complicating the matter is an idea presented in the environmental and resource management literature of an active and inactive public (Mitchell, 2002). Active publics, comprised usually of organized groups (Diduck, 2010), are more easily engaged than are inactive publics. Though various challenges exist towards engaging these inactive publics, the failure to do so may promote regulatory capture, a term used in economics to describe a regulator that has failed on the grounds that it has fallen under the sway of the regulated (Bernstein, 1955). The issue of regulatory capture has not been explored extensively in the food governance literature. Nevertheless, Millstone and Lang (2008), two experts on the topic of food governance, assert

that regulatory capture can undermine a governmental agency's credibility and trustworthiness. At the very least, they argue, there should be greater disclosure of individuals' *past* affiliations when they are in positions of influence (Millstone & Lang, 2008). That food is highly regulated and includes various active, industry interests, reaffirms the importance of involving a multitude of stakeholders, and in so doing, guarding against regulatory capture (Dreyer et al., 2009).

2.3.6 Public Involvement in Risk Management

Public involvement in decision-making can be viewed as falling along a continuum wherein the level of participation is defined by "the extent to which managers and their key publics share decision-making power" (Diduck, 2010, p.557). The continuum of involvement ranges from the lowest level, in which the target audience may be provided enhanced information concerning a particular risk (a rudimentary form of risk communication), to higher levels in which the public's views may be solicited (but not necessarily used in decision making), to even higher levels, in which the public takes part in exercises that provide them a degree of decision-making authority (Rowe and Frewer, 2000). The lower level is characterized by a technocratic orientation of decision making while the higher-level activities are based upon two-way communication and mutual decision-making.

Arnstein's (1969) well recognized ladder of citizen participation is a model that articulates various forms of participation and their relation to each other along a continuum of citizen control. The ladder contains eight stages, or forms of participation, that are delineated according to the degree to which they facilitate citizen control over decision-making (Table 2.2).

Table 2.2: Arnstein's (1969) ladder of citizen control in participation

Type of Citizen Control	Form of Participation
Citizen Power	Citizen Control Delegated Power Partnership
Tokenism	Placation Consultation Informing
Non-Participation	Therapy Manipulation

The lower level rungs, manipulation and therapy, are characterized as non-participation and are instituted to "educate" or "cure" citizens (Arnstein, 1969). Arnstein (1969) views the third and fourth rungs, informing and consultation, as gestures, or tokens of activity that give the underrepresented, the 'have-nots', a voice. The fifth rung, placation, consists of more meaningful involvement in which citizens take an advisory position, but decision-making power continues to be vested in institutional power holders. The final three rungs denote levels of citizen power whereby citizens are given increasing degrees of decision-making control. Distinguishing the levels of citizen involvement along the lines of non-participation, tokenism and citizen power helps to discern details in Rowe and Frewer's (2000) framework, which characterized public involvement as being at lower and higher levels.

Three arguments exist for engaging the public in risk analysis and decision-making processes. The substantive argument is based upon the notion that lay judgments about hazards or threats are functional and not thoroughly represented in scientific/technical valuations of risk (Fiorno, 1990). The normative argument is based upon the notion that top-down communication is incompatible with democratic ideals (Fiorno, 1990). The instrumental argument is that lay participation in risk decision-making infuses the process with legitimacy and produces more functional results (Fiorno, 1990). These arguments form the basis of public involvement

frameworks proposed by participation theorists.

Fiorno (1990) evokes a normative argument for public involvement in decision-making. He draws from participation theorists in determining four criteria against which institutional mechanisms of citizen involvement can be measured. The democratic process criteria of evaluation proposed by Fiorno (1990) are: the extent to which the mechanism allows for the direct participation of amateurs in decisions; the extent to which a particular mechanism enables citizens to share in collective decision making; the degree to which the mechanism provides a structure of face to face interaction over the course of a period of time; and, the extent to which citizen participants are provided with a degree of equality with administrative officials and technical experts. For Fiorno (1990), the basis of citizen engagement is to allow citizens to express their competence, overcome feelings of powerlessness and alienation and contribute meaningfully to the legitimacy of the political system.

Rowe and Frewer (2000) also view citizen involvement to be measured against normative (democratic) criteria: representativeness; independence; early involvement; influence; and, transparency. However, they argue that the literature on public involvement that evokes the normative argument fails to properly consider the effectiveness of public involvement mechanisms. They suggest the normative criteria of evaluation be supplemented by the process criteria of evaluation. To be clear, their normative criteria (which they actually define as acceptance criteria) are related to the effective construction and implementation of a procedure, while their process criteria are related to the potential public acceptance of a procedure (Rowe and Frewer, 2000). Rowe and Frewer (2000, p.11) write of the need to implement both sets of criteria:

If a procedure is effectively constituted but perceived by the public to be in some

sense unfair or undemocratic, then the procedure may fail in alleviating public concerns. On the other hand, if a procedure and its recommendations are accepted by the public but the ultimate decision is attained in an ineffective manner, then its implementation could prove objectively damaging for sponsors and public.

The process criteria outlined by Rowe and Frewer (2000) are, resource accessibility, task definition, structured decision making, and cost effectiveness. Assessing public involvement according to both the process and acceptance criteria helps determine that any particular public involvement tool is not only democratic (acceptance criteria) but also effective (process criteria).

2.4 Chapter Summary

In this chapter, I began with a summary of the historical trends in food production systems. Industrial agriculture, followed by modern food production, has separated food producers from food consumers. The competition for market share in the meat processing industry has shrunk the industry to a relatively low number of producers. This contraction has created temporal and geographic vulnerabilities to the spread of foodborne disease outbreaks. Ready-to-eat meat products, which are a form of high demand convenience food, exacerbate these vulnerabilities given their long shelf lives and ability to harbor emergent bacteria, such as *L. monocytogenes*.

The review of governance in section 2.2 reveals that the technocratic, decisionist and inverted decisionist models are insufficient to produce outcomes that are both scientifically and democratically legitimate. The co-evolutionary model presented by Zwanenberg and Millstone (2005) addressed the weaknesses of the technocratic and decisionist models and identifies reciprocal communication between those in the scientific and political spheres as an essential component of governance. Ely et al. (2009) have formulated a general framework of risk analysis

based upon the co-evolutionary model in which they intertwine public involvement and communication within four phases of decision-making, namely framing, assessment, evaluation and management.

In this chapter, I also reviewed selected literature on the evaluation of public involvement processes, including risk communication, in risk assessment and management, which permitted me to identify assessment criteria (discussed in greater detail in chapter 3), that were used to guide me in the data collection and analysis phases of the research.

An important outcome of the review presented in this chapter is the identification of gaps in the literature that this thesis helps to address. While this chapter demonstrates there to be theoretical underpinnings of good risk communication and effective public involvement practice, the literature does not describe nor evaluate the approach to public involvement and risk communication in Canada. It is also not well understood how the listeriosis outbreak has impacted the approach in Canada. Through an examination of the Canadian approach in food safety, I have enhanced empirical and conceptual knowledge of effective public involvement and good risk communication practice.

CHAPTER III - Methods

3.1 Methodology

This research project was underpinned by my philosophical worldview, the critical social science paradigm, which is otherwise identified as the advocacy/participatory approach (Creswell, 2009). The critical social science worldview has an action agenda for reform through which the research participants, the larger institutions within which they live and the researcher may contribute to meaningful social and personal change (Creswell, 2009). The history of decision-making in food safety governance has largely been such that federal government officials and managers have made decisions autonomously. Decision-making processes, therefore, have at times been recognized as expedient and largely dismissive of the public's views (Skogstad, 2006). Such decision-making processes, however, are incompatible with democratic ideals. This weakness in decision-making has provided an opportunity for a critical research approach based on ideals in which public participation forms the basis of decision-making and which may have an empowering quality for researchers and participants (Macleod, 2009).

3.2 Research Design

The research approach of this study was qualitative. Qualitative research is used as a "means of exploring and understanding the meaning individuals or groups ascribe to a social or human problem" (Creswell, 2009, p.4). Qualitative research enables a researcher to build a holistic picture and is conducted in a natural setting (Creswell, 2009). Its usefulness in exploratory research (Creswell, 2009) fit well with the purpose and objectives of this study (see Figure 3.1 in section 3.3.3). Though a number of potential strategies of enquiry can be chosen that correspond with a qualitative research design, I used a case study approach. The specificity

of my research focus, public involvement and risk communication in food safety governance, was highly compatible with the case study design, given that such a design allows researchers to explore issues bounded by time and activity (Creswell, 2009).

3.3 Data Collection Procedures

The three data collection procedures selected for this study are complementary in a qualitative sense and are typically relied upon in case study research designs (Marshall & Rossman, 1999). Insomuch that the methods provided distinguishable forms of data gathered from a range of participant groups and settings, their use permitted triangulation and, therefore, improved the validity of the study. The three methods were document review, face-to-face and telephone interviews, and focus groups.

3.3.1 Document Review

The document review served as a less obtrusive method of data collection than the interview and focus group methods. The document review, above all, informed the first and second objectives. The analysis began with a review of federal guidance documents and materials related to public involvement and risk communication. A number of crucial documents, including the *2004-2005 Public Involvement Performance Report* (Health Canada, Health Products and Food Branch, 2006a), the *2005-2007 Public Involvement Performance Report* (Health Canada, Health Products and Food Branch, 2007a) and the *Blueprint for Renewal: Transforming Canada's Approach to Regulating Health Products and Food* (Health Canada, Health Products and Food Branch, 2006d), and accompanying documents, formed the primary data source of the public involvement component of the first objective. Other documents, such as the *Strategic Risk Communication Framework for Health Canada and the Public Health Agency of Canada (*Health Canada, 2006a*)* formed the primary data source of the risk communication

component of the first objective.

The document review also included an assortment of materials found on the websites of HC, the CFIA and the PHAC. In their totality, the documents, materials and publications enabled me to describe public involvement and risk communication activities undertaken by the federal food safety actors and permitted me to explore the gaps that existed with respect to public involvement and risk communication in food safety governance. (An access to information request had been made in December of 2010. Given the slow response rate, the request was abandoned).

3.3.2 Face to Face & Telephone Interviews

Interviewing is the primary qualitative method through which a researcher can investigate an organization or process (Seidman, 2006). The interview can facilitate obtaining an understanding of individuals' perspectives of events and processes (Marshall & Rossman, 1999) that is more detailed than information gathered through a document review. A semi-structured interview style was used in this research, entailing a planned and yet open-ended approach in which emerging questions and issues were woven into the interview schedule. The interview subjects fell into categories that Marshall & Rossman (1999) would describe as 'elite', which they define as individuals considered to be influential and well-informed in an organization or community.

An adaptive approach was used to deal with unanticipated complications in the interview process (Nelson, 1991). For instance, the federal government respondents were located, in large measure, in the Ottawa region while other respondents were located in various other areas of the country, including Toronto, Winnipeg and Halifax. In cases where it was not logistically possible to schedule in person interviews, telephone interviews were conducted instead.

Intensity sampling, a variant of purposeful sampling, was the primary approach used in the recruitment of federal government respondents. It was also used in the recruitment of non-governmental respondents. Intensity sampling is the process through which 'rich' samples (respondents) are selected because they provide in depth knowledge of a phenomenon of interest (Patton, 1990).

Opportunistic and snowball sampling were also approaches used in the selection of both governmental and non-governmental interview participants. Opportunistic sampling involves, "following new leads in the field work," while snowball sampling involves identifying, "cases of interest from people who know people who know what cases are information rich" (Patton, 1990, p.182-183).

The interview participant group comprising federal government officials at HC, the CFIA and the PHAC were recruited, generally, according to their expertise and level of knowledge, which is consistent with the intensity sampling method. The Government Electronic Directory Service (GEDS) was a highly valuable recruitment tool and its use was the primary method through which potential government respondents were identified. The GEDS provided a detailed departmental listing identifying the prospective interview participant's title, (e.g., communications officer and director of consumer involvement), email address, telephone number and departmental affiliation.

Each of HC, the CFIA and the PHAC play central roles in food safety governance and remain the key regulatory, enforcement and health promotion actors, respectively, in the Canadian food safety governance framework. One current official each with HC and the CFIA, two officials affiliated with the PHAC and one former HC official were interviewed. It was intended that respondents selected from this category would represent individuals who are or

have been involved in the formulation and implementation of a public involvement and risk communication agenda or who might have experience in these areas. This objective was met with a relatively good level of success. Data obtained from these interview respondents informed each of the objectives of the study, though they were particularly important for the partial fulfillment of the first and second objectives, supplementing data collected from the document review. Broadly speaking, topics addressed in the interviews included the manner and method in which risk communication is fulfilled, as well as the methods through which the public is engaged in decision making.

The second category of interview respondents could also be considered to be elites, although of a different kind than the first set of interviewees. These respondents were affiliated with key stakeholder groups, including senior home, provincial health, industry, and consumer groups. Respondents in academia and those representing organizations involved in food safety promotion were also interviewed. Initially, it was planned that 5-6 interviews would be conducted with home care facility staff. However, through the interview process, it became clear that a greater breadth of data was required from other participant groups. Instead of focusing so strongly on senior care home respondents, interview subjects were selected from the aforementioned range of organizational affiliations. Table 3.1 identifies the respondent affiliations, their general professional positions, and how their comments are identified throughout this document.

Table 3.1: Interview respondent affiliations, their general professional positions, and how they are identified in chapters four through six.

Interview Group	Position	Respondent Identification in chapters four through six	Total per Group
HC	High Ranking HC Official Former High Ranking HC Official	HC #1 HC #2	2
CFIA	CFIA Official	CFIA #1	1
PHAC	PHAC Official High Ranking PHAC Official	PHAC #1 PHAC #2	2
Industry	Chief Food Safety Officer Vice President	Industry #1 Industry #2	2
Senior Care Facility	Nutritionist Vice President Nutritionist	Senior Care #1 Senior Care #2 Senior Care #3	3
Provincial Care Facility	Director Nutritionist Food Safety Specialist	Provincial #1 Provincial #2 Provincial #3	3
Academic	Food Safety Expert Food Safety Expert	Academic #1 Academic #2	2
Consumer Group	Director	Consumer Group #1	1
Non-profit Organization	Director Manager	Food Safety Organization #1 Health Organization #1	2
HC Public Involvement Participant	Public Advisory Committee (PAC)	PAC #1	1

3.3.3 Focus Groups

Focus groups complement the interview method to the extent that the interactions among focus group participants produce data that are greater in breadth than those collected in one on one interviews (Durrenberger, Kastenholz, Behringer, 1999). In this study, two focus groups were conducted to gauge participants' ideas, feelings and opinions concerning food risks, *L. monocytogenes* and risk communication. To that end, the focus group helped fulfill the risk communication aspect of the third objective of this study.

The focus group is characterized as a method of data collection that involves individuals with certain characteristics who engage in a focused discussion that will provide qualitative data

(Krueger & Casey, 2009). Of the three populations that posses a heightened vulnerability to the ill effects of the *L. monocytogenes* bacteria, namely, pregnant woman, people with immune-deficiencies and seniors, I chose my focus group participants to be seniors 65 years of age or older living in the Winnipeg area. The age of respondents varied generally from 65 to 85 years of age, with the single exception being a 61 year old female participant in the first focus group.

Along with the other two vulnerable population groups, seniors potentially posses a heightened interest in food policy formulation and hold key views on food safety risks and may provide insights that are not represented by groups with no particular personal interest in the subject of this study.

Two focus groups were conducted (Table 3.2). The first was comprised of six participants one of whom was a man and five of whom were women. Focus group #1 participants knew one another through their monthly participation in a cooking club. The second focus group was comprised of nine female participants who knew one another through their involvement in their local community centre canteen.

Table 3.2: Focus group composition

Focus Group	Common attribute	Participant gender and age
#1	Each was involved in a cooking club associated with the senior centre where they are members.	#1 - Female 78 years of age #2 - Male 67 years of age #3 - Female 65 years of age #4 - Female 61 years of age #5 - Female 65 years of age #6 - Female 75 years of age
#2	Each volunteered in the senior centre canteen where they are members.	#1 - Female 65 years of age #2 - Female 83 years of age #3 - Female age not disclosed #4 - Female 77 years of age #5 - Female 78 years of age #6 - Female age not disclosed #7 - Female 74 years of age #8 - Female age not disclosed #9 - Female 85 years of age

Focus group respondents viewed themselves and were considered by me as unrepresentative of their cohorts; they generally considered themselves, and were found likely, to posses a higher than average interest in food safety issues than others of a same age. Both focus groups were conducted in the senior center facilities where participants were members. Having conducted two separate focus groups enabled me to find patterns and themes across the groups. The group sizes were small enough to allow all participants to be meaningfully engaged and large enough to offer a diverse range of views.

Each of the data collection methods served a particular purpose related to the objectives of the study. Table 3.3 shows the relationship between the objectives and methods.

Table 3.3: Relationship between my research questions and my methods

Purpose	Objectives	Methods	Analysis
To *explore* public involvement and risk communication in food safety governance in Canada with a particular focus on *Listeria monocytogenes* and vulnerable groups.	1) Describe (and assess) public involvement and risk communication in food safety governance	- Document review - Semi structured interviews	Chapters 4 and 5
	2) Identify changes to public involvement and risk communication since the listeriosis outbreak	- Document review - Semi-structured interviews - Focus groups	Chapters 4 and 5
	3) Make recommendations to improve public involvement and risk communication in food safety governance and specific recommendations to improve *Listeria monocytogenes* related public involvement and risk communication undertakings	- Semi structured interviews - Focus groups	Chapter 6

3.4 Data Analysis

I used a qualitative data analysis software package, NVivo 8, to aid me in both the management and analysis of the data. NVivo enables the user to store and manipulate text, create and manipulate codes, identify themes and patterns in the data, and explain relationships among important variables (Gibbs, 2002).

I captured the interview and focus group data using an audio recording device and supplemented that data with jottings and written notes of my own. Each interview and focus group was transcribed into text form and, along with the documentary data sources, was read thoroughly for core consistencies and meanings.

Once data were converted into text form, they were coded into analytical categories. The process of codification brings meaning to text, thus allowing it to be analyzed successfully (Punch, 1998). In this study, the process of codification was largely facilitated through the use of pre-existing categories (assessment criteria) taken from the literature, although the data also produced new categories of analysis not represented in the assessment criteria.

The data collected from each of the three methods were analyzed using content analysis, which is defined by Patton (1990) as the identification of core consistencies and meanings from a body of qualitative material (Kondracki & Wellman, 2002). The usefulness of content analysis extends to studies in which the data are presented in text form. Its functionality in this research is, therefore, confirmed by the fact that this study employed methods of data collection in which text is a fundamental attribute. Relational analysis is a subset of content analysis that was employed in this work. It is a form of analysis that falls within a qualitative framework and serves in the codification of patterns in semantically divergent statements or ideas (Colorado State University, 1993-2009).

The processes of data collection and analysis often go hand in hand in qualitative studies (Marshall & Rossman, 1999). This reflective approach allowed me to begin analysis at the outset of data collection and to continue it thereafter. Throughout the process of collection and analysis, I generated categories, themes and patterns from the content of my data. New insights and categories were developed as the data were collected and then sorted for analytical purposes. The

reflective process enabled me to continuously re-develop and re-formulate my line of questioning.

3.5 Assessment criteria

Sections 2.3.2, 2.3.4 and 2.3.5 of the literature review revealed criteria for the assessments of public involvement and risk communication for the first two objectives of this thesis. These criteria, reproduced below in Tables 3.4, 3.5 and 3.6 (public involvement), as well as Tables 3.7, 3.8 and 3.9 (communication), were used in the codification of document, focus group and interview data.

When this research was initially proposed, four sets of assessment criteria of public involvement and three of assessment criteria for risk communication were intended to be used. The public involvement assessment criteria were based on the work of Arnstein (1969), Fiorno (1990) and Rowe and Frewer (2000), while the risk communication assessment criteria were based on work done by Renn (2009) and Sellnow et al. (2009). Of the four sets of public involvement criteria originally selected, Rowe and Frewer's (2000) *process* criteria were found to be ineffective as an assessment tool for the type of data collected. A considerable level of detail is required in the data to apply Rowe and Frewer's (2000) process criteria in an effective manner. In the end, the interviews that were conducted did not furnish this level of detail.

The public involvement assessment criteria used in this study are listed in Tables 3.3, 3.4 and 3.5. They are Arnstein's ladder (1969), Fiorno's (1990) democratic criteria and Rowe and Frewer's (2000) acceptance criteria.

Table 3.4: Arnstein's (1969) ladder of citizen control in participation

Type of Citizen Control	Form of Participation	Purpose
Citizen Power	Citizen Control Delegated Power Partnership	Power sharing
Tokenism	Placation Consultation Informing	Informing the public
Non-Participation	Therapy Manipulation	To "educate" citizens

Table 3.5: Fiorno's (1990) democratic criteria of public involvement evaluation

Criteria	How
Direct Participation	The degree to which the process allows for direct participation of amateurs in decision making
Decision making	The degree to which citizens share in collective decision making
Interaction	The degree to which there is face-to-face interaction over a period of time
Equality	The degree to which citizens participate on some basis of equality with administrative officials and technical experts

Table 3.6: Rowe and Frewer's (2000) acceptance (democratic process) criteria of public involvement evaluation

Criteria	How
Representativeness	Public participation should comprise a broadly representative sample of the population of the affected public
Independence	The participation process should be conducted in an independent, unbiased way
Early Involvement	The public should be involved as early as possible in the process as soon as value judgments become salient
Influence	The output of the procedure should have a genuine impact on policy
Transparency	The process should be transparent so that the public can see what is going on and how decisions are being made

Three sets of risk communication assessment criteria were used in this study. The first, Sellnow et al.´s (2009) best practices, is a comprehensive guide to risk communication. Of the eight best practices described by Sellnow et al. (2009), seven were used with good success. (Best

practice number seven, 'present risk messages with honesty,' was not used.) Renn's (2009) principles of risk communication complemented Sellnow et al.'s (2009) best practices and were successfully used as a secondary analytical tool. Renn's (2009) evaluation stages were used also, though these criteria helped more generally to inform the purpose of specific risk communication activities identified to have taken place in Canada. A summary of each of the risk communication assessment tools is presented in Tables 3.6, 3.7 and 3.8.

Table 3.7: Sellnow et al.'s (2009) best practices for risk communication

	Best Practice
1.	Infuse risk communication into policy decisions
2.	Treat risk communication as a process
3.	Account for uncertainty inherent in risk
4.	Design risk messages to be culturally sensitive
5.	Acknowledge diverse levels of risk tolerance
6.	Involve the public in dialogue about risk
7.	Present risk messages with honesty
8.	Meet risk perception needs by remaining open and accessible to the public
9.	Collaborate and coordinate about risk with credible information sources

Table 3.8: Renn's (2009) principles of good risk communication practice

	Principles of good risk communication practice
1.	Start with a critical review of one's own performance
2.	Design an integrative food safety governance and communication program ensuring a continuous effort of communication with the most important stakeholders and the consumers
3.	Tailor communication according to the needs of the targeted audience and not to the needs of the information source
4.	Adjust and modify one's communication program as a result of an organized effort to collect feedback and to sense changes in values and preferences

Table 3.9: Renn's (2009) evaluation stages of risk communication and their methods

Form of Communication	Purpose	Type of tool
Information	Enlighten the communication partner	- Brochures and other written materials - Newspapers - Classical public relations (press releases & radio interviews) - Websites - Events
Mutual Dialogue	Two way learning	- Brochures with a return coupon - Opinion polls - Lectures - Panel discussions - Discussion Rounds - Internet with feedback - Chatrooms - Dialogue based events - Open day for visitors
Mutual Decision Making	Public concerns inform decision making	i) Idea Generation - Hearings - Non-binding round tables - Focus Groups ii) Self-Commitment - Working groups - Round tables iii) Recommending a decision - Interface advisory committee - Citizens' forum - Consensus conference

3.6 Interview Schedule

As noted above, the interview and focus group questions were formulated based on the assessment criteria selected. Interview guides were used and are listed in Appendices B through J. Each interview guide differed slightly given the unique perspective each respondent had. As is expected with the semi-structured interview style, the interview guide included a preliminary list of topics and questions. Deviation from questions was required and new and emergent topics were addressed as necessary.

3.7 Threats to Validity

The literature describes elites to be elusive and demanding people who are constrained by time limitations in their schedules (Marshall & Rossman, 1999). Of the two interview respondent categories, the first, government officials, were largely unresponsive to recruitment efforts. Considerable effort was made to recruit key government officials with the goal of obtaining 6-9 interviews with key respondents representing, in order of importance, HC (because of its leadership position and regulatory authority), followed by the CFIA (because of its enforcement responsibilities) and then the PHAC. The aim was to conduct as many interviews as necessary to obtain saturation. Only two interviews were conducted with HC officials (one high ranking official and one former high ranking official), one interview with a CFIA official, and two interviews with PHAC officials.

The lack of participation of HC officials is the most significant limitation of this study, although this weakness is tempered by the rich sources of documentary data obtained from HC. At HC, the 11 prospective interview candidates were contacted through email or telephone, and usually with both methods. After three unsuccessful contact attempts (without a reply), no further attempts were generally made. Still, a greater degree of follow up was made with candidates thought to be more vital than others. Except for the one current HC respondent who agreed, without any degree of hesitation, to participate, all others were evasive and closed off and sometimes unwilling to reply to any of my contact attempts.

Key respondents at the CFIA were also identified in a manner similar to HC respondents. Six were initially identified and only one was successfully recruited.

Two interviews were conducted with individuals at the PHAC. Recruitment of participants at the PHAC was generally met with greater success than contact with individuals at

the CFIA and HC. It was observed, ironically, that while HC professes to be an open and transparent organization to a far greater extent than is professed at the CFIA and the PHAC, there was a smaller degree of willingness on behalf of officials at HC to participate in interviews than there was with the other federal organizations. (Reflections on how I would have improved the methodology if "I knew then what I know now" are provided in section 6.5).

3.8 Limitations

To end this chapter, I would like to offer some reflections on my methodology. If I knew then (i.e., while designing and implementing my project) what I know now, there are two important things I would have done differently. First, I would have devoted more energy earlier in the research process towards obtaining supporting documents from CFIA, HC and the PHAC that are not publicly available. In an effort to obtain data that I was unable to obtain through key interviews with federal officials, I submitted an access to information request at the latter stage of the data collection period. I wrongfully assuming that it would take the federal government no longer than 60 days to provide the information, and another 30 days for me to analyze the data. The presumption about the response time was made on the basis of information provided by the Office of the Access to Information Commissioner. However, due to the breadth of information requested, extensions of up to 180 days were requested by the agencies handling the requests. The access to information process was initiated because of difficulties encountered in lining up interviews with HC officials. As mentioned in section 3.7, there was very little willingness on behalf of officials at HC to participate in interviews. While I was surprised by the degree to which officials refused my requests, it is possible that had I made my request more formal, my success rate would have been higher. Specifically, I should have submitted a formal media request with HC, the CFIA and the PHAC subsequent to, or concurrently with, the interview

process.

I suspect these methodology changes would not have changed my conclusions, but they may have led to slightly different lines of inquiry and might have opened up new research possibilities. And they certainly offer promise for any follow up research that might be undertaken to build on the work done here.

CHAPTER IV- Public Involvement

4.1 Introduction

This chapter describes public involvement (PI) in food safety governance. The primary focus is on PI activities undertaken by Health Canada (HC). While the Public Health Agency of Canada (PHAC), and the Canadian Food Inspection Agency (CFIA) occupy a role in the federal food safety partnership, they do not have positions on PI that are as robust and well developed as that of HC.

Among federal and provincial departments and agencies, HC has a unique legislative mandate to establish food quality, nutritional, and safety standards (Health Canada, 2010a). This seems to be a fundamental reason for HC having a stronger focus on PI than other agencies that work in the area of food safety. Various interview respondents within and outside the federal sector acknowledged HC's role as a *leader* in food safety governance. Respondents also conveyed an expectation that HC has the fundamental responsibility for creating and maintaining a food safety culture for itself and its public, private, organizational, and individual partners.

4.2 Background: The Structure of Health Canada

HC is the department of the federal government responsible for helping Canadians maintain and improve their health (Health Canada, 2010a). There are nine branches at HC, each with a distinct focus. The Health Products and Food Branch (HPFB) holds responsibility over matters related to food safety and food nutrition. The Food Directorate and the Office of Consumer and Public Involvement (OCAPI) are both departments run by the HPFB. Figure 4.1 illustrates the organizational connection between the HPFB, the FD and the OCAPI.

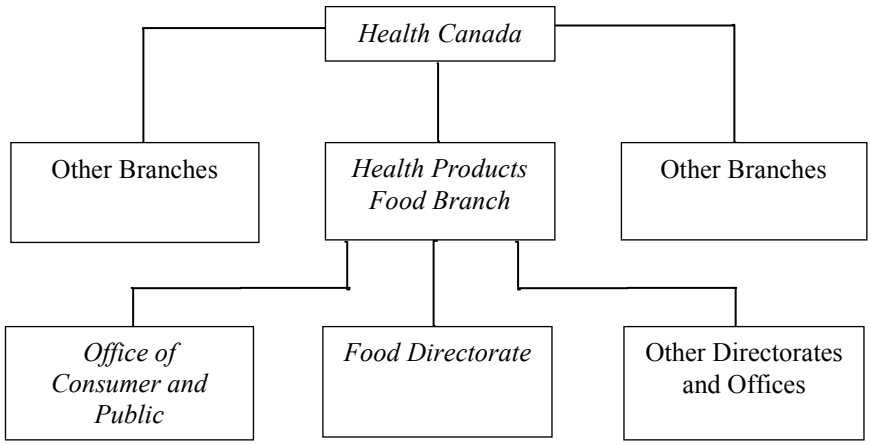

Figure 4.1: Health Canada organization

The OCAPI facilitates a breadth of PI activities for offices, branches and directorates that fall under the authority of the HPFB. Its relationship, therefore, with the Food Directorate (FD) is not unlike its relationship with other directorates within the Branch – facilitator of PI activities. The OCAPI is self-described as providing "information and opportunities for Canadians – and especially consumers of the products we regulate – to become meaningfully involved in the decision-making process of the Health Products and Food Branch regarding priorities, policies and programs" (Health Canada, Office of Consumer and Public Involvement, 2010). To that end, it works closely with the Food Directorate in providing opportunities for PI in decision-making.

The FD is the office directly responsible for food safety and nutrition. It has a focus on a number of program areas wherein it undertakes key activities aimed towards ensuring the continued safety and nutritional quality of food. A summary of the Food Directorate's program areas, key activities, and bureaus is provided in Table 4.1.

Table 4.1: Program areas, key activities and bureaus of Health Canada's Food Directorate (Health Canada, 2009a)

Program areas	Key activities	Bureaus
Nutritional quality and safety of foods	Conducting scientific research, health risk and benefit assessment	Chemical safety
Foodborne pathogens	Developing policies, standards and guidelines	Food policy integration
Emerging pathogens and prion disease	Evaluating submission from the food industry	Food regulatory, international and & interagency affairs
Health implications of foodborne environmental contaminants and agrochemicals	Providing information to support Canadians in their decision about food and diet	Food safety assessment
Food surveillance and monitoring program		Microbial hazards
Food allergens		Nutritional science
Natural toxicants in foods		
Nutritional labeling and claims		
Health implications of food additives, packaging and processing-induced chemicals		
Novel foods/processed and innovations		
Sole source foods for vulnerable groups		

All opportunities for involving the public on food-related issues occur within the context of the Food Directorate's program areas, activities and bureaus. Most of the following description of PI focuses on work conducted by the Food Directorate. The main sources of data were the 2004-2005 and 2005-2007 Public Involvement Performance Reports. The performance reports are general in focus, describing PI activities that took place within the entire HPFB. A detailed analysis of the documents was necessary to segregate food-related PI activities from non-food-related PI activities. PI in relation to health products, for instance, could not be counted

as food-related PI activities. The PI activities described in the performance reports were subject and department specific and could be reasonably determined to have had a food-related focus or not. Certain PI activities undertaken by the HPFB and reported upon in the performance reports had a branch-wide focus and impact. For instance, the *Public Advisory Committee* process impacted all branches including the Food Directorate. Both general processes and subject specific processes that were shown to impact, in full or in part, food-related issues became the *primary* focus of analysis.

The *secondary* analysis focused on one key PI process that was particularly well documented by the HPFB. This process, called the *Blueprint for Renewal*, provided an opportunity to apply the analytic framework to a distinct PI process.

4.3 Analytical Framework

As discussed in chapter 3, three theoretical / conceptual frameworks derived from the academic literature were used in the description and analysis of HC's PI activities. Arnstein's (1969) ladder is best suited to describe the *general* approach to PI undertaken by HC. That is to say, the ladder speaks of the general degree to which citizens can participate in PI processes along a continuum of low to high power sharing. Rowe and Frewer's (2000) acceptance criteria relate to the effective construction and implementation of a given PI procedure. Fiorno's (1990) democratic criteria are best used as an analytical tool to describe a *specific* opportunity or case in which the public has been involved in decision-making, rather than to be used as a tool to describe a generalized approach. Fiorno's (1990) criteria are based upon democratic ideals for involving the public in decision-making. The 2004-2005 and 2005-2007 Public Involvement Performance Reports are evaluated through the lens of Arnstein's (1969) ladder and Rowe and Frewer's (2000) acceptance criteria. The Blueprint for Renewal process has been assessed using

Fiorno's (1990) democratic criteria and Rowe and Frewer's (2000) acceptance criteria.

4.4 The Health Product and Food Branch's Public Involvement Framework

The Food Directorate and Office of Consumer and Public Involvement are guided in their PI initiatives by numerous documents, most notably the Health Products and Food Branch's Public Involvement Framework (the framework) (Health Canada, 2005). The framework is intended to guide PI activities across the full spectrum of HPFB's responsibilities (Health Canada, 2005). It is the product of consultation with numerous key stakeholders, including HPFB advisory committees, industry associations, patient and consumer networks, academia, health professionals' associations, and organizations with PI expertise. The framework is designed to provide officials with the ability to incorporate the views of citizens and stakeholders in decision-making (Health Canada, 2005). A fundamental feature of the document is the inclusion of a continuum of PI (Figure 4.2) in which the lowest level denotes little to no involvement and influence on the part of stakeholders and the highest level reflects the highest level of involvement and influence (Health Canada, 2005). The continuum is designed to help align PI methods with the objectives and level of influence appropriate to the particular issue that is the focus of consultation efforts (Health Canada, 2005).

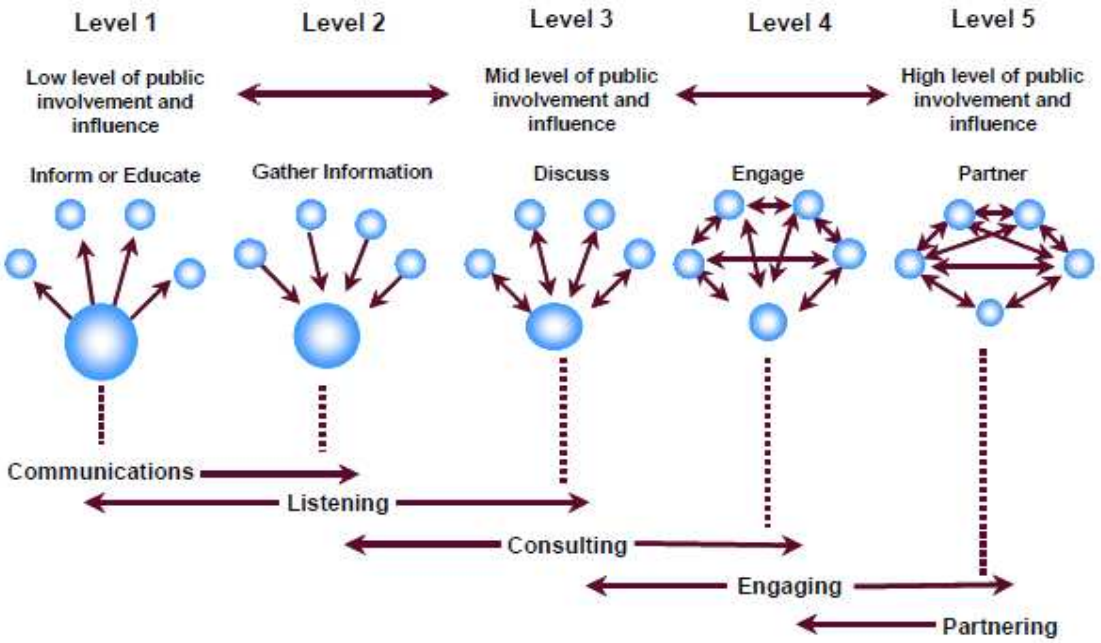

Figure 4.2: The Health Products and Food Branch's public involvement continuum (Health Canada, 2005)

Each level in the continuum corresponds to linkages and opportunities for interaction between HC and its stakeholders. The levels mirror theoretical constructs discussed in the PI literature (particularly Arnstein's (1969) ladder) reviewed in chapter 2.

Level 1, *Informing*, "provides members of the public with balanced and objective information to help them understand the issues, the options, the process and the solutions" of any particular activity (Health Canada, 2005, p.3). Public advisories and information documents are both examples of level 1 methods. This level is most aligned with unidirectional risk communication objectives.

Level 2, *Listening*, include activities that are designed to collect "public concerns and information about the effect of the developing policy" (Health Canada, 2005, p.3). Level 2, and the progressively higher levels can be distinguished from level 1 by the fact that information does not flow unidirectionally from HC. Rather, in level 2 and higher, information also flows from external partners towards HC. Methods include surveys, and web feedback opportunities.

Level 3, *Discussing*, provides the public with an opportunity to discuss any given policy and to possibly influence its final form (Health Canada, 2005). Bilateral meetings and town hall meetings are examples listed by HC as falling within the discussion range of activities.

Level 4, *Engagement*, "offers a more thorough and in-depth deliberation about the issues," where "parties can hear other perspectives and influence each other" (Health Canada, 2005, p.4). The framework describes the focus of 'engagement' as being on the, "underlying values and principles, with the goal being to seek common ground among all participants" (Health Canada, 2005). Examples of engagement include deliberative dialogues and citizen juries.

Level 5, *Partnering*, "involves partners sharing responsibility for implementing aspects of policy or program decisions" (Health Canada, 2005, p.4). Level 5 activities, such as consensus conferences, are infrequently used by the HPFB.

The public involvement framework and both of the two performance reports also provide a description of the various PI methods available. These documents also align each of the methods with a level or two on HC's Public Involvement Continuum (Table 4.2).

Table 4.2: Public involvement levels and their corresponding methods (Health Canada, 2005)

LISTENING	DISCUSSING
Focus Group Survey Mail out Feedback Webs postings Feedback Canada Gazette Part I	Public Forum Technical Consultation Public Meeting Bilateral Meeting Interview
ENGAGING	PARTNERING
Workshop Roundtable Dialogue Electronic Dialogue Working Groups Expert/Scientific/Public Advisory Bodies	Consensus Conference Think Tank Deliberative polling Citizen Jury

4.5 Public Involvement at Health Canada: April 2004 – March 2007

The review of documents revealed the HPFB to be committed to consulting with the public. For the purposes of the ensuing analysis, it is useful to distinguish between two groups that comprise the 'public': persons involved in their professional capacities, who are referred to as professional stakeholders, and non-professionals, who are referred to as the *lay public* (Section 1.2 outlines how, in this document, the lay public is comprised of the stake-holding and non stake-holding public). The latter group consists largely of inactive publics (Diduck, 2010) and, as the literature as shown, failing to engage inactive publics may promote the tendency towards regulatory capture (Bernstein, 1955). Accordingly, comparing and distinguishing between the two groups is a necessary component of the ensuing analysis.

HC has stated not only the need to involve professional stakeholders and the lay public in decision-making, but has actually involved professional stakeholders and the lay public on a range of subjects. An important indicator that speaks of the culture of PI at HC is the presence of a department that is assigned exclusively to involving the public in decision-making. As noted earlier in section 4.2, the Office of Consumer and Public Involvement at the Health Products and Food Branch (HPFB) is an office devoted to PI activities.

The year-to-year comparison of PI initiatives conducted by the HPFB confirms that HC has been willing to engage the public on a variety of issues. The PHAC also appears to share this desire, though its activities related to PI are not reported upon to the same extent as those of HC. The CFIA does not have an office devoted to involving the public, nor a clear position on how it engages the public. In fact, it is only since the listeriosis outbreak and as a result of a recommendation made in the Weatherill (2009) report that the CFIA has, in 2010, developed an agency-wide consultation framework (Canadian Food Inspection Agency, 2010b). The

implementation of this framework is reported to be under development (Canadian Food Inspection Agency, 2010b).

As noted previously, the analysis of PI activities conducted by HC is based primarily upon a review of two reports: the *2004-05 Public Involvement Performance Report*, and the *2005-07 Public Involvement Performance Report*. (At the time of writing, no summary description of PI activities had been disclosed publicly for periods subsequent to April 2007.) These reports provide good description on the range, method and purpose of PI activities conducted by the HPFB within the fiscal periods April 1, 2004 to March 31, 2005, April 1, 2005 to March 31, 2006, and April 1, 2006 to March 31, 2007. Both reports provide a summary list of each consultation activity conducted and, in so doing, reveal the general purpose behind each consultation exercise.

The 2004-05, 2005-06, 2006-07 data in Table 4.2 are based upon information reported upon in the PI performance reports. Each performance report lists the principle methods (survey, dialogue etc.) of PI that were used, and describes each instance in which that particular method was used. For instance, in the 2005-2007 report under the heading, technical consultation, a list of all technical consultations undertaken is provided. Each listed undertaking is given a brief description as well as an indication of the fiscal period in which it took place. One such item, taken from the 2005-2007 report under the heading, technical consultation, includes the following information: "Consultation on Health Canada's revised document on antimicrobial categorization (2006-07)" (Health Canada, Health Products and Food Branch, 2007b). This item illustrates how I was able to infer whether any given consultation activity related to a food issue or not. Those I thought related to a food issue form the basis of the data presented in Table 4.3. A year-by-year list of the issues addressed and consultation methods used is found in Appendix I.

The 2005-2007 public involvement performance report provided a key illustration of HC's public involvement continuum (similar to the one provided in Figure 4.2), listing the exact involvement methods (i.e., survey, public advisory, workshop, technical consultation etc.) that correspond with the levels of PI (i.e., communication, listening, consulting, engaging and partnering). This illustration was used to identify the intended purpose behind each of the methods listed on Table 4.3.

Table 4.3 is comprised of three sections. The first and second relate to involvement methods that are non-continuous, i.e., methods dealing sometimes with a single issue and other times with a number of issues. The first section presents data on face-to-face methods and the second presents data on non face-to-face methods. The third section relates to instances in which the involvement was face-to-face and continuous (of a more 'permanent' nature). The data in section three are limited to advisory bodies.

The table shows that from 2004-05 to 2006-07, the number of non-continuous PI initiatives increased from 15 to16 to 22, while the number of continuous initiatives decreased (5,3,3). Over the same period, the number of face-to-face methods used increased (12, 14, 18), while the use of non face-to-face methods decreased slightly (8, 5, 7). Overall, the frequency of use of the various methods changed only slightly (20, 19, 25).

Table 4.3: Public involvement methods and their frequency of use on food safety and food nutrition related topics

Non-continuous Face-to-Face Methods used with respect to a Specific Food Safety Governance Issue	2004-05	2005-06	2006-07	Intended Purpose based on the PI continuum
Consensus Conference		1		Partnering
Public Forum				Discussing
Symposium		1		Engaging
Workshop	4	1	1	Engaging
Technical Consultation			7	Discussing

Focus Group	2	2	2	Listening
Public Meeting	1		2	Discussing
Bilateral Meeting		3	2	Discussing
Roundtable			1	Engaging
Dialogue				Engaging
Electronic Dialogue		1		Listening
Working Groups				Engaging
Advisory Bodies		1		Engaging
Interview		1		Discussing
Face-Face Sub Total	7	11	15	
Non-continuous non Face-to-Face Methods used with respect to a Specific Food Safety Governance Issue				
Survey	1	1		Listening
Mail out Feedback	3	2	3	Listening
Web postings Feedback	4	2	4	Listening
Non Face-Face Sub Total	8	5	7	
Non-continuous Total	15	16	22	
Continuous Face-to-Face Methods used with respect to a General Food Safety Governance Issue				
Scientific Advisory Bodies	0	0	0	Engaging
Expert Advisory Bodies	4	3	3	Engaging
Public Advisory Committee	1	0	0	Engaging
Continuous Face-to-Face Total	5	3	3	
Total	20	19	25	

The analysis thus far shows a slight increase in the quantity of PI methods employed. A further analysis, however, reveals the year-to-year level of issues subjected to consultation to have remained rather constant. Thus, while Table 4.3 reports upon the total number of non-continuous methods used in each period (15, 16 and 22 in each respective period), it does not reveal the total

number of issues for which consultations were initiated. Not including continuous involvement activities, the Food Directorate did not consult stakeholders on significantly more issues in the 2005-06 and 2006-07 periods than it did in 2004-05. In 2004-05, 15 consultation methods were used in relation to nine issues, while in 2005-06, 16 methods were employed in relation to 12 issues, and in 2006-07, 22 methods were used in relation to 11 issues. This reveals the HPFB to have broadened the scope of methods utilized to involve their publics, but to have kept relatively constant the number of issues for which involvement activities were conducted. (For a comprehensive description of non-continuous consultation opportunities and the respective PI methods for them see Appendix I.)

Turning our attention to HC's continuum of involvement, Figure 4.3 is a graphical comparison of the frequency with which the listening, discussing, engaging and partnering methods of PI were used from 2004-05 to 2006-07.

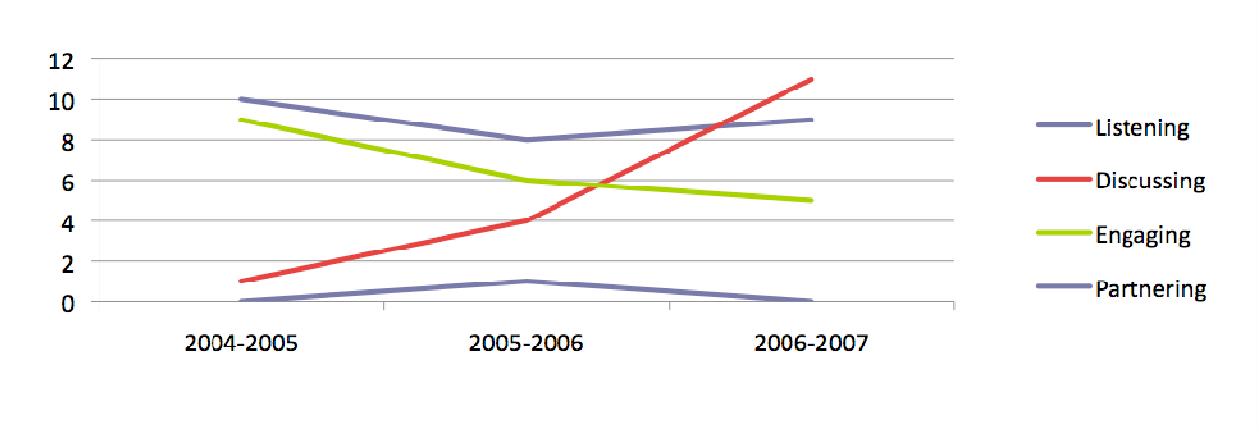

Figure 4.3: Year to year distribution of public involvement by participation level

The figure depicts that level 2, listening methods, were used with greater frequency than other methods. It also shows the Food Directorate to have provided discussion level involvement opportunities increasingly from 2004-05 to 2006-07. Further, the directorate provided only one partnership level consultation opportunity, which was a consensus conference for the purpose of

addressing food allergen issues and solutions. Though year-to-year variation exists, no fundamental shift from 2004-05 to 2006-07 can be established.

The performance reports do not include data related to level 1 PI activities. Methods considered to fall within level 1 are designed to inform the public about a particular decision or issue. Level I includes risk communication related information, such as public advisories, food handling and nutritional advice. Though this method is recognized on the continuum, its inclusion in performance reports, according to HC would misrepresent the extent to which the public is truly consulted.

4.6 Arnstein's Ladder

The HPFB's continuum of public involvement is instrumental in enabling HC staff to match the objective of a particular consultation with a suitable method. The continuum also helps to position HC's PI activities relative to other standards of involvement. Because the HPFB has described precisely which method of involvement corresponds with which stage of the continuum (e.g., the survey method corresponds with the listening stage) it is possible to discern with considerable accuracy the intended purpose of any particular involvement method – to inform, to listen, to dialogue, to engage or to partner.

Each of the five PI levels corresponds with a rung or section of Arnstein's (1969) ladder of citizenship engagement; wherein eight rungs of citizen control are described, proceeding along a continuum of the relative power and/or control afforded to citizens in the decision-making process. Table 4.4 is a representation of the association between Arnstein's (1969) ladder of citizen involvement and the HPFB's continuum of public involvement.

Table 4.4: Comparison of Arnstein's ladder with the Health Products and Food Branch's levels of citizen engagement

Arnstein's Forms of Citizen Participation	Arnstein's Types of Citizen Control	Health Products and Food Branch's Levels of Engagement	Number of activities from 2004-2007 per level of engagement
Citizen Control			
Delegated Power	Citizen Power		
Partnership		Partnering	1
Placation		Engaging	19
Consultation	Tokenism	Discussing	16
		Listening	27
Informing		Informing	No data available
Therapy	Non-Participation		
Manipulation			

Each rung in Arnstein's (1969) ladder represents the distribution of power between citizens and officials or managers. The rungs (forms of citizen participation) rest on a continuum that represents the degree of influence provided to citizens in a given public involvement exercise. Further, each form of participation corresponds with one of three types of citizen control: *Citizen Power; Tokenism;* and *Non-Participation* (Arnstein, 1969).

Table 4.4 shows the HPFB's PI activities to fall within a range of citizen participation narrower than the spectrum expressed by the ladder. With respect to the lower level rungs, there is no evidence to suggest that HC engages in therapy and manipulation, two rungs in Arnstein's (1969) ladder that can reflect a disingenuous approach to PI. While HC's approach to PI may not be very advanced, it certainly is not disingenuous to the extent expressed by the rungs, therapy and manipulation. It should be stated also that the HPFB has not provided opportunities for PI that correspond with Arnstein's (1969) upper level rungs, citizen control and delegated power. These rungs represent high levels of citizen engagement in which decision-making power is much more equally distributed than in the lower rungs.

HC's informing and partnering levels correspond with Arnstein's (1969) informing and partnership rungs. HC's informing level, although listed in the figure, does not constitute a part of the PI analysis since the HPFB has not reported data on the informing level methods. Apart from the single instance in which the Food Directorate has engaged in a partnering level of public involvement, most activities have fallen within the listening, engaging and discussing stages. Each of these HC levels constitutes what Arnstein (1969) refers to as tokenism, a form of involvement in which the participation exercise proceeds without an alteration to the existing power structure. HC ultimately holds decision-making power and shows clearly that it is unwilling or unable to relinquish that power in the majority of its involvement exercises. In fact, the HPFB has indicated in various PI documents that it holds final decision-making authority in all instances in which the public is consulted. For instance, the Food Directorate has stated that when seeking advice from the Food Regulatory Advisory Committee, "the Food Directorate always retains decision-making authority and responsibilities" (Health Canada, Health Products and Food Branch, 2010b, p.2).

HC's listening and discussing stages were viewed as reflecting the consultation rung in Arnstein's (1969) ladder. Arnstein's (1969) description of the consultation rung shares the same basic intent – to provide opportunities for citizens and stakeholders (descriptors derived from HC's public involvement framework, Health Canada, 2005) to express their views – as HC's discussing and listening phases. Surveys, public hearings and meetings fall within both the consultation rung of Arnstein's (1969) ladder and the discussing and listening levels of HC's PI continuum.

HC's engaging stage is most closely aligned with the placation rung of the ladder. It reflects a higher level of citizen engagement than do the discussing and listening stages;

engagement-level activities promote a dialogue among the parties. The literature on PI suggests that methods which promote dialogue reflect a more active, higher level of information exchange (Rowe and Frewer, 2000). Dialogue leads to a greater degree of mutual understanding and convergence of views between opposing parties (Sellnow et al., 2009). Important as dialogue may be, the approach at HC is such that the power structure remains unchanged and this is reflected in the fact that decision-making authority also remains unchanged.

The relative strength of HC's approach to PI on issues related to food safety and food nutrition can be judged according to the frequency of use of high level PI methods. By and large, methods falling within the listening stage have been the most frequently employed, followed either by discussing-level methods and engagement-level methods. This is a predictable pattern given the relative ease with which listening activities can be conducted (web-posting for feedback for instance). Save for the Public Advisory Committee (PAC), the most common engagement-level methods employed were technical, scientific and expert advisory boards of a permanent nature. The technical and scientific nature of decision-making at HC reflects the types of opportunities it selects in engaging the public, and these opportunities reflect the department's desire to be informed by professional stakeholders, and not necessarily by the lay public.

4.7 Acceptance Criteria

4.7.1. Representativeness

Rowe and Frewer (2000) suggest five acceptance criteria for assessing the design and implementation of PI exercises. The first criterion, representativeness, reflects the degree to which, "a representative sample of the population of the affected public has been selected for a particular process" (Rowe and Frewer, 2000, p.11).

According to Health Canada (2006), the department tries to involve Canadians who show

an interest in a particular issue or who are understood to be affected by a particular issue. Its approach to the selection of participants is systematic, guided by the following four questions:

- Who will be affected by the issue?
- Who may be potentially affected in the future?
- Who can contribute to a solution that will meet the needs of the widest range of stakeholder and other public audiences?
- Should other federal agencies or other jurisdictions be involved?

The HPFB's approach to involving the public has changed over the last 10-15 years. A broader approach has been adopted, stemming from the need to involve interested parties who might not have the resources to otherwise influence decision-makers. HC Respondent #2, a former high ranking official within the HPFB, noted that HC's approach to involving stakeholders has evolved to where the department is now soliciting the input from various stakeholder groups:

> 10-15 years ago or something, who came in to see the Minster most often? It was industry. And I think, by having public consultations many other groups were given their opportunities to feed into policies that affected them but they never had lobbyists. They didn't have textbook people who were calling on ministers offices every, lets say, once a year, twice a year. So I think that's really what it did was, it wasn't government favoring industry, it was certain groups were already organized to advocate on a certain policy direction because they paid staff or they paid consultants, and other groups didn't. Doing a targeted strategic consultation meant that you made sure that those who didn't come to see you, you made sure that you went out and tried to get a hold of them.

Various stakeholder groups exist, and these include industry, health professionals, government, patient groups, the general public, community and consumer groups and academia (Health Canada, 2006b). Of the 19 engagement-level methods of involvement used between April 2004 and March 2007, only one, the Public Advisory Committee, involved exclusively, a group of layperson participants. While the committee was comprised of only 19 individuals, it included a "cross-sectoral diversity of Canada through a blend of age, gender, region, culture, and language

representation" (Health Canada, 20011c). Of the remaining 18 engagement-level methods, no more than eight provided an opportunity for the lay public to participate (and this number might actually be lower).

An important success factor in selecting participants who are representative of an affected group or segment of the affected population is the level of effort given to promotion. Outreach, therefore, is a key component of the selection process. The HPFB has three mechanisms through which it can maintain and communicate regularly with stakeholders for recruitment and other purposes. The first, the *HPFB's Stakeholder Information Management System (SIMS)*, is a stakeholder database. SIMS enables the Branch to "streamline the way it communicates with stakeholders, and contains up-to-date information on over 9,000 stakeholders" (Health Canada, Health Products and Food Branch 2007c, p.5). Such a database ensures that the most important stakeholders and stakeholder groups are identified. The HPFB takes a systematic approach to the recruitment of participants, ensuring that those asked to participate are representative of the affected parties. HC Respondent #2 commented on the technical process through which participants were selected:

> We would set up a task force and we would usually set up a matrix, and so you would sort of say, what kind of expertise would you need.... we would try and get males and females, different parts of the country, different types of expertise, and then not the same type of people who were there the last time.

The HPFB has also communicated openly with key stakeholders through a newsletter, *Involving You.* The newsletter is used to encourage awareness and involvement of Canadians in HPFB's work. It reaches 1,300 stakeholders. While the newsletter is accessible electronically at the HC website, it has not been made public since the winter 2008 edition. There is no mention that the newsletter's publication has been suspended though this method of reaching the public seems to have fallen out of favor.

In addition, HPFB sends out targeted outreach mailouts from the Assistant Deputy Minister to 300 of its stakeholders. It has also, on at least one occasion, established a program for helping patients and consumers understand and get involved in the branch's decision-making (Health Canada, Health Products Food Branch, 2007c). In 2004, the HPFB invited patient and consumer stakeholders to identify how patients and consumers could be provided with the information and training necessary to improve their knowledge and participation in Branch decision-making (Health Canada, Office of Consumer and Public Involvement, 2005). Though a pilot information and training session for patients and consumers was conducted and reported upon in 2005, there is no publicly accessible information to show the HPFB continued to provide similar information and training programs (Health Canada, Office of Consumer and Public Involvement, 2005).

HC has a propensity to focus on participants who are highly influenced by a particular issue. At the same time though, the department attempts to strike a balance in selecting candidates who might potentially be impacted by a decision, who hold technical scientific knowledge about a situation, and who show willingness to participate in a consultation process. While its approach to involving and selecting participants is systematic, less weight is given to involving the lay public in decision-making processes than is given to selecting stakeholders, something that is reflected in its recruitment efforts. HC is more committed to identifying and engaging technical and scientific experts and other individuals in their professional capacities than in its commitment to engaging laypersons.

4.7.2 Independence

The degree to which HC retains third party organizations or persons to run its PI activities cannot be established conclusively. The lack of documentation makes it difficult to

ascertain specifically if and when external agents have facilitated HC's PI processes. It appears that either trained HC staff, or consultants, are employed to facilitate PI exercises. HC respondent #2 had this to say about who facilitated PI exercises:

> We used a mixture of either external consultants, who helped facilitate meetings, like professional facilitators and then eventually trained people in house, for facilitations.

Independence is a criterion that can also be examined by the degree to which there is disclosure by participants of their affiliations. Rowe and Frewer (2000, p.13) write: "disclosure from participants of any relationship to the sponsoring body might help confirm independence in the minds of the wider public." HC has in place a mechanism through which information is gathered from participants about their affiliations. This mechanism was put forward as a response to a recommendation made from participants in a PI process who called upon HC to collect and report information related to participant affiliations and interests (Health Canada, Health Products and Food Branch, 2005).

The *Voluntary Statement of Information for Public Involvement* (VSIPI) was introduced to provide PI participants the opportunity to disclose their affiliations, therefore revealing any conflicts of interest that might jeopardize the integrity of a consultation process (Health Canada, Health Products and Food Branch, 2005). First piloted in 2005, the VSIPI is now used regularly in PI processes. The voluntary statement is described in the 2004-05 Public Involvement Performance report (Health Canada, Health Products and Food Branch, 2006a):

> The [statement] includes information on the organization's mandate, the scope of its membership, and the stakeholder group to which the individual or organization belongs—health professional, voluntary organization, academic community, etc. It also covers the participant's relationships, interests, or affiliations (financial and non-financial) with any other organization likely to be affected by the topic under consideration.

The implementation of the voluntary disclosure initiative shows the HPFB has taken seriously

certain recommendations made by those with whom it has consulted. It also shows that it has attempted to fulfill its obligations of transparency and openness by disclosing participant affiliations.

4.7.3 Early Involvement

The criterion of early involvement requires that participants become involved early enough in a participation exercise for their input to have an impact on decision-making (Rowe and Frewer, 2000). The data reveal the HPFB to have taken the position that the public should be involved as early as possible in any decision-making exercise. A case in point, the 2005-07 Public Involvement Performance report (Health Canada, Health Products and Food Branch, 2007c, p.8) states that "whenever possible, the public is involved early enough in the decision-making process to be able to influence issues."

The effect that a PI process may have on a policy, regulation or initiative depends largely on the intended purpose of the process. Generally, HC identifies the opportunity for involving its publics in relation to a particular policy objective. And the decision to create the opportunity is based on Health Canada's Decision-Making Framework for Identifying, Assessing and Managing Health Risks (Health Canada, 2000a), presented here in Figure 4.4.

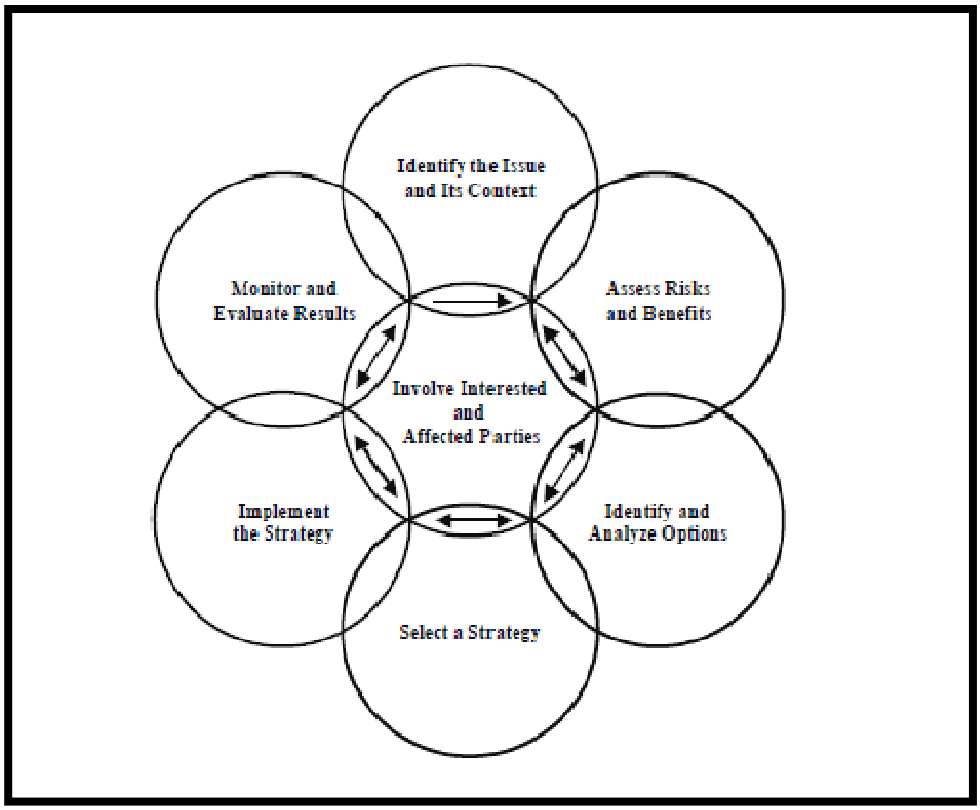

Figure 4.4: Health Canada's decision-making framework (Health Canada, 2000a)

Stakeholders are involved at various points in HC's decision-making cycle. Identified in the cycle are six stages: Identify the Issue and Its Context; Assess the Risks and Benefits; Identify and Analyze the Options; Select a Strategy; Implement the Strategy; and Monitor and Evaluate Results (Health Canada, 2000a).

The stage in which the public is involved depends upon the intended purpose of the PI activity. That is to say, when involving the public, the HPFB does so at the stage in the cycle that represents the particular objective of the PI exercise.

The HPFB states that timely notification of a process is essential to involving interested parties. To that end, a guidance document on "notice of the public input process" exists to guide the HPFB in public involvement exercises (Health Canada, Health Products and Food Branch, 2007e). The document describes the need to notify the public at least six weeks before the

deadline of a PI process (Health Canada, Health Products and Food Branch, 2007e). It also describes the *requirement* on the part of the Branch to "notify the public of the type of public input process it will use; whether a meeting, if planned, is open to observers; and the deadline for public input" (Health Canada, Health Products and Food Branch, 2007e, p.1). The Branch also describes the opportunity to provide the public with information on its website concerning, "the scope of public input it seeks, the opportunities for the public to provide input, how the Branch will use the information it receives from the public in decision making; a website address with more information on the regulated product under review and the public input process; and the name and contact information of the Branch official coordinating the public input process" (Health Canada, Health Products and Food Branch, 2007e, p.1).

The HPFB appears to do an adequate job of providing participants with timely notification of processes. An examination of documents showed the Branch's approach to involving the public to be well thought out and to providing sufficient information for prospective participants to learn about consultation processes.

4.7.4. Influence

Influence denotes the degree to which the output of a PI process has a genuine impact on policy (Rowe and Frewer, 2000). Degree of influence coincides, in large measure, with the levels identified on the HPFB's public involvement continuum (communicating, listening, discussing, engaging and partnering) (Figure 4.1).

Of the 53 non-continuous involvement opportunities that took place between April 1, 2004 and March 31, 2007, 43, or just over 81%, fell within the listening and discussing phases of the involvement continuum. This demonstrates HC placed a strong emphasis on collecting concerns and information from the public with respect to a policy or regulation and on providing

an opportunity for the public to discuss a policy, regulation or issue. Of the remaining 10, 9 fell within the engagement and one within the partnership end of the continuum.

In most cases, engagement-level consultations involved technical or scientific experts. In fact, 12 out of 19 used the scientific and technical advisory body method. As a result, the general public was excluded from these processes and their views on the matter in question were not represented through engagement-level methods. So while the degree of influence for those participating in engagement-level exercises is presumed to be higher than for those participating in the listening and discussing levels of engagement, the lay public is underrepresented in this level of participation.

On the other hand, the lay public appears *actively* (rather than inactively like when they are able to submit a web posting as feedback) involved in offering their views in informing level activities. Focus groups and surveys were the most common methods through which this was accomplished. HC respondent #2 said that department involved consumers directly only through surveys and focus group testing.

Ultimately, the HPFB states clearly that decision-making authority rests within its department. The guidance document on PI developed in regards to regulated products states that:

> Regardless of the process followed, the Branch has legislative responsibility for the product review and always retains the decision-making authority (Health Canada, Health Products and Food Branch, 2007e).

Furthermore, The HPFB indicates that it takes into account expert advice in decision-making but is not bound by it because "the department has the regulatory responsibility for making any final decisions about the topic being discussed" (Health Canada, Health Products and Food Branch, 2010a). This view was echoed by interview participants, who stated that the public could only be involved to an extent that falls short of HC relinquishing control of decision making:

> You have to understand that HC has a stated mandate to make authoritative decisions about the regulation of food. It can consult all it wants but at the end of the day, it possessed decision-making authority (Academic respondent #1).

Rowe and Frewer (2000, p.15) describe one of the primary complaints about public participation is that the public is often "perceived as ineffectual, simply being used to legitimate decisions or to give an appearance of consultation without there being any intent of acting on recommendations. This results in public skepticism and distrust concerning the motives of sponsors." One fundamental reason the HPFB involves the public is to increase accountability and legitimacy in decision-making. HC respondent #1 stated:

> We recognized not only that the public increasingly wants to be engaged in issues affecting them but, also, the public's involvement leads to a more legitimized process of decision-making.

The HPFB Public Involvement Framework (Health Canada, 2005, p.4) states: "Stakeholders want effective mechanisms to ensure that they are *appropriately informed,* that their views are heard and that *governments are held accountable* for how public expertise and advice are used." Furthermore, the *Health Canada Policy Toolkit for Public Involvement in Decision Making* (Health Canada, 2000b, p.8) speaks of public involvement as a tool for the restoration of legitimacy in government:

> *Renewed legitimacy* and public confidence in government will rest upon greater transparency and citizens' involvement in decision making…There is a growing gap between Canadians' actual and desired level of influence in government decision making which is leading them to demand a greater voice in public policy formulation. National institutions are under pressure to make changes to their policy-making processes in order to address this disconnect and *build public confidence*.

These policy statements suggest that the participation of the lay public in decision-making at HC is promoted on democratic grounds rather than instrumental grounds. The single method by which the lay public is given an opportunity to fundamentally engage with decision-makers in an

ongoing manner, the Public Advisory Committee (PAC), had not been utilized since 2005. Since that time, technical and scientific experts engaged with the Food Directorate on numerous occasions. One former member of the PAC thought the work of the committee was well received and was left to speculate as to why the committee was dissolved:

> Our perception was you are cutting us out. Why? You were very pleased with the information you received and the advice that was given. And now you are disbanding it. Either you didn't like our opinions or you didn't want to spend the money to keep us going (PAC respondent #1).

That HC finds less of an instrumental need to involve the lay public than professional stakeholders is not to say that lay participant deliberations carry no impact on the decision-making process but, rather, the rationale for involving lay participants is focused on gathering information (through public opinion research for instance) or on legitimizing decision-making processes (for instance, when the public is given the option to provide on-line feedback about a activity or process). On the other hand, the purpose for involving stakeholders in their professional capacities (scientific, technical, industry experts for instance) is to engage them in a dialogue about an issue, process or activity.

4.7.5 Transparency

Rowe and Frewer (2000, p.15) suggest that transparency can be assessed according to the degree to which "the wider public can see what is going on and how decisions are being made." Satisfying the condition of openness and transparency in PI necessitates an approach that goes beyond simply collecting stakeholder input. Even if the collected information is put to functional use, transparency cannot be fully attained unless information central to the decision-making process is disclosed (Rowe and Frewer, 2000).

Transparency and openness are recurring themes in HPFB reports, frameworks, publications and Internet pages related to PI. The following is a collection of some of the

references made to transparency and openness by the HPFB and its bureaus:

> The Branch (HPFB) will be open, transparent and accountable in our work, and integrate stakeholder input into our decisions (Health Canada, Health Product and Food Branch, 2006a);
>
> Health Canada will promote a more open and transparent regulatory system in which the involvement of patients, consumers, health professionals and researchers contributes to better overall quality of regulatory decision making (Health Canada, Health Product Food Branch, 2007c);
>
> Transparency and openness are fundamentally good regulatory practices that enhance the quality of decision-making (Health Canada, Health Products and Food Branch, 2007a);
>
> In its day-to-day operations, HPFB relies on sound science, risk management, and the principles of effectiveness, efficiency, transparency, accountability and cooperation to ensure the best possible service to Canadians (Health Canada, Health Products and Food Branch, 2004); and,
>
> One of the keys to a successful dialogue is trust and confidence through increased openness and transparency. The Health Products and Food Branch is committed to transparency by facilitating access to and understanding of the information and processes it uses to conduct its business (Health Canada, Health Products and Food Branch, 2006c).

For the HPFB (Health Canada, Health Products and Food Branch, 2007d, p.1), transparency means "facilitating access to and understanding of the information and processes HPFB uses to conduct its business," while openness is "inviting, hearing, considering and sharing of information in the conduct of HPFB's business."

Despite the fact that HC and the HPFB have successfully articulated a need to become open and transparent, they cannot be said to have implemented a systematic approach to openness and transparency, which would include making public the results of all its decision-making processes. Secondary data reveal that various stakeholders have expressed a desire to observe more transparency and openness in HC's decision-making. For instance, the Final Report on the Blueprint for Renewal online consultation session (Health Canada, Health

Products and Food Branch, 2007d) included comments that speak of the need for HC to become more open and transparent. One industry stakeholder respondent was noted to have stated:

> This transparency and openness should include making clear how evidence submitted by various stakeholders during consultations is weighed or considered in the decision-making process. For example, how were the views of experts balanced against those of lay commentators? What criteria were given prominence in decision-making? (Health Canada, Health Products and Food Branch, 2007d, p26)

Within the HPFB, what is reported upon, the detail to which it is reported, and the timeframe within which it is reported is highly inconsistent and ad hoc. Direct linkages between the public and officials within HC do not exist. Nor does HC rely upon the media at large to communicate policy decisions and consultation results. The primary (and incidentally most cost effective) communication vehicle remains the Internet; and most information reported upon on the Internet is done so in a fractured, disjointed way. And even while the Internet appears to be the easiest and most relied upon vehicle through which HC reports its activities, HC respondent #2 indicated that the department's performance in this regard has not been as strong as it should be:

> I think realistically there are a lot more demands to update websites because that's probably the most common vehicle that we use to at least be transparent where you should be able to find everything. And yet, I don't think they give enough resources to both making sure things get up there in a timely fashion but also, all the issues around properly designing it, having good search engines...I also think this is government wide, they haven't figure out a good way of maintaining what I would call archival information.

The respondent added that there are challenges to providing information through the Internet:

> Some of the problems are that there are great difficulties, well first I have to translate everything, long documents that become expensive and then there are some issues around the common look and feel, having everything in html.

Information used in decision-making is made available for public viewing in electronic format and found on the HC webpage, which reads:

> Equal opportunity to access information: As much as possible, all parties who are affected by an outcome, or those who express interest in an issue, have equal access to unbiased and complete information. Access is provided through various methods including, but not limited to, making information available on the Internet (Health Canada, Health Products and Food Branch, 2007c).

There is a great deal of inconsistency among bureaus and from one PI process to another in terms of the manner and the degree to which information is reported. HC respondent #1 stated:

> Part of the problem is that we can't impose all Branches to make public their reports and do their reports on consultations.

The need to increase openness and transparency was expressed by HC officials as early as 2001, but various framework and PI process documents show that stakeholders continue to call for more openness and transparency. HC respondent #1 commented upon the difficulty to consistently report on consultation processes.

> We are not in a place where we are systematically providing feedback on these consultations and in a place where we are reporting back on how this information was used.

The 2005-07 Public Involvement Performance Report (Health Canada, Health Products and Food Branch, 2007c) states in clear language the HPFB's commitment to report upon PI activities:

> Starting in 2007–08, the Branch will report its public involvement activities against key performance indicators in its *2007–12 Strategic Plan* and other departmental reporting documents. This will allow us to be more accountable to Canadians, improve relationships with stakeholders, promote successful development and implementation of decisions, and build public confidence in the regulatory system for health products and food.

Performance reports are unavailable for any period subsequent to April 1, 2007. There is a clear contradiction between what the agency professes to be its commitment to reporting upon PI activities and the extent to which it actually reports. HC respondent #1 spoke of the ongoing effort to systematically track PI initiatives:

> We are developing for the first time a corporate information management system where all of the information on all of our stakeholders on all of our consultations

> will be captured, tracked and monitored so we have a much better idea of who we're talking to, why we're talking to them.

Even when information is provided, the content is insufficient according to HC respondent #2:

> They (HC) really should put more details into how they make the decisions... the other issue is around openness and transparency. Often it's hard to find out the documentation behind things, short of people having to go and access information, much of what government posts is the end results ... It is often not as transparent as it could be and I think that's just the system in general. You see the end product but unless you are the person being consulted you often don't have the ability to understand how they got there.

While HC continues to work towards improving openness and transparency, it remains to be seen how improvements will be implemented. Presently, large gaps exist between HPFB's stated commitment to openness and transparency and what the evidence shows to be its actual approach. There is little in the way of a consistent and systematic approach and what is reported upon is incomplete to the extent that it reveals little about the process of decision-making, failing to disclose the precise manner in which the views of the lay public and professional stakeholders are, or are not, considered and applied to policy decisions.

4.8: The Blueprint for Renewal

Of all the non-continuous PI initiatives conducted by the HPFB over the past number of years, the Blueprint for Renewal appears to focus on the greatest breadth of issues than all others. Because of this it has had a Branch wide impact. The Blueprint for Renewal process involved a PI component that was, relative to other PI exercises, thoroughly reported upon. For this reason, it is a useful case for assessing PI using Fiorno's (1990) and Rowe and Frewer's (2000) criteria.

The Blueprint for Renewal: Transforming Canada's Approach to Regulating Health Products and Food, was a multi-step initiative conducted by the HPFB that began in 2006 with the release of the first of two documents, the Blueprint I. The Blueprint I, prepared by HC staff, was a detailed summary of the HPFB's strategic modernization plan (Health Canada, Health

Products and Food Branch, 2006b). It provided a summary of proposed changes that would enable the Branch to modernize the regulatory system for health products and food. The intended purpose of the Blueprint I document was for it to be the discussion piece upon which PI activities would be based. To that end, the Blueprint I facilitated a dialogue among HC, professional stakeholders and the lay public. The Blueprint for Renewal II took the same format as the Blueprint I, with the exception that it included key revisions related to the consultation processes.

The blueprint PI process forms the basis for an assessment using Fiorno's democratic process criteria of public involvement, as well as Rowe and Frewer's (2000) acceptance criteria. Two PI methods were used by the Branch to have interested parties comment on the Blueprint I document. The first, an on-line consultation, was "live" for a total of six weeks between October 26 and December 6, 2006. The second method was a regional consultation session that took place in seven cities across the country in concurrence with the on-line consultation session. Both the lay public and professional stakeholders participated in the on-line consultation exercise, while only professional stakeholders participated in the regional sessions.

The regional sessions were chaired by Assistant Deputy Minister, Mr. Neil Yates, and facilitated by HC personnel. The meetings were face-to-face and had the following agenda:

- A presentation overview of the blueprint made by Mr. Yates;
- An opportunity for stakeholders to seek clarification on the presentation and to provide their organization's views and perspectives; and,
- A facilitated discussion for participants.

HPFB (2005b) defines regional sessions as bilateral meetings. Bilateral meetings are considered discussion-level, face-to-face methods of interaction (Health Canada, Health Products and Food Branch, 2005). The HPFB (2005) defines web postings as a listening-level, non face-to-face method of interaction.

4.8.1 Democratic Criteria

Fiorno (1990) identifies four democratic criteria with which to assess a PI process: the extent to which a process involved amateurs; the extent to which citizens share in decision making; the level of interaction between amateurs and decision makers; and, the degree to which there was some basis of equality between citizens and decision-makers. While the criteria have a specific focus on amateurs (i.e.: the lay public), the following analysis applies to both the lay public and professional stakeholders.

Of the two PI activities that took place, only the web consultation included both the lay public and professional stakeholder respondents. In the web consultation, participants were given a set of tools to complete an exercise, which included an opportunity to complete a workbook, share a story or idea related to regulatory modernization, or to do both (Health Canada, Health Products and Food Branch, 2007d). Participants also identified the category that best described their affiliation (Health Canada, Health Products and Food Branch, 2007d). The two largest groups of respondents were health professionals (29%) and industry stakeholders (27%). The next largest groups were concerned citizens (11%), federal government officials (10%) and public interest groups (9%). The remaining participants identified their affiliations as academics/researchers (6%), provincial government officials (5%) and patients (4%) (Health Canada, Health Products and Food Branch, 2007d).

The web consultation exercise provided an opportunity for a range of stakeholders to offer comments on the issues addressed. This is consistent with HC's approach to web consultations. HC indicates that electronic consultations are used "to provide *an opportunity for a broad range of stakeholders to take part in reviewing a draft policy and providing feedback"* (Health Canada, Health Products and Food Branch, 2007c*).* While the process was open to the

public, the data revealed that a relatively low number of respondents were comprised of the lay public. Of the 226 completed responses, as noted, only 11%, or roughly 23 respondents, were concerned citizens and 4%, or roughly 9, were patients (both categories of respondents were considered the lay public for the purpose of this analysis). This is an important consideration that needs to be understood in relation to Fiorno's (1990) democratic criteria. That the lay public was excluded from the regional consultation sessions and was *only* consulted through the web forum shows that they had a low level of 'direct' participation. It is also noteworthy to reveal that the solicitation of their views was passive. In other words, there was no active mechanism through which citizens were invited to participate. It was incumbent upon interested individuals to become aware of these opportunities through their own active efforts to seek opportunities to comment. Health professionals and industry stakeholders comprised the largest group of web-based respondents, 29% and 27% respectively. Their representation is consistent with a public involvement approach that places a strong focus on involving professional stakeholders.

The HPFB also used regional face-to-face meetings as a method of consulting. These sessions occurred in seven cities across the country, namely Toronto, Halifax, Winnipeg, Montreal, Ottawa, Vancouver and Edmonton. The consultation sessions were made open to representatives of various stakeholder organizations, a list of which was disclosed publicly on the HC website. The regional sessions were open to professional stakeholders while the lay public was excluded from the process altogether. In summary, only professional stakeholders were given an opportunity to participate in both processes, the second of which provided more interaction with officials.

While these PI processes had an effect on HPFB's decision-making, the relatively low rate and level of layperson participation suggest that professional participants likely had a

significantly larger impact. Supporting this inference, the summary of the web-based consultation process reveals that industry stakeholders provided a large proportion of the most meaningful open-ended responses (Health Canada, Health Products and Food Branch, 2007d); not one of the statements disclosed was made by a lay person. Either lay people did not provide many comments, or they did not provide comments that were as meaningful to HC as those made by individuals participating in their professional capacities.

As noted previously, of the two PI opportunities used in the Blue Print process, only the regional sessions provided an opportunity for face-to-face interaction. The level of interaction between participants and HC staff can be regarded as moderate; while they were face-to-face, the contact between participants and officials can be more direct. The participants in the regional consultations were individuals belonging to key stakeholder groups as identified by HC, including industry representatives, health care professionals, academia, and patient and consumer groups. That the lay public was not invited to participate in the regional sessions shows that the PI process did not provide any opportunity for private citizens to interact with officials in a face-to-face manner.

The final democratic process criterion identified by Fiorno (1990) is the degree to which the lay public participates on some level of equality with administrative officials or technical experts. The web-based consultation process provided no level of equality among layperson participants, stakeholder participants and administrative officials. Fiorno (1990) views consultation processes of this type as useful for clarifying possible points of contention in preparation for a face-to-face interaction of some type. That the lay public did not participate in the regional sessions strengthens further the assertion that the process afforded very little equality between the lay public and HC officials. Only those participating in the regional

sessions were provided with an opportunity to interact with officials in a direct, face-to-face manner. The degree of face-to-face interaction, however, was only moderate given that its purpose was to gather as much input from the participating audience as possible. Other, face-to-face methods, such as roundtables provide a greater level of interaction between participants and officials.

4.8.2 Acceptance Criteria

This section analyzes the Blueprint for Renewal process using Rowe and Frewer's (2000) acceptance criteria, which are related to the effective construction and implementation of a PI process. As noted previously, the criteria are representativeness, independence, early involvement, influence and transparency.

As noted previously, HC selects PI participants based on the degree to which the individual or group might be impacted by the issue at hand. Typically, those who are selected to participate are asked to do so in their professional capacities.

In the case of the Blueprint for Renewal process, the degree to which HC achieved representativeness was mixed. As noted, the participant categories in the web-based consultation sessions reflected a diversity of health professionals, industry stakeholders, concerned citizens, government officials, public interest groups, academics, provincial government officials and patients. Professional stakeholder representation was also high in the regional consultation sessions (Health Canada, Health Products and Food Branch, 2006c). The list of participating organizations shows that consumer, industry, health care, and non-profit, non-governmental representation was distributed across all regional sessions (Health Canada, Health Products and Food Branch, 2006c).

However, as previously noted, the Blueprint process did not include widespread or

intensive input from the lay public. While patients and concerned citizens were two groups that provided feedback on the web-based consultation, their participation was not proportionally equal with the industry and health professional groups. Furthermore, there was no representation of the lay public in the regional consultation sessions. Their omission shows that the consultations placed little to no focus on the views of the lay public, and their participation in the web-based forum though welcome and reported upon, seems to have been of secondary importance.

With respect to the criterion of independence, the web-based consultation was facilitated by HC staff and the Internet entry point was on the HC website. There was no independent or third party administration of the web-based consultation. With respect to the regional consultation sessions, the Blueprint reports indicate that Assistant Deputy Minister, Mr. Yates, chaired the regional sessions and was assisted by HC staff. Again, no outside assistance was provided.

Further to the criterion of independence, information about respondents' affiliations was collected and reported upon. A list of participants' professional affiliations at each regional forum and statistical information about the groups to which participants affiliated themselves in the web-based consultation were made available in the consultation summary documents. HC showed a strong commitment throughout the Blueprint process to reveal precisely who was being consulted and to identify the affiliations of participants whose comments were disclosed publicly.

The criterion of early involvement was met with a generally good level of success. Participants in the electronic forum were provided a six-week window to complete the survey. Six weeks seems a reasonable amount of time for participants to be able to provide comments,

particularly given that the comments can be made at any time convenient to the respondent. It is unknown how much advance notification those in the regional sessions were given to prepare and plan their participation.

With respect to the criterion of influence, participants had a moderate level of influence on the Blueprint process. Having the lay public and professional stakeholders comment on the Blueprint I document provided the HPFB with a sense for how acceptable its proposed regulatory modernization would be. The HPFB (2007a, p.4) revealed, "participants expressed strong support for renewing the Branch's regulatory approach, as well as with the Blueprint's objectives". Moreover, although the Blueprint's eight proposed objectives were well received, participants identified two fundamental gaps, relating to compliance and information communication (Health Canada, Health Products and Food Branch, 2007a). In response, the Branch reported that it would:

> 1. Health Canada will put in place modern legislative, regulatory and policy tools to better support its compliance and enforcement functions and activities.
>
> 2. Health Canada will work with partners in the health care system to make available more and better information about health products and food to enable Canadians to make informed decisions about their health (Health Canada, Health Products and Food Branch, 2007a, p.30).

The Blueprint for renewal process was conducted with relative transparency. Detailed reports have been disclosed by the HPFB (Health Canada, Health Products and Food Branch 2006c; 2007d) for each of the two consultation exercises. The reports summarize participants' comments and provide a moderate level of detail as to how the comments were used to inform the Blueprint II document. HC has also disclosed which organizations participated in the regional sessions and encouraged respondents to identify their affiliations, which is consistent with the department's commitment to greater disclosure of citizen affiliations.

The analysis shows that both the lay public and professional stakeholders participated in the Blueprint PI exercises. While Fiorno's (1990) and Rowe and Frewer's (2000) analytical constructs were originally intended for application to layperson participation, the analysis here has examined both layperson and stakeholder participation. A comparison of each group's degree of involvement in the Blueprint process (Table 4.5) shows the lay public to be involved to a lower degree than were professional stakeholders.

Table 4.5: Levels of lay (L) public and professional (P) stakeholder involvement in HC's Blueprint for Renewal process, using Fiorno's (1990) democratic criteria and Rowe and Frewer's (2000) acceptance criteria

	None	Low	Moderate	High
Democratic Criteria				
Direct Participation		L	P	
Decision Making		L	P	
Interaction	L		P	
Equality		L P		
Acceptance Criteria				
Representativeness		L		P
Independence		L P		
Early Involvement				L P
Influence		L	P	
Transparency			L P	

In Table 4.5, L denotes the lay public while P denotes professional stakeholders. The table shows clearly that the lay public participated to a lower degree than did professional stakeholders. Both the available documentation and the former HC director's comments corroborate what the analysis has thus far revealed - the general trend at HC in which the lay public is are not provided with an opportunity to participate to the same degree that are professional stakeholders. This approach is perhaps best summarized by the following comment made by HC respondent #2

in response to having been asked how laypersons are consulted:

> Laypeople are involved, and not by design, but often they are represented by organizations who spoke for the consumers. Even though, maybe John Public wasn't there, the consumers association was there or the heart and stroke was there.

4.9 Revised Policy on *L. monocytogenes* in RTE Meats

Since the listeriosis outbreak, HC and the CFIA have taken various steps towards improving the safety of ready-to-eat (RTE) foods, and undertook PI processes in these reform efforts. First, in its revised policy on *L. monocytogenes* in RTE foods, it solicited input both actively (by having sent out requests to scientific stakeholders) and passively (by allowing the lay public to submit comments electronically), with the goal of providing guidance to industry and regulatory authorities regarding the control of *L. monocytogenes* in RTE foods.

In addition, subsequent to the listeriosis outbreak and as a result of the perceived risks associated with RTE meats, in September of 2008, HC issued an Interim Marketing Authority for the use of sodium acetate and sodium diacetate in RTE meat products. These two food preservatives had been permitted under the Food and Drug Act for use in certain products, just not RTE meat products. (The IMA process bridges the time between the completion of the scientific evaluation of certain enabling amendments and publication of the approved amendments in the *Canada Gazette*, Part II.) One industry respondent noted that their products have been reformulated as a result of the approval of these preservatives:

> The particular compound sodium diacetate was approved by Health Canada immediately after the listeriosis crisis... It had been available to the US industry for a number of years but the approval had not come through Canada. Now you see the risk profile for these products for consumers is much improved because of that. It is still compatible with reduced sodium (Industry respondent #1).

Use of the IMA process in this manner was consistent with recommendation 12 of the Weatherill (2009) report, which was to provide faster approval of food safety measures, such as

food additives and new technologies. Further, in response to the Weatherill (2009) report and as an effort to avoid delays in food safety submissions and having to use the IMA process subsequent to an outbreak on the scale of the 2008 listeriosis outbreak, HC's Bureau of Chemical Safety developed a policy for the priority scheduling and expedited handling of submissions that have the capacity to enhance food safety (Health Canada, 2011c). The revised policy gives HC the authority to fast track the approval of food additives and technologies that have the potential to enhance food safety (Health Canada, 2011c). The substances and technologies identified to have the potential to contribute to the microbiological safety of food are encompassed in four categories: food additives, food irradiation, novel foods / novel food processes, and processing aids. The policy change serves to ensure the most up to date food safety measures are instituted into production activities and avoids significant delays in the review process (Health Canada, 2011c).

Though the policy is lauded amongst industry members and those in the scientific community, a careful examination shows that the guidance document fails to propose how the public will be consulted on submissions, as they come in. Without making it clear that a systematic approach to PI will be used, the legitimacy of future approval processes remains uncertain.

4.10 HPFB Public Advisory Committee

It is important to recognize that the intention behind a PI process can be revealed through who is selected as a participant in that process. The participants may be comprised of the lay public or stakeholders in their professional capacity, or both. This distinction is an important one that requires consideration given that the analysis shows HPFB to have focused more strongly on soliciting input from technical and scientific experts, rather than from laypersons. Is the objective

to learn from and truly engage laypersons, or is the objective to learn from and engage subject area, scientific or technical experts?

Of the participation methods used by the HPFB, few have placed greater emphasis on layperson perspectives than has the HPFB Public Advisory Committee (PAC). The PAC provided laypersons with a direct link to decision-makers, and enabled them to explore a greater variety of issues, in much greater detail, than is possible through non face-face-face and methods.

The PAC was convened in the years between 2002 and 2005. In those years, the committee met on average three times a year and was comprised of up to 20 members who represented cross-sectoral diversity through a blend of age, gender, region, culture and language representation (Health Canada, 20011b). Committee members became involved either on their nomination by a consumer or non-industry health group or through them having shown themselves to be a knowledgeable member of the general public with an interest in issues relevant to the Branch (Health Canada, 2011b).

The HPFB set up the advisory committee to provide advice on Branch issues and initiatives from the perspective of consumers and the public. For instance, the committee provided advice on policies and regulations related to antimicrobial resistance (AMR) (Health Canada, 20011b). The 2004 PAC Annual Report (Health Canada, 2004b, p.2) states:

> The advice that PAC provided on AMR resulted in a deeper understanding of how the public perceives AMR risks. Committee members emphasized the importance of using targeted messages that raise public awareness. Members also suggested using regional media to reach out to various segments of the population. Messages should focus on hygiene and on appropriate use of products. The PAC's messages and ideas will be built into future education and public awareness strategies.

As an engagement-level method of involvement, the PAC provided participants with a

relatively high degree of influence in decision-making. Though the above statement reads that the committee's input formed the basis of decision-making at the HPFB (with respect to education and public awareness strategies), no further information is available to either confirm or disprove that the PAC's ideas were put to functional use. This affirms what has already been described about openness and transparency at HC - that it has often failed to disclose how pubic input was used in decision-making processes.

PAC committees of the type set up by the HPFB are important ways in which laypersons can be engaged in decision-making. One former PAC member noted that Public Advisory Committees can bring considerable legitimacy to the decision-making process:

> Public advisory committees of the type that the HPFB had can increase transparency and are a good way of understanding the views of the public. I don't know why the decision was made to disband the group. It did good work (PAC Respondent #1).

The PAC involved the direct participation of laypersons and provided them with an opportunity to interact directly with the Branch's executive committee. It is important to reiterate, however, that committee members did not share in decision-making authority, given that ultimate responsibility always rests with the Branch (Health Canada, Health Products and Food Branch, 2010b). The Branch terminated the PAC in 2005 and provided the following rationale for doing so:

> During the tenure of the committee, however, public involvement activities undertaken by HPFB have steadily evolved; their scope and breadth have broadened significantly. As a result, the Branch has closed the Public Advisory Committee and will instead use a variety of public involvement methods to inform and involve citizens. Some of them include seeking input through public forums, public and town hall meetings, expert advisory committees and workshops (Health Canada, Health Products and Food Branch, 2007b).

A review of PI activities shows the decision to terminate the committee contradicts the Branch's assertion that the committee has been replaced with a variety of PI methods. The lay public does

not appear to have been consulted with greater frequency in the years since the advisory committee was disbanded. The general focus, the access to officials, the range of issues that can be explored by the lay public, and the focus on dialogue are features of the PAC that have not been replaced by other methods.

4.11 Scientific and Technical Advisory Committees

It is only recently that HC or the CFIA have formed any public advisory committees on food safety issues. One of the two HC committees and the sole CFIA committee (refer to the following section on information related to the CFIA committee) have been created since the 2008 listeriosis outbreak. Speaking as a participant of the CFIA Academic Advisory Committee, one respondent noted that more committees of this type are needed:

> It is one advisory panel that the government should be establishing in a whole variety of different areas (Academic respondent #1).

In the recent past, the FD has created two advisory committees. The first, the Multi-Stakeholder Working Group on Sodium Reduction, was established in April of 2008, a mere few months before the 2008 listeriosis outbreak. The working group was established, "to develop and oversee implementation of a strategy that would result in lowering the sodium content of the diets of Canadians to within the range recommended by the Institute of Medicine of the National Academies" (Health Canada, 2008, p.1).

The second advisory committee to operate within the FD's purview, the Food Regulatory Advisory Committee, was established in September of 2010. This committee is in its infancy and is mandated to, "provide HC advice on matters related to strategic planning, priority-setting and environmental scanning of issues related to food safety, nutritional quality or other issues related to our mandate" (Health Canada, Health Products and Food Branch, 2010b). The committee members represent various interests, such as research/academia, health professional/regulatory,

industry, and patient and consumer groups. Dreyer at al. (2009) contend that including a range of stakeholder interests in consultation exercises reduces the threat from regulatory capture. It is noteworthy that the committees noted here include a diverse range of active stakeholder interests, which is somewhat consistent with the principle of multiple publics (Diduck, 2010).

The formation of these committees is an important step the CFIA and HC have taken since the listeriosis outbreak. However, the approach in Canada still falls short of what other countries, such as Great Britain, have done, to take seriously the input of key stakeholders and particularly, the inactive (Diduck, 2010) lay public in decision-making and to systematically report upon them in a completely open and transparent manner.

4.12 Public Involvement at the CFIA

Very little to no information about CFIA's PI activities has been made publicly available either through the CFIA website or through the Government of Canada website, Consulting with Canadians (Government of Canada, 2010). In fact, the Consulting with Canadians (Government of Canada, 2010) website shows there to be no current or past consultations conducted by the CFIA. Certain respondents noted the absence of any meaningful PI activities led by the CFIA and noted that the Agency does not have an open presence. For instance, a provincial care facility official indicated that he requested information from the CFIA about a technicality related to the proper storage temperature of particular food times and never received a response:

> As experts in the field we are expecting that they have all the answers regarding food safety and why the regulations are the way they are and we pose the question as to the danger zone, the four degrees Celsius and they were not able to provide us with any research papers and any background as to why they made 4 degrees their standard. And we talked quite a bit and at that point we brought in an expert in on a project we did in terms of temperature and he couldn't't give us the background on why they would decide on 4. I would expect that they would be able to give us an answer very readily (Provincial respondent #3).

The absence of publicly available information does not imply that the CFIA is *not* at all

informed by public input (in fact, there is evidence to the contrary, e.g., the PAC) but, rather, that involving the public in decision-making is not a recognizable facet of its mandate.

Prior to 2010 and unlike HC, the CFIA had not yet appeared to formally recognize that the larger public was interested in contributing to decision-making, or perhaps it had been recognized but simply not acted upon. Information provided on the HC website details at length its commitment to engaging the public in decision-making. A commitment of this sort is not expressed by the CFIA.

There is evidence to show that the CFIA's position on PI has changed since the listeriosis outbreak. Perhaps as a result of the Weatherill (2009) report, the CFIA has officially acknowledged the importance of soliciting the public's input and engaging in a dialogue on its activities. In the winter of 2010, the CFIA published the first edition of the Liaison magazine, a publication described as, 'the voice of the CFIA' (Canadian Food Inspection Agency, 2010a). As of January 1, 2011, two issues of the publication had been printed. It is through this publication that CFIA officials contribute articles that speak of the activities undertaken by the CFIA. Carole Swan, the president of the CFIA, indicated in the opening statement of the magazine that the "publication is but one forum we have launched or improved to maintain an open dialogue with all partners and stakeholders in food safety" (Canadian Food Inspection Agency, 2010a). Though the CFIA states that all comments made in relation to the Liaison magazine will be responded to, it can hardly be stated that the magazine provides a dialogue between the CFIA and interested parties.

The CFIA has also assembled an academic advisory committee (AAC) to comment on issues related to food safety. The CFIA AAC was established in June of 2009 and is comprised of four members who have face-to-face meetings twice a year. One respondent, a committee

member, expressed satisfaction with the manner in which the committee has been run and indicated that the CFIA seemed to be serious and committed to consulting with experts in the field:

> I think the CFIA, in agreement with transparency in Canada, saw the need to have an academic advisory in place… We have the opportunity to make or identify items for the inclusion of the agenda. I'm very happy to say that they have all been aired (Academic respondent #1).

In addition to the above noted changes, as of October 2010, the CFIA had reported that it had developed an agency wide consultation framework based on the recommendations of the Weatherill report (Canadian Food Inspection Agency, 2010b). HC officials have a great deal more experience with documents of this type and HC respondent #2 indicated that the evolution of an agency's approach to PI goes hand in hand with frameworks of this type:

> There is actually a document now on public involvement. When I first was there, that evolved over time, that wasn't there originally... (the document). It gave clarity - if you were to consult, how to do it consistently. And then those who weren't, it brought to their attention that you should be doing better.

It is still too early to ascertain what action the CFIA will take as a result of the framework given that the implementation of the PI strategy (Progress in Food Safety) is still under development.

In the absence of a well thought out implementation strategy, PI activities appear ad hoc and highly subjective. CFIA respondent #1 indicated that at present PI on decision-making matters starts from the bottom up and requires the support of senior management:

> Depending upon the nature of the issue and the kind of changes that are made, there is the development of the consultation of proposal that will go up through a hierarchy of policy and senior management to see whether there is agreement on the nature of the proposed consultation in terms of the stakeholders that will be specifically targeted and communication means that are being proposed for that.

This statement echoes that which has been written in the CFIA's Risk Communication

Framework (n.d.). The section on risk consultations indicates:

> The CFIA requires clear and consistent consultation policies and plans supported by its senior management. Without such policies and plans, internal misunderstandings about the nature and scope of the consultation process can easily arise. Without management support, CFIA staff will not have the authority to conduct effective consultations (p.5).

There appears not to be an institutionalized approach to PI at the CFIA as there is at HC. The absence of a Branch or management structure focusing solely on public involvement, such as can be found to exist within the HPFB, shows there to be no culture of consulting with the public. Because of this, public involvement undertakings from the "bottom up" are not as likely to occur. The HPFB PAC respondent had a considerable amount to say about the inner workings of government agencies and the difficulty of breaking from the 'company line':

> It's not that they're doing anything wrong. They are following the department line. That's their job, you want to work here for 40 years, you do it our way. Now what is the chance of the individual employee to change things and look at it a different way is very little if you want to keep your job…when you work there you learn not to get rapped across the knuckles and you do things in a certain way (PAC respondent #1).

This statement reinforces the importance of having a formalized approach to engaging the public, one that starts with a PI framework. For comparison purposes, HC respondent #1 commented:

> Our job is to ensure there is a strategic corporate approach to engaging the public, to ensure that there are standards that are identified in terms of how we consulted, the level of quality, the subject that we consult on, who we consult, for what purposes, ensuring that objectives are clearly identified and to help ensure the department is using the most effective, economical means to engage Canadians on subjects of interest and important to the department and Canadians to meet our objectives.

Given that the CFIA has such an important role to play in enforcing food safety regulations, the lack of reporting on any past or current PI processes reflects the agency's insulated position. Still, since the listeriosis outbreak, the CFIA has responded to criticisms. It has developed an agency wide consultation framework, it has assembled an Academic Advisory Committee and it

has initiated communication with the public through the Liaison magazine (albeit this communication is unilateral), putting itself in a position to engage with the public into the future.

4.13 Summary

This chapter described PI in food safety governance and identified changes made to PI since the 2008 listeriosis outbreak. The description and analysis focused largely on the activities undertaken by HC during the period April 1, 2004 to March 31, 2007. This was the focus because only HC has published performance reports related to PI, and those published are limited to the period in question.

The data revealed that HC shows a greater commitment to involving the public in decision-making than does the CFIA. This is reflective in the fact that HC's HPFB has an office devoted directly to PI, it generally reports upon its PI activities (though it does not do so consistently), has various PI guidance materials rooted in the existing literature on PI and has consistently involved the public on key issues. On the other hand, the CFIA was not found to have succeeded on any of the aforementioned points (though it has made certain changes since the listeriosis outbreak).

HC's approach to involving the public in decision-making was assessed using three sets of criteria derived from the literature: Fiorno (1990), Arnstein (1969) and Rowe and Frewer (2000).

In the HPFB Public Involvement Framework (Health Canada, Health Products and Food Branch, 2005), five public participation levels are identified. Information is provided for levels two through five. The data showed that in the area of food, HC relies primarily on listening and discussing methods of with the goal of collecting the views of those involved. Generally speaking, the highest level at which HC interacts with the public is at the engagement-level, in

which deliberating parties can hear other perspectives and potentially influence each other (Health Canada, 2005). In the three-year period from April 2004 to March 2007, HC ran 19 engagement-level activities, of which half were continuous consultations and the other half were non-continuous consultations. In only one instance were laypersons the sole participants (public advisory committee) while in all others, professional stakeholders were the primary participants.

Save for the Public Advisory Committee, the most common form of engagement-level methods employed were technical, scientific and expert advisory boards of a permanent nature. The technical and scientific nature of decision-making at HC reflects the types of opportunities it selects in engaging the public. And these opportunities reflect the agency's desire to be informed by experts, and not necessarily by laypersons.

Each of listening, discussing and engaging levels constitutes what Arnstein (1969) refers to as tokenism, a form of citizen involvement in which the participation exercise occurs without an alteration to the existing power structure. In fact even engagement-levels of interaction, the highest of the three listed above, still constitute tokenism because they do not alter the power structure. This is confirmed by the fact that the HPFB indicates in various PI documents that it holds final decision-making authority in all instances in which the public is consulted (Health Canada, Health Products and Food Branch, 2010b, p.2).

The analysis of PI at HC in accordance with Rowe and Frewer's (2000) acceptance criteria shows there to be a clear division between layperson and stakeholder participation rates. Laypersons do not have representation in decision making to the same extent that other professional stakeholder groups do. HC gives less weight to involving laypeople in decision-making, and this is reflected in the department's greater commitment to identifying and engaging technical and scientific experts than to engaging laypersons. That is not to say that layperson

public participant deliberations carry no impact in decision-making. Rather, the rationale for involving laypersons appears to be one of legitimizing decision making rather than informing decision-making. On the other hand, the purpose for involving those in their professional capacities (scientific, technical, industry experts for instance) is to help inform decision making.

The implementation of the voluntary disclosure initiative shows the HPFB has taken seriously certain recommendations made by those with whom it has consulted. The voluntary disclosure initiative is a part of HC's mandate of openness and transparency. The initiative creates the impression that no undue advantage is given to one stakeholder group over another, which according to Millstone and Lang (2008), is important for the purpose of impeding regulatory capture. Still, there is a clear contradiction between what the agency professes to be its commitment to reporting upon PI activities and the degree to which it was actually found to report upon these activities (case in point, the HPFB has not issued a public involvement performance report since April of 2007). This is a crucial limitation of HC's approach to PI. The lack of a systematic Branch wide approach to reporting upon PI and the lack of information speaking of the way in which any and all information gathered has been incorporated into decision making show that HC has not adequately fulfilled its obligations of openness and transparency.

The Blueprint for Renewal PI process formed the basis for an assessment using Fiorno's democratic process criteria, as well as Rowe and Frewer's (2000) acceptance criteria. The analysis showed that the two classes of participants were involved to differing extents, particularly in relation to Fiorno's (1990) democratic process criteria. Only professional stakeholders were provided an opportunity to truly discuss or engage HC staff directly, i.e., to interact with officials in a face-to-face manner. Professional stakeholders were provided with an

opportunity in which their input could have a higher degree of influence in the decision-making process than that given to lay persons. This result was confirmed by the analysis based upon Rowe and Frewer's (2000) acceptance criteria. Though the Blueprint process is simply one instance in which the public was consulted, it does illustrate that laypersons were underrepresented in decision-making.

Since the listeriosis outbreak, HC and the CFIA have taken various steps towards improving PI in governance respecting listeriosis in RTE meats. At the same time, more needs to be done. For example, HC has revised its policy on *L monocytogenes* in RTE foods and as a way of ensuring the most up to date food safety measures are instituted into production activities, it has proposed to fast-track the approval of food additives and technologies that have the potential to contribute to food safety (Health Canada, 2011c). Though the policy is lauded amongst industry members and those in the scientific community, a careful examination shows that the new measures fail to address how the public will be consulted with each new submission. Without making it clear that a systematic approach will be used, the legitimacy of future approval processes can be jeopardized.

The analysis showed HPFB to have focused more strongly on soliciting input from technical and scientific experts, rather than from laypersons. In the last 10 years, only the Public Advisory Committee has provided laypersons with a direct link to decision-makers and enabled them to explore a greater variety of issues than is possible through non face-to-face methods. The HPFB justified winding down the committee on the grounds that it would expand its methods and opportunities for involving laypersons, however the HPFB has not appeared to have done this. There was no evidence to show that laypersons have been provided an opportunity to become involved on a level similar to the PAC.

HC has taken additional steps since the crisis to engage in a dialogue with the public about issues related to food safety. In the second year following the listeriosis outbreak, HC had assembled a food regulatory advisory committee. The committee is comprised of a range of stakeholders, including those affiliated with academia, industry, consumer groups and the health field. It is too early to tell what impact the committee will have on decision-making.

There is evidence to show the CFIA's position on consulting with the public to have changed since the listeriosis outbreak. The publication of the Liaison magazine, the formation of the Academic Advisory Committee and the development of an agency wide consultation framework puts the CFIA in a position to potentially draw on public input into the future. However, the absence of a directorate within the agency's organizational structure that is focused solely on PI should be noted. Without a directorate or office devoted to PI, the likes of which can be found within HC's HPFB, the CFIA seems not to be in a position where it can systematically and consistently involve the lay public and professional stakeholders in decision-making.

CHAPTER V – Risk Communication

5.1 Introduction:

This chapter describes the Canadian approach to risk communication in relation to foodborne illness. Risk communication refers primarily to public advisories, public warnings, fact sheets, and food handling, preparation and storage advice. It also refers to processes in which the public has engaged with decision makers on issues related to the aforementioned issues. The focus of the description is largely on federal decision-making. Each of the three primary federal actors, the CFIA, the PHAC and HC, share in risk communication, though their responsibilities differ. However, given their regulatory and enforcement responsibilities, HC and the CFIA occupy a more fundamental role in the food safety arena. On the periphery, and seldom acknowledged as an actor, Agriculture and Agri-Food Canada is a food safety actor that is deserved of some attention.

Because the literature identifies trust as a foundational component of risk communication, it is useful to precede the primary analysis with a short description of the level of trust given to food safety actors in Canada. Accordingly, the chapter begins with a preliminary analysis of trust in food safety governance in Canada and continues with the description of risk communication in Canada. The description is based on criteria derived from Sellnow et al.'s (2009) best practices for risk communication, and Renn's (2009) four principles for effective risk communication.

5.2 Consumer Confidence and Trust in Food Safety

The literature identifies trust as a foundational feature of good risk communication practice (Leiss, 1996; 2004; Slovic, 1996; Frewer, 2004; Sellnow et al., 2009). Low levels of trust undermine risk communication objectives because of the lack of credibility carried by the information source (Frewer, 2004; Sellnow et al., 2009). Interview respondents, both

governmental and non-governmental, reflected that which has been noted in the literature, acknowledging that credibility and trust of the information source is of fundamental importance in risk communication. Understanding the degree of confidence afforded to the food safety governance regime is therefore a useful starting point of the analysis.

There is mix of qualitative and quantitative data in support of the assertion that the 2008 listeriosis outbreak had a negative effect on consumer confidence in food safety. Both governmental and non-governmental interview participants, including those representing HC, the CFIA, the PHAC, industry, consumer groups and public health associations, thought the outbreak shook confidence in food safety. These views are confirmed by an Agriculture and Agri-Food Canada funded survey of public perceptions of food safety and quality (Ipsos-Reid Corporation, 2010). This survey also revealed that the vast majority of respondents, 96%, were either completely, very or somewhat confident in the safety of food produced in Canada (Ipsos-Reid Corporation, 2010). Of the 4% who were not at least somewhat confident, the second most common reason (15%) for not being at least somewhat confident in food safety was the 2008 listeriosis outbreak (Ipsos-Reid Corporation, 2010). (The first reason was that food products will never by 100% safe – something reiterated by industry, academic and governmental respondents). Respondents not at least somewhat confident were asked to provide an open ended "reason for not being completely confident that food produced in Canada is safe" (Ipsos-Reid Corporation, 2010). The reasons given, therefore, covered a broad range of issues. It is noteworthy that only 2% of survey respondents cited distrust of government as their reason for lacking confidence in food safety, while a distrust of the food inspection system (9%) together with a lack of food inspectors (5%) accounted for 14% (Ipsos-Reid Corporation, 2010).

While the aforementioned survey says little about the confidence and trust afforded to

HC, the CFIA and the PHAC directly, in a general sense it reveals that the government in totality is *not* a primary source of consumer distrust. With respect to trust (or credibility) and communication, an industry interview respondent noted that communication is challenging and a task led by the most credible party - the government:

> Getting coherent, proactive communication out to various vulnerable groups across that network is challenging for government. We support the need for that and through our limited means to do that. It's government authorities in the end have the most credibility, and the most I would say, the most important role in that sort of communication (Industry respondent 1).

Both focus group #1 and #2 respondents had mixed sentiments when asked how much confidence they have that the food they purchase and consume is safe. In the first group, concerns expressed included the risk of salmonella in chicken or the incidents of salmonella in produce. The second group was concerned primarily with contaminated fruits and vegetables. For the most part, however, respondents suggested that they were generally confident that the food they purchased was safe.

The 2008 listeriosis outbreak generated considerable negative media attention and exposed weakness in food safety governance. Governmental and non-governmental commentators acknowledge this widely. So while the immediate perception of food safety following the crisis was negative, two years later there is evidence to support the contention that consumer confidence has rebounded. If fact, certain respondents suggested that the media coverage of the listeriosis outbreak was disproportionately intense in relation to the level of food safety attained in Canada and commented that HC, the CFIA and PHAC have been given undo pressure to perform at an unrealistic expectation. As important as trust may be in risk communication, what the literature shows to be equally if not more important, is a systematic approach to risk communication, which covers a range of issues.

5.3 Analytical Framework

The risk communication literature discusses key elements required for effective risk communication. Two frameworks from the literature have been used to guide the ensuing description of risk communication in Canada. The first is Sellnow et al.'s (2009) best practices for risk communication, an instrumental, practical guide, grounded in risk communication theory. The second is Renn's (2009) four principles for effective risk communication, which offer a normative guide based on democratic ideals.

5.3.1 Feedback and Risk Communication as a Critical Process

There is considerable agreement amongst theorists that unidirectional risk communication, based solely on scientific analysis is ineffectual to the extent that it fails to capture the full spectrum of risk perspectives (scientific to layperson) and might not meet the communication needs of the target audience (Frewer, 2004; Leiss, 2004; Renn, 2009; Sellnow et al., 2009; Slovic, 1993). The intended purpose of risk communication should not be to convince the audience but to enable the audience to process information along with their own judgments (Renn 2009, p.141). To that end, risk communication should be infused into the policy process rather than become the product of a policy process (Sellnow et al., 2009). Treating risk communication as a process requires, in part, that risk communicators conduct critical reviews of their own performance (Renn, 2009).

There is appreciable evidence (presented throughout chapter 5) that HC and the CFIA have reviewed and changed their approach to risk communication in the time since the listeriosis outbreak. When asked directly, each of HC, the CFIA and PHAC respondents expressed an ongoing commitment to evaluate their performance standards and their approach to engaging citizens in a dialogue about risk. HC respondent #1 spoke passionately about being proactive and

open to change:

> Oh boy, we are learning, every day, every year, every week things happen, we are learning and we are just looking at what we do, we are looking at an informed approach, we are learning lessons, identifying best practices constantly.

HC and the CFIA, though science-based decision-making agencies, profess to take an approach to risk communication that is *not* focused solely on a technical and scientific risk analysis. This position recognizes that risk communication is not simply the result of a scientific or technical decision-making process. This point is reiterated in the *Strategic Risk Communication Framework for Health Canada and the Public Health Agency of Canada* (Health Canada, 2006a, p.5):

> Sound scientific and technical information, combined with expert knowledge and experience are the foundation for risk management. Decisions should draw on current understanding across the full set of relevant disciplines, including the social and natural sciences, as well as business, economic, legal, and human resource management. Importantly, Health Canada decisions must also incorporate stakeholder understanding of a situation, recognizing that stakeholders' understanding on risk issues includes both how they feel about risks (experiential perspective) and what they think about them (analytical perspective).

Current thinking states that risk communication should not be the end product of a policy decision to justify that decision but, rather, should be part of the policy development process (Sellnow et al., 2009). Treating risk communication as a process, rather than an end state, serves to strengthen risk communication objectives. Successfully applying this perspective requires that systematic mechanisms be in place to enable communicators to discern the needs of the stakeholders and the general public (Renn, 2009, 140). Feedback from the target group, therefore, is a necessary component of the process view of risk communication. Feedback enables managers/officials to adapt and refine the message and to learn the degree to which the message has had an effect on the recipient of the information. It also enables communicators to become aware of the target group's perspective of the matter at hand.

Most interview respondents recognized the importance of feedback in risk communication, which did not come as a surprise given the importance that feedback is given in the literature. One non-governmental respondent involved in providing food-handling advice, creating educational materials, providing educational services and communicating the hazards of foodborne illness, spoke strongly of the need to understand how the public perceives foodborne related risk. All levels of government - municipal, provincial and federal - have funded and worked with this particular respondent's organization, commissioning it to create and or carry out food safety campaigns. The respondent noted that the feedback component has historically been missing and that those agencies and government departments that have worked with the respondent's organization have often failed to recognize the importance of consumer perspectives of safe food handling. The respondent commented:

> We are or were in the past called upon by some of our members to inform them how to change consumer behavior. There was and sometimes is very little interest in understanding what the drivers are of consumer behavior (Food Safety Organization respondent #1).

This experience contradicts what has been asserted in the literature as being an important aspect of the current phase in the evolution of risk communication. The current and third phase of risk communication, which emerged in 1996, has moved away from top-down methods towards a process of two-way communication in which the parties engage in mutual social learning processes (Renn, 2009). Clearly, organizations involved in risk communication are still struggling with implementing these ideals. Government agencies often fall into viewing risk communication as a one-way vehicle for behavioral change. The aforementioned non-governmental respondent underscored the importance of learning about consumer behavior and recognized that communicating without adequate feedback is ineffective.

We can't exactly change consumer behavior if we don't know what exactly that

> behavior is. What we normally do … is an education campaign. The piece on behavior is missing however. We don't know if the campaign makes a difference or where it has been successful (Food Safety Organization respondent #1).

Still, the respondent underscored that the federal approach to risk communication has changed since the listeriosis outbreak (something that was generally agreed upon by most respondents):

> There is a greater emphasis on the part of HC to understand consumer behavior. And since the crisis, I've seen that there has been more research conducted to gain a better sense of what that behavior is (Food Safety Organization respondent #1).

There are further data in support of the view that the CFIA and HC have shown a larger commitment to understanding consumer behavior and perception, although some respondents held the view that the changes were simply "window-dressing" and diverted resources from more pressing matters. For instance, Academic respondent #1 indicated that too much effort has been devoted towards the risks associated with *L. monocytogenes*:

> The undertaking in developing a revision of the Listeria policy is largely a, cover your ass kind of approach, to be seen as doing something in an area of food safety that is of interest to the media in Canada…It is one of a number of undertakings by government to show the public that it is responding to the Listeria crisis, but at the expense of undertaking solutions to larger problems in the food safety arena that are being ignored. If one were to apply a term – overreaction – because of an enhanced sensitivity on the part of government that it had not done what it should have done in the first place.

Notwithstanding that view, the increase in public opinion research undertaken by HC corroborates that the listeriosis outbreak has spurred more activities on the part of the department to understand consumer views and behavior. In the five years before the crisis, HC had not conducted any public opinion research in the area of consumer perception and behavior regarding food safety. In the time since the crisis, it has conducted such research to gauge the public's opinion of food safety issues in Canada, gain a greater understanding of their risk perspectives and behaviors, and establish knowledge, attitude and behavior benchmarks (Canadian Food Inspection Agency, 2010b; EKOS, 2010) The CFIA on the other hand, has not

devoted many resources to understanding consumer behavior. While it had funded public opinion research in 2010, that survey gave little attention to consumer behavior (Decima Research, 2010). Of course gathering feedback comes at a cost and takes time but without it, in the words of academic respondent 1, "they are just chasing their tails."

Most organizations other than industry and the government that have a mandate to educate the public about food handling, preparation and storage are not for profit organizations. Such organizations rely on funding from outside agencies, and one non-profit organization respondent noted that lack of funding is an impediment to the collection of feedback and called for partnering agencies, which are usually governmental organizations, to provide more resources for outreach:

> We really don't have the level of funding necessary to fulfill the full risk communication objective. It would be really great to do regular consumer research and to have resources, to have a media agency to be able to get the media out (Food Safety Organization respondent #1).

The listeriosis outbreak has been used as a leveraging point for non-profit organizations to call for all levels of government to provide them with more financial resources. They have also turned to industry for support, and Industry respondent #1 noted that since the outbreak they have in fact contributed more financial resources to partnering organizations:

> We've had various meetings and discussions with Health Canada and the Public Health Agency of Canada and with municipal and provincial to see if there is anything we can contribute to improve the situation and that's partially where our financial contributions come in.

While not-for-profit organization respondents recognized that they have gained leverage since the listeriosis outbreak, they conceded that still more needs to be contributed from funding agencies and that these contributions need to be ongoing.

Knowledge, attitude and behavior benchmarks, collected through feedback, are important

as they enable an organization to make comparisons and to detect improvements. In a 2010 report on the progress in food safety, HC writes that it will be developing a comprehensive social marketing strategy, "to increase awareness and knowledge of the health risks associated with unsafe food handling practices and foodborne illness. The strategy is aimed at influencing awareness, knowledge, attitudes and behaviors of Canadians, particularly "at risk" groups (such as seniors, pregnant women, immune-compromised individuals, and parents of children under six years of age) to increase the use of safe food handling practices with the long term goal of decreasing the incidence of foodborne illness in Canada" (Canadian Food Inspection Agency, 2010b).

As a first step, HC provided funding for EKOS, a market research firm, to conduct a survey of Canadians' knowledge and behaviors related to food safety (EKOS, 2010). The study was designed to establish benchmarks that will help track the "effects of the campaign and provide research intelligence that will assist in the development of evidence based communications strategies and tactics for use during an outbreak of a foodborne illness. The study will provide HC and the PHAC with research-based information on the public's knowledge, attitudes and behaviors with regards to foodborne illness and food safety" (EKOS, 2010, p.1). It remains to be seen what changes will be instituted as a result of this campaign. The study was the first of its kind to the extent that the survey targeted at-risk groups for the purpose of informing a campaign that would also target at-risk groups. A total of 1,536 Canadians, representing four at-risk target groups (seniors; pregnant women and those who expect to become pregnant within one year; parents of children under six years of age; immune-compromised individuals) and a general public comparison group were included in the telephone survey.

Perhaps now, more than prior to the outbreak, HC has recognized the importance of obtaining feedback from those to which risk is communicated. It is through feedback that government agencies are able to create benchmarks and the benchmarks can provide them with a sense of the degree to which risk communication is adequate. Non-governmental organizations with a mandate to communicate risk and food safety advice to vulnerable groups have long recognized the importance that feedback has on the success of a risk communication endeavor. The listeriosis outbreak has created opportunities for non-governmental agencies to remind the federal actors of the importance of obtaining feedback.

5.3.2 Uncertainty and Risk Communication

The issue of risk certainty has been a point of considerable debate in the risk communication arena. The literature shows there is a large disjuncture between scientific-based risk analysis and layperson perceptions of risk whereby the layperson either attenuates or amplifies risk (Kasperson et al., 1988). Conflicting, unreliable and inaccurate information can jeopardize a risk communication objective (Sellnow et al., 2009), particularly if a disjuncture between layperson and scientific risk assessment exists.

Interview respondents viewed information disseminated by industry, government and non-governmental agencies in relation to foodborne hazards, and food handling, storage and food preparation to be sound, accurate and based on considerable empirical evidence. At the same time, some also viewed this information to be overly general. Additionally, a major concern that respondents held was the relative lack of accurate information compiled by the three levels of government concerning the incidence of foodborne illness in Canada. Various governmental documents and publications allude to the annual incidents of foodborne illness in Canada to be anywhere in the range of 11 to 14 million. For instance, the CFIA (2010) website states the

following: “Public health experts estimate that there are 11 to 13 million cases of foodborne illness in Canada every year.”

These figures are crude estimates and are not based on foodborne illness patterns in Canada. What seems to be known is only general and is not based on accurate surveillance. This is because Canada borrows its illness surveillance data from other countries. Holley (2010, p.471) elaborates on this point: “Over the past several decades, we have borrowed illness surveillance data from other countries to asses risk, but demographics, ethnicity, eating patterns and diet are specific to each country. In addition, changes in climate affect the ability of pathogens to influence the safety of food.”

In the absence of greater certainty, risk communication efforts will be fraught with inconsistencies. This is due largely to a misallocation and/or duplication of resources. Interview respondents representing academia, industry and non-governmental organizations revealed a principal criticism of the food safety system to be the lack of surveillance data upon which risk communication can be based. Academic respondent #1 suggested that risk communication will remain largely ineffectual without adequate information to base it on:

> We can communicate all we want, but if we don’t have surveillance data upon which we can determine what organisms and what foods are causing illnesses we are just chasing our tail. 90% is unreported and most of what is reported is reported in a patchwork mess in a conglomerated and original data that defy any kind of understanding. We base policy on happenings in other countries and other countries are not really applicable in Canada. We don’t even know that there are geographical differences in Canada.

Industry respondent #1 expressed concern that the lack of focus on disseminating data means the public only receives information when something negative has occurred:

> Here we are talking about targeting resources, deciding where effort needs to be expended, what are the food groups that present the greatest risk and so on. You can’t do that if you don’t start with a good integrated national surveillance system for foodborne illness and so on down from there to risk mapping, by commodity,

> by region, by level of the food value chain. That sort of data collection and reporting is key to resource allocation but also to consumer communication so that they can understand the level of risk and they are not just reacting to media headlines or events that suggest there is a problem.

There is a palpable level of uncertainty that guides the federal food partners in their risk communication efforts. In the absence of more accurate information, geographic or temporal patterns will not emerge. Again quoting Academic respondent #1:

> The fact that at any point in time because of a particular manufacturing, growing, distribution, marketing practice, a change may occur in risk associated with, number 1 a type of food, and number 2, a type of bacteria. They don't stay the same. If you look at any study in the world you will see that in certain years, there will be a higher level of, for example, salmonellosis from the consumption of pork, or maybe chicken, or maybe table eggs, and so when those changes occur, if the surveillance program is in place, to note that a change is occurring in frequency of illness caused by a particular pathogen food vehicle combination that intervention may then be made to make a change to reduce the impact of that particular combination on the burden of foodborne illness and so this is a circular kind of thing. Right now we don't know what we're doing.

Of course, in the absence of greater certainty, risk communication will be limited to the general, and will continue to be general until such time that more reliable data are collected.

HC, the PHAC and the CFIA have historically been very careful in their outbreak-related risk communication objectives. Direct communication to the public and communication through the media about outbreaks was traditionally made once officials had a considerable level of verifiable information about a particular incident. Subsequent to the listeriosis outbreak, there has been a call for these agencies to be swifter in communicating to the public, even to a degree that the information communicated might be incomplete. Gathering information, conducting preliminary risk analysis, and awaiting laboratory test results are time-consuming processes that have historically delayed the moment at which information has been communicated. Still, government officials recognize that information, however incomplete it might be, needs to be more swiftly communicated:

> There is a tradition to wait until you know exactly which food, the lot number, all the details, and that is fairly long. We seem to be moving up to getting the information out to people earlier. We probably will know that it is a meat, it is a cheese. We communicate that and we let the local people take care of those types of things. We used to wait until we had the smoking gun. There are rules - be clear, be first, be sympathetic - but the accuracy part used to the dominant part (PHAC respondent #2).

The CFIA seems to have responded to criticisms regarding its approach to communication at the outbreak level. Still, not enough has been done to rectify the uncertainty in foodborne risk assessment that continues to exist in Canada. Interview respondents representing academia, industry and non-governmental organizations revealed a principal criticism of the food safety system to be the lack of surveillance data upon which risk communication can be based. Without such data, risk communication efforts will remain less effective than they could ideally be.

5.3.3. Communication Reflects the Target

The risk communication literature speaks of the need to deliver messages that reflect the target population's needs. According to Sellnow et al. (2009, p.23), risk messages need to be "culturally sensitive", and for Renn (2009, p.140) risk communication messages need to be "tailored according to the needs of the targeted audience and not to the needs of the information source."

Historically, the federal approach to risk communication has been general. There is general information concerning food handling, storage and preparation. Academic respondent #2 commented that though Canada ranks well compared to other nations in its approach to educating consumers, the listeriosis outbreak exposed potential problems stemming from this generality:

> We've come to recognize that Canada has some very good programs, on all sorts of possible threats to consumers in general. Mostly on salmonella and e-coli. Listeria - not so much. Really the Maple Leaf affair back in 2008 really brought to light the importance of educating the public about Listeria. Most people weren't

> aware of the bacteria before the recall of 2008. Of course Listeria is very difficult to monitor as well, it doesn't smell it, you can't see it. So to manage risk around Listeria is very challenging for consumers. You must be very vigilant in that regard.

Information for at-risk groups has typically been part of the general communication package and has not been delivered through any targeted campaign. Interview respondents recognized this to be a flawed approach and thought that more targeted measures should be implemented. Industry respondent #2 commented on the approach taken by HC and the CFIA:

> Up until now their (HC & the CFIA) actions have all centered around generic communication. If you go on their website, the basic message is cook, chill, separate, those basic instructions to consumers. They have never had a mandate to do specific communication in relation to specific pathogens or specific risk factors to particular population segments. We believe that the Listeria risk in seniors, we think that is an issue that merits a targeted program of education. We want to see these groups take that on. We think it's starting to happen. Until now these national efforts have been very generic.

The vast majority of risk messages related to food safety and handling and the risks associated with foodborne hazards were and continue to be delivered through the Internet. At the provincial government level, a cursory analysis found there to be general information about safe food handling as well as links to other websites, including those of the CFIA, HC and PHAC (BC Centre of Disease Control, 2010; Government of Alberta Health and Wellness, 2010; Government of Saskatchewan, 2010; Manitoba Agriculture, Food and Rural Initiatives, 2010; Newfoundland and Labrador Public Health, 2010; Nova Scotia Agriculture, 2010; Ontario Minister of Health and Long-Term Care, 2010), although some provincial sites did not provide links to the federal websites (New Brunswick Health, 2010; Prince Edward Island Environmental Health, 2010). The provincial websites are not developed to the same extent that are the federal websites and the inclusion of links to the federal partners from most provincial websites visited suggests a provincial authorities to defer to their federal counterparts. Consistent with this

observation, there was an absence of links at the HC website directing people to provincial and municipal authorities for food safety information.

The municipal approach to risk communication is similar to that seen at the provincial level. The focus at the municipal level, just as in the provincial level, is on inspection services (Forge, 2003). In Winnipeg, for instance, inspection services are conducted in facilities or locations where food might be prepared for the general public (City of Winnipeg, 2010). Of course, much variability exists from one jurisdiction to another and an exhaustive analysis was not part of this study.

There is a great deal of safe food handling information available on the HC, CFIA, and PHAC websites. These websites are consistent in their message, advising consumers to focus on four areas of importance: clean, separate, cook and chill. There are a number of Internet web pages – governmental, non-governmental and industry related – that provide a great deal of information to reinforce these general messages (Table 5.1).

Table 5.1: List of the primary safe food handling web pages

Primary web pages devoted to safe food handling, storage and preparation
Be food safe: http://www.befoodsafe.ca/en-home.asp
Canadian Partnership for Consumer Food Safety: http://www.canfightbac.org/en/
Food Safety network: http://www.foodsafetynetwork.ca/aspx/public/default.aspx
Government of Canada – Food Safety: http://www.foodsafety.gc.ca/english/fssa/prepare.asp
HC: http://www.hc-sc.gc.ca/fn-an/securit/kitchen-cuisine/index-eng.php
CFIA: http://www.inspection.gc.ca/english/fssa/concen/tipcone.shtml
PHAC: http://www.phac-aspc.gc.ca/fs-sa/index-eng.php
Maple Leaf Foods: http://www.mapleleaf.com/en/market/food-safety/food-safety-at-home/

The www.foodsafety.gc.ca website, a collaborative effort involving HC, the CFIA and

the PHAC, was created subsequent to the listeriosis outbreak. The main vision for the website was to provide the general public with a consistent, single source of information. PHAC respondent #2 noted:

> There are messages coming from the CFIA, HC, and the PHAC. Risk communication is much more coordinated, we are looking for one master approach, which is why we created the www.foodsafety.gc.ca website and that's where we've tried to put everything together. It doesn't matter which part of the federal family that information is coming from.

The CFIA, in having taken the lead role in the development of the website, hired a market research company that, through focus testing, determined the website to have a high degree of usability (TNS Canadian Facts, 2010). While the federal agencies have devoted resources to the creation of the www.foodsafety.gc.ca website, and while various improvements have been made to other websites of this kind, the content has not changed dramatically and the medium has remained the same. This method of disseminating information is well utilized.

The federal agencies have also expanded the use of more interactive web-based tools for reaching the public. They have implemented the use of social networking sites, such as Twitter, Facebook and video sharing websites such as YouTube, to communicate messages. This is a general trend found across many governmental departments and agencies.

In 2008, Agriculture and Agri-Food Canada released a public opinion research report on new technologies and Government of Canada communications (Phoenix Strategic Perspectives Inc, 2008). While the report was prepared for Agri-Food Canada, it was conducted on behalf of 23 participating federal departments and agencies, including HC and the CFIA (Phoenix Strategic Perspectives Inc, 2008).

The report had two research phases. Phase I was qualitative in nature (using focus groups conducted between Sept 17-20, 2007) and phase II was quantitative (using telephone and online

surveys). The research focused on the applicability, suitability and perceived effectiveness of new electronic/Internet media. These new media are referred to as Web 2.0 technologies, and include a "family" of tools, such as YouTube, blogs, podcasts, webcasts, wikis and social networking sites. Overall, participants in the focus groups supported the move by federal departments and agencies to utilize with more frequency Web 2.0 technologies. The participants reacted positively to the use of these technologies for a number of reasons, including that they facilitated a greater degree of openness/transparency, they are responsive, and they make government less remote (Phoenix Strategic Perspectives Inc, 2008). Respondents reacted more favorably to the use of certain technologies than others. The study indicates that, the 'Ask an Expert' functions, discussion forums, videocasts, and RSS feeds tended to elicit a more positive reaction in general. The more interactive of these channels, the 'Ask an Expert,' and discussion forums, are methods that can facilitate dialogue between agencies and the public (Phoenix Strategic Perspectives Inc, 2008).

Yet, thus far, the federal food safety partners have not used the more interactive of these Web 2.0 tools - the discussion forums and 'Ask an Expert.' Utilizing the more interactive tools would facilitate a greater degree of interaction between consumers and the federal food partners. In fact, interactive, Internet based tools have been discussed in the literature in the context of improving food safety governance. As mentioned in chapter 2, Dreyer and Renn (2009) have proposed a revised food safety governance framework in which a food safety interface, comprised in part of an Internet forum and an advisory committee, would be set up. The Internet forum would facilitate discussion within the framing, assessment, evaluation and management cycle of the food safety governance framework (Dreyer & Renn, 2009). A forum of this kind has not been instituted in the Canadian model.

While the federal food safety partners have invested considerably in the use of the Internet to provide a great deal of information to the public, the modes they have employed are largely unidirectional. A CFIA endorsed study on, Canadians' awareness, attitudes, and behaviors respecting food safety (Decima Research, 2010) indicates that while Internet technologies are well received by the public, they are passive and cannot be the exclusive means of communicating with the public. The executive summary reads: "people exhibit only limited willingness to "pull" information on this topic. Some version of media that "pushes" information out to Canadians, whether through grocery stores, or advertising such as the Food Safety Portal campaign, is necessary to deliver information to Canadians" (Decima Research, 2010, p. 7).

It is also quite well understood that certain groups respond more highly to these forms of communication, while others, limited by their capacities and skills, do not. EKOS (2010, p.3), the author of the S*urvey of Canadian's Knowledge and Behavior Related to Food Safety* wrote in the study's executive summary, "Social media technologies have a great deal more support among pregnant women and parents, while seniors are far less comfortable with these technologies." Focus group #1 participants revealed that they are more likely to obtain information through the print and television media than through other forms. Focus group #1 respondent 1 indicated:

> TV probably covers about everything because not all seniors have computers. TV is about the best and then radio next I'd say.

Focus group #1 respondent 4 added:

> Well, not everyone has a computer. I have a computer but I am never home, so I turn it off. I don't pay for it anymore because it is $45 a month and why would I pay that if I am not using it and it is just sitting there.

Confirming the foregoing, HC-sponsored public opinion research reveals that traditional media (such as newspapers, radio, and TV) are the preferred source of food safety information,

although significant variation in preferences exists among the target groups (EKOS, 2010). Pregnant women are much more likely than the other groups to mention websites as their primary source of food-related information. Conversely, a clear majority of seniors say they primarily receive their information on food issues through traditional media (EKOS, 2010). Both the focus group results obtained in this research and the public opinion research results are consistent with conclusions found in the academic literature. Sellnow et al. (2009, p.28) write: "Despite the ubiquitous nature of communication technology, not everyone uses the Internet. Accessibility, then, is highly variable by audience, information, and channel. Simply making information available on a web site or in the fine print on a product label does not ensure accessibility and openness."

Seniors, a growing demographic at greater risk to foodborne illness than the general population, might benefit most from the content communicated through written and electronic communication. If one desires to reach seniors with a message, it is vital to use media other than just the Internet and print format. This is particularly true given that literacy rates drop with age (Industry Canada, 2010). One consumer group association representative commented that if risk communication were to take a more serious tone, government officials would have to go away from the general approach to reflect the targets' literacy needs:

> I think with the number of consumers we have in this province with either English as an additional language, and who's literacy skills are below level three, I think it's really important that there be something other than written communication. The last time I chatted with literacy partners, they said that 40% have a literacy rate less than grade three. Many are suffering from literacy issues. In the last two years, 12,000 newcomers moved into the province (Consumer Group respondent #1).

There is also a heavy reliance on written forms of communication in one of the two official languages. The federal government has an obligation to communicate in both official languages

and has not made any efforts to provide food safety related materials in languages other than English and French. It does, however, provide information on other topics related to food in languages other than English and French. For instance, its *Eating Well With Canada's Food Guide* (Health Canada, 2011a) brochures are made available in ten languages other than French and English. These brochures are available in Arabic, Chinese, Farsi, Korean, Punjabi, Russian, Spanish, Tagalog, Tamil and Urdu.

There was general agreement on the part of interview respondents that in order to effectively communicate information to both the general public and to at-risk groups, it is important to understand what the general public and at-risk groups know, what their behaviors are and what methods and messages they prefer to receive. Each of the CFIA and HC has shown willingness since the 2008 listeriosis outbreak to more fully understand consumer behavior related to food safety. From 2004 to 2008 inclusive (before the listeriosis outbreak), HC had not conducted any public opinion research in the area of consumer behavior related to food safety. In 2010, for the first time in at least the recent past that HC undertook such an initiative (EKOS, 2010). The research conducted on behalf of HC is meant to become the backbone of a social marketing campaign targeting those at greatest risk to foodborne illness.

The CFIA also conducted public opinion research in 2010 (in addition to research conducted in 2009) on the topic of consumer awareness and behavior in food safety (Decima Research, 2010). While the CFIA had conducted public opinion research twice in the five-year period preceding the listeriosis outbreak, that research was focused on understanding consumer perceptions related to the work conducted by the CFIA. Little research was conducted in the area of behavior and risk perception prior to the outbreak. It seems clear from the data, that the CFIA has taken a greater interest in understanding *behavior* since the outbreak, and HC has shown a

greater willingness to understand *perceptions* and *behaviors*.

Though public opinion research is certainly not the only way in which consumer behavior can be understood, it is recognized that it provides officials with useful information. HC respondent #2 (a former HC official) indicated the difficulty there was in conducting public opinion research when political/ministerial leadership puts moratoriums on these activities:

> We did have several moratoriums on public research, and we used public opinion research as the basis of developing good policies, regulations, and standards - whatever we were doing. The government has been criticized from the media on a political level; the government was polling to see whether consumers want less taxes, you know. So what happens in terms of budgeting, it's all under the same umbrella, and so, if they were criticized for spending too much money on polling, well, public opinion research comes under the same umbrella as polling.

This respondent added that food agencies in other jurisdictions (e.g., the Food and Drug Administration in the US) are more successful in their public opinion research activities:

> Well, in the US it is legislative in the Food and Drug Administration, that they must do quantitative research, evaluations of basic consumer impact to support some of their regulatory changes. We don't have that. Well, in the regulatory impact statements, we have to say how we consulted on and what we heard, and we are judged on how we do consultations. But in the US even a focus testing wouldn't be sufficient to meet their needs. But it is in Canada (HC respondent #2).

These limitations aside, it is clear that a greater understanding of consumer behavior is necessary. The behavior of vulnerable populations in particular is not well understood. Focus group #1 and #2 respondents, when presented with a brochure produced by HC titled, *Safe Food Handling for Adults 60+* (Health Canada, 2010b), were interested in the content of the brochures and expressed a strong desire to learn about the information provided in them. Prior to them having been presented with these materials, they had no knowledge that they were at greater risk of foodborne and *L. monocytogenes* related illness. Both respondent groups were genuinely very curious and interested in obtaining more information. They were also receptive to the content

provided within the brochures, though none of them had ever seen a brochure of this kind, targeted to individuals 60 years of age or older.

No single focus group respondent had an awareness of the heightened risk that *L. monocytogenes* posed to them based on their age. Certain respondents in both groups vaguely new of *L. monocytogenes* and remembered the listeriosis crisis of 2008. They seemed also to understand the circumstances that led to the outbreak - dirty machinery. In the context of this discussion, one respondent also suggested that outbreaks bring a level of awareness to the problems that may arise in food production:

> I think that every time you hear something like that (referring to the listeriosis crisis), it makes you a little more aware of what may happen. If it didn't happen, you wouldn't be aware of there being dirty machinery in a meat packing plant (Focus group #2 respondent 9).

That no single respondent considered himself or herself to be, generally, at greater risk to foodborne illness and, specifically, at risk of contracting listeriosis, could be *inferred* to suggest that current risk communication methods are inadequate. It can also be *inferred* that the listeriosis outbreak was not effectively used as an 'educational' opportunity. In other words, any and all communication during the outbreak related to the risks associated with *L. monocytogenes* for seniors were either too few or did not resonate with these participants. The following points strengthen the above noted inferences.

When asked directly, the participants of focus group #2 *strongly* considered themselves to have a greater awareness of and interest in foodborne illness and food safety than their peers (others their age). One noted that many other individuals of their age have no interest in food related topics at all. Secondly, the participants of both focus groups actively looked for ways to prevent foodborne illness and showed some strong (and surprising) behaviors in support of this assertion:

> My kids used to make fun of me, because I wash bananas, I do rinse them before I peel them. Yeah, and oranges definitely because there was an article in the paper that you could get contaminated from the outside of the peel (Focus group #2 respondent 3).

> I find that when I buy cheese, I wrap it in saran wrap and then I get a paper towel and I put vinegar on it and I wrap it around the paper towel, on that, and I put it in one of those little bags (Focus group #1 respondent 1).

Two respondents of focus group #2 also indicated that they wash or boil their raisins prior to consumption. These comments, among others, show the participants to be engaged in protecting themselves in foodborne illness. That respondents consider themselves more interested in and knowledgeable about food safety than others of their age and that they also exhibit some strong tendencies to protect themselves from foodborne illness shows there to be some potential gaps in current risk communication practices in Canada. Thus far in their lives, the focus group respondents have not obtained any knowledge concerning the risks posed to them from *L. monocytogenes* and this lack of knowledge does not appear to stem from a disinterest in food safety.

Focus group respondents expressed an interest in food related issues, though, as has been noted, the risk of foodborne illness from *L. monocytogenes* was not among their concerns. Focus group participants were strongly aware of the nutritional and dietary risks associated with certain foods. In fact, when both focus groups were asked if they purchased pre-sliced RTE meats, their reason for not purchasing these products stemmed from dietary, rather than from safety considerations. Focus group #1 respondent 6 said:

> My only thing is I don't buy cold cuts and things like that because they are higher in sodium.

Focus group #1 respondent 5 reiterated this concern:

> Sodium is always so high in that stuff that you don't really need, like he said, I would rather buy ham and cut it up. I very seldom buy cold meats for sandwiches.

Certain focus group #2 respondents also refrained from consuming RTE meats for the same dietary reason:

> When you look at these packages, and even if you go to the delis, I find them salty, so I am buying very little. I had picked up a package of bologna two weeks ago and the salt in that was unbelievable. It didn't bother me before but since my surgery I have to watch this and that and didn't use to notice it (Focus group #2 respondent 8).

The focus group respondents also showed a willingness to learn about risk related information on food packaging. This stemmed from an increased interest in reading food labels. When asked if their approach to reading labels had changed since they had gotten older, almost all respondents indicated that they thought reading food labels was important. They made comments such as:

> Well, I read labels now, whereas years ago if I bought a soup I would just buy it. I wouldn't look at the content inside. I read, it takes a while to shop now if you're going to read.... now when I pick something up and I see the sodium content is really high and I pick another one and it's much lower then will by this one (Focus group #1 respondent 1).

> We do a lot of label reading too but we do a lot of other cooking too (Focus group #1 respondent 4).

> If you have anyone with diabetes in the family, you read every label. You would be amazed at what's in there (Focus group #2 respondent 5).

> Unfortunately I have a grandson that really needs to lose weight, so I am teaching him how to look at labels already, but yes, the last few years we have learned a lot more. I am still finding it is difficult with all the extra stuff that is in it, I don't think they are clear enough (Focus group #2 respondent 6).

> So many people are on diets for one thing and some are allergic to certain foods, so basically everybody is starting to get interested (Focus group #2 respondent 3).

It could also be inferred through one response that the cooking recommendations issued for the prevention of listeriosis are not likely to produce behavior change because the recommendations do not match the manner in which RTE foods are meant to be consumed:

> I understand what you are saying, when you say that anything that's maybe on them, that could harm us, you get rid of it by putting it in the microwave or cooking it somehow but, generally, people don't buy that kind of meat to cook, they want to just put it in sandwiches and take it out (Focus group #1 respondent 2).

Both focus group #1 and #2 respondents were concerned about food related issues. The first group attributed their interest in part to having joined the cooking club they were a part of. Both respondent groups showed a strong interest in nutrition and dietary issues and reported a strong inclination to read food labels. Their participation in the cooking club (group #1) and canteen (group #2) certainly provides them with a good mechanism through which they can obtain food related information.

While some of the more important food risk related information did not appear to have reached the focus group participants, interview respondents who were responsible for overseeing food-related concerns for long-term and palliative care facilities suggested that they are generally satisfied with the information that is communicated to them. Because most of the communications they receive deal with product recalls and outbreak situations, there was a sentiment that electronic forms of communication are adequate. For example, Senior Care Home respondent #2 said, "Most everything is available on the Internet. As long as you subscribe to the service, you should have access to updated information." These forms of communication are quick, reliable, easily accessible and cost effective. Recall information is also available on a subscription basis and there is evidence to suggest that these services have very high rates of subscription among those overseeing food consumption for the vulnerable. It seems also that subscription to these services is often made at a district or head office level through a lead nutritionist and disseminated accordingly. Senior Care Home respondent #1 reported how such communications are received:

> I'm not hooked up to the website now so I don't get a lot of information that way. What I get are communications from head office. They make the decision as to what information to provide.

Head office respondents from these organizations were satisfied with the services provided by HC and the CFIA and felt that the services adequately meet their needs, providing more than just recall information:

> You see they do actually send out updates and communication in the emails I receive. Sometimes they tell me if there is a new updated piece of information out there as well. Its not solely just recalls (Provincial respondent #2).

At the same time, the respondents also revealed that much of the information they receive is actually obtained initially from industry sources, such as food vendors and the distribution companies.

> Vendors are taking very good responsibility for communication outside of inspection services… with the latest recall I didn't get the CFIA notification until after we already implemented the recall (Provincial respondent #1).

The respondents further noted that the time difference between receiving information from industry and receiving it from government sources was usually minimal (maybe one hour). They speculated that the CFIA initiates notices once it is completely satisfied that this type of communication is necessary. Respondents noted that they did not seem to require additional information with respect to general food safety advice. They indicated that they were adequately staffed with nutritionists and understood the risks associated with the consumption of food products. However, one head office respondent noted that individual senior homes are given discretionary decision-making control over which foods are selected for consumption.

> In terms of menu planning, we do our menu planning from corporate. We specify the product codes the homes can buy. They are actually on an order guide so we know what they should be purchasing. And we didn't have any RTE products. When we talk about the deli meats specifically they aren't specified as the products to be used in our homes. There are some homes that are purchasing these products outside of our guidelines (Senior Care Home respondent # 3).

When asked if their RTE meats are reheated prior to consumption, the head office respondent indicated that they are not. There appears, still, to be some confusion as to weather it is safe to prepare RTE meat products for individuals at risk from foodborne illness.

Interview respondents largely agreed that in order to effectively communicate information to both the general public and to at-risk groups, it is important to understand what the general public and at-risk groups know, what their behaviors are, what information they require and the mediums through which this information should be communicated. Through an increase in their public opinion research activities, HC and the CFIA have devoted more energy since the listeriosis outbreak towards understanding consumer perceptions and behaviors than before. And while their approach to risk communication also appears to be less general than it has historically been, there is room for improvement.

5.3.4 Recognize Differing Levels of Risk Tolerance

The risk of foodborne illness is *not* uniformly spread across society. It is well recognized by experts that the elderly, the immune compromised (such as HIV patients), and pregnant woman are more vulnerable to effects of certain types of foodborne illness than other segments of the population. Moreover, these populations have diverse levels of risk tolerance, which may or may not be proportional with their level of actual risk. The disjuncture between scientific risk assessment and layperson risk perception has been known for quite some time (Kasperson et al. 1988; Slovic, 1993). Experimental evidence exists to support cognitive dissonance theory as a plausible explanation for this trend (Cao and Just, 2010). Respondents representing the federal governmental, industry, consumer group and non-profit organizations generally recognized there to be a gap between consumer and technical perspectives of risk and suggested this to be an important impediment to effective risk communication:

> Even woman who get pregnant don't consider themselves at risk from any particular illnesses until their Doctor reinforces that. But the survey's keep telling us, weather it's washing your cutting board or counter, those types of things, there is still a lot of resistance from doing what needs to be done (PHAC respondent #2).

Secondary data from the *Survey of Canadians' Knowledge & Behaviors of Food Safety* (EKOS, 2010) reveal that at-risk groups have, by and large, attenuated their risk hazard from foodborne illness. The survey's executive summary reports that:

> A majority in all four "at risk" groups does not believe they are at greater risk than average for complications from foodborne illness (EKOS, 2010).

The views of Focus Group #1 and #2 participants confirmed this assessment. When questioned as to whether they considered themselves to be at greater risk to foodborne illness, unanimously and unequivocally, all six in the first group and all nine in the second indicated *no*. When questioned who they felt were at greater risk, they identified people with compromised immune systems, with existing problems or people who are much older then they were. When informed that they were at greater risk, each of them showed an interest in a brochure that was made available to them and were curious about the risks.

Knowing there to be a gap between consumer and technical perceptions of risk related to foodborne illness has done little to inform or impact change to communication approaches used by government. CFIA respondent #1 indicated that the level of foodborne illness has dropped only once in recent memory and this drop was incidental, and not the result of a campaign targeted specifically at the issue of food preparation and food handling. This person further indicated:

> One of the interesting things that took place with H1N1, with a lot of people washing their hands and being careful, we saw a decrease in the incident of foodborne issues. We are doing more research on that. It's an example of a corollary, where something else occurred and there's an activity that takes place (CFIA respondent #1).

That the incident of foodborne illness can drop and has dropped as a result of a risk information campaign shows that the public at large may not perceive, understand or otherwise show a willingness to respond to conventional risk communicating methods. It may also reveal that the general campaigns lack the intensity of the H1N1 campaign. The *estimated* year-to-year level of foodborne illness has remained relatively constant over the last decade. Food safety campaigns of a general nature, therefore, have been largely ineffectual at reducing the incidence of foodborne illness in Canada.

Yet another source of secondary data reveals that additional gaps between consumer perceptions of foodborne illness and technical perspectives of illness exist. For instance, the *2010 Consumer Perception of Food Safety and Quality* (Ipsos-Reid Corporation, 2010) survey reveals that self-reported incidents of foodborne illness do not reflect technical and scientific distribution patterns of foodborne illness. Of the survey respondents who reported becoming ill from foodborne illness over the previous 12 months, 47% described the source of the illness to be food prepared by a restaurant or other dining establishment, 29% to be food prepared outside one's home but consumed at home, 14% to be food prepared at one's home, and 10% to be food prepared outside one's home but not from a restaurant or dining establishment (Ipsos-Reid Corporation, 2010). According to the surveys average respondent, food prepared in the home accounts for up to a minimum of 10% and a maximum of 24% (14% prepared in one's home and 10% prepared in someone else's home) of foodborne illnesses (Ipsos-Reid Corporation, 2010).

Focus Group responses reflect that which was revealed through the above noted survey. When asked directly if they have ever become sick from food prepared and consumed themselves, each of the focus group #2 respondents indicated that they have never been sick from food prepared in their home. Most did, however, indicate to have become sick from having

consumed food that was prepared outside their home (most often a restaurant).

These results contradict what the majority of experts identify as the major cause of foodborne illness in Canada – the consumers themselves. Most interview respondents in the federal government, industry or who worked in the food safety field concluded that the majority of foodborne illness occurs in the home:

> We need to be way more proactive when it comes to educating the public. We have to recognize that consumers are the most important risk managers in the supply chain. More than 85% of all contaminations occur at home, whether it's caused by cross contamination and things like that. So, educating the public is very, very important (Academic respondent #2).

> If we are talking about food safety in general, it is the public at large. They are the biggest cause of the problem and they don't even recognize it and government can't effectively deliver the information. They have not figured a way of doing it (Academic respondent #1).

The disjuncture between regulators, policy experts, government officials and the public at large reveals either that the public does not acknowledge the impact that their own behavior has on foodborne illness, or the experts have misinterpreted the data available on the source of foodborne illness. Nevertheless, there is a disjuncture and this might be a leading cause of what Academic respondent #2 noted was an alarmingly high rate of foodborne illness in Canada:

> You have something like 12 million people becoming ill each year from foodborne illness. That's alarmingly high and that has got to cost a lot economically.

It is unclear what is the leading cause of the disjuncture between technical and public perception concerning the pattern of foodborne illness. Estimated foodborne illness rates have remained historically consistent, which shows the generalized approach to not have made such a significant impact on the public.

5.3.5. Creating Dialogue, Openness and Accessibility

Scholars have suggested that the current (or third) phase in the evolution of risk

communication is one in which the focus is on creating dialogue among concerned parties (Leiss, 2004). That is, the third phase, emphasizes a two-way communication process in which both the members of the public and risk assessors are expected to engage in a dialogical social learning process (Renn, 2009 p.122). Creating dialogue about risk, and remaining open and accessible to the public serves to promote convergence of risk perspectives, something that Sellnow et al., (2009) indicate should be the ultimate goal of risk communication.

Though Maple Leaf was ultimately responsible for the *L. monocytogenes* outbreak of 2008, it has been lauded for its swift reaction, openness and leadership in the crisis. Even one focus group participant commented that Maple Leaf had done a good job in this regard. Maple Leaf appears to have used this momentum, improving upon openness and transparency and by creating dialogue with consumers. The breadth of their new activities is summarized in the following statement made by Industry respondent #1:

> We are issuing information through social media about food safety. We've even had a couple of months ago, a round table meeting with bloggers. They are called mommy bloggers, they are many woman that have become influential in marketing and consumer trends because of their following of food issues, food nutrition, safety and so on so we met with a number of them to talk about their perceptions of our company, products, what we are doing well what we are not doing well in terms of perceptions of food safety.

The respondent added that the creation of dialogue about food safety can and should supersede competition in the marketplace:

> One of our key commitments has been to be totally transparent to our learning and our outreach. We think that sort of outreach ultimately is really critical. We have held food safety symposia. In fact we are planning the next one on September 15 where we open the doors to all of our competitors, all our customers, retail, food service, government regulators, everybody so we can be a catalyst for change and sharing knowledge on a completely non-competitive basis because we do fundamentally believe something like food safety is a non-competitive issue and we have an obligation to share everything we are continually learning. So that's the other side. In terms of our engagement with government on consumer education, honestly, it's more like pushing. We are continually saying we want

more leadership we want more action.

Industry members can create openness and promote dialogue among themselves and with consumers, because of their economic interests they cannot be expected to take a leadership position in this regard.

There are a variety of mechanisms through which the federal food safety partners have attempted to promote dialogue about risk. These methods were identified in chapter 4, and include community meetings, working groups and focus groups. HC, the CFIA and the PHAC seem to have relied largely upon the focus group and telephone survey as a way of involving laypersons on matters related to food safety. However, these methods have been used largely to gain insight about the lay public's behavior or the lay public's opinion about a policy, program, and activity rather than to facilitate dialogue. The data show that there has been an intensification of POR in the area of food safety since the 2008 listeriosis outbreak. So while more POR might be better than less POR, the method of involving laypersons is largely unidirectional.

Creating dialogue, openness and accessibility is largely about being responsive to the needs of professional stakeholders and the lay public. Sellnow et al. (2009) argue that simply making information available on a web site or in the fine print on a product label does not ensure accessibility and openness. Interview respondents revealed that openness and accessibility is about creating a culture and an attitude towards engaging the public.

> Being open and accessible is not simply about saying you will be open and accessible. Rather, you need to create an atmosphere where openness and accessibility is evident in every aspect of your operation and through the actual disclosure of information (Consumer Group respondent #1).

A general attitude that is perceived to be closed and inaccessible can lead to an insulated entrenched position that undermines dialogue (Sellnow et al., 2009). PHAC respondent #2 noted

that on the issue of risk communication there is little emphasis placed on creating dialogue. Speaking about risk communication, this person said:

> ...there isn't a mechanism, a direct way for the public to come back into our centre specifically… We are much more focused on the supply side. We have information and we want to get it out. As we get new information we want to make it available to the public as soon as we can.

This statement shows that the PHAC has focused less on creating dialogue than on ensuring a message is sent out. It is reflective of its risk communication agenda, in which it has responsibility for communicating about outbreak situations.

While HC and the CFIA have become increasingly interested in understanding the public's perception of risk, there seems to be less effort devoted towards engaging the lay public in meaningful dialogue now than there was in the past. At HC, the HPFB Public Advisory Committee (PAC), which was dissolved in 2005, provided a strong opportunity for all departments at the HPFB to engage with layperson committee members. The PAC was assembled in 2002 to facilitate PI in decision-making and was mandated to have its members provide advice on issues and initiatives within the purview of the HPFB. The committee's formation was "a component of the Branch's strategy to increase transparency and public involvement through the consultation processes" (Health Canada, 2011b). The PAC facilitated a dialogue about an assortment of topics, in which both committee members and government officials could learn from each other. A former PAC respondent noted:

> That is what it is all about. The learning process of sitting down with a committee for a couple of hours and discussing all of their policies and how they go about doing their jobs and what their perceptions are and what our perceptions are. Often it opens their eyes. Sometimes the advisory committee learns a lot too.

The advice that PAC members provided to officials was not binding. In fact, the PAC respondent indicated that it was largely unknown what exactly officials had done with the information and

recommendations presented to them. Still, the respondent viewed the committee to be a mechanism through which the HPFB could learn from and engage with members of the general public, thus becoming more open towards other ways of thinking. This is consistent with Sellnow's et al. (2009) convergence view of risk communication (upon which the best practices are based), in which communication results in convergence on ideas and opinions, and not necessarily conformity of one group's views to that of another. Without face-to-face meetings, a common understanding, a convergence of opinions is not likely. PAC respondent #1 remarked:

> HC is one big conglomeration working for the government. The government is not the people. The government pays your (HC officials) salary. Public Advisory Committees are great institutions that should be carried on. It gives the employees another side, another version. They don't necessarily follow it because it is only advice. It opens their eyes sometimes to things that could be done in a different way that could serve the public better…When you have the PAC that is completely independent and not depending on the government's payroll and when you have a chance to have the department to come in one at a time and even asking them for advice. Could you do things in a different way? There might be five ways of doing things. Often these civil servants have good ideas too. When you are interviewing them, it is a cross match of what you think it is and what they think it is. What your thinking is always based on what the public requires and theirs is on what the department requires of them.

This respondent noted further that the committee provided the lay public with access to various department officials, enabling both parties to communicate directly:

> We were very sorry to see it go because we figured to be doing something very useful. By getting each section of the government in on it with regards to food safety, we thought it was great and thought the government was on the right track by doing this and it gave civilians a chance to explain to the functionaries, the people who administered, what the public perception actually was instead of what they figured they were doing a good job at. Because when you are in the job you are there to please your master and it is a far different thing to please the public.

The HPFB (2007b) has indicated that the PAC would be replaced with a broadening of PI activities within the Branch. For example, HC indicated that the PAC has been replaced with public forums, public and town hall meetings and expert advisory committees (Health Canada,

Health Products and Food Branch, 2007b). There was a great deal of speculation on the part of the PAC respondent as to the reason for the committee being disbanded. It was not well understood why something that was deemed necessary was cut back:

> If you are cutting back, you are cutting back something that you thought was necessary. So how can you cut back something that you thought was necessary (PAC respondent #1)?

A review of information available on the HC website shows that since 2005, there has been no systematic process through which an ongoing dialogue between the public and HC has been maintained on issues related to food safety. "Dialogue" appears limited to the collection of layperson comments, perspectives and views and does not include face-to-face engagement of an ongoing type. As chapter 4 illustrated, face-to-face engagements of an ongoing type are limited to technical and scientific experts. The HPFB PAC seems to have been the only interactive mechanism focused solely on layperson perspectives. In the absence of the PAC or any other formalized mechanism, such as a public or web based forum, the level of interaction between officials and the lay public remains limited to information gathering methods such as focus groups and public opinion surveys. And while companies such as Maple Leaf have taken it upon themselves to promote openness and dialogue, they are limited in their efforts to do so.

5.3.6 Collaboration and Coordination

In Canada, a number of organizations, agencies and groups are involved in risk communication. HC assumes a leadership role by developing policies and regulations and establishing a general culture related to food safety. The department works together with the CFIA and the PHAC to fulfill its risk communication objectives. The document and interview data suggest that collaboration and coordination exists among these partners. In fact, two of the three interview respondents at the CFIA, HC and PHAC reported to have personally worked for

more than one of these partners. This is understandable given that these agencies are closely linked and have overlapping and interrelated objectives.

Coordination and collaboration do not end at the federal level. They occur among various other governmental, non-governmental, and industry partners. The reality in Canada is that there is not one single authority when it comes to food safety information. There is not even one single authority when it comes to food inspection services. Industry respondent #1 noted:

> Part of the problem is that we have a very fragmented system in Canada for public health overall. Certain things happen at a national level, various things at a provincial level and others at a municipal, regional level.

Within such a system, it is essential that key linkages and partnerships exist for those whose legislative responsibility it is to promote public health.

HC (2010) indicates that, "the success of the Canadian food safety system depends on close working relationships between federal, provincial and territorial partners with legislative authorities and/or activities related to food safety." Two interagency programs exist that focus upon the common goal of increasing food safety. The HC/CFIA committee on food safety is mandated to provide guidance and leadership on policies related to the food safety and nutrition systems (Health Canada, 2010a). Beyond this federal level partnership, there exists the Federal/Provincial/Territorial Food Safety Committee (FPTFSC) (Health Canada, 2010a). The FPTFSC is responsible for coordinating the development of national food safety policy options and is composed of government officials representing HC, the CFIA, the PHAC and Provincial and Territorial health and agriculture ministries across Canada (Health Canada, 2010a).

The 2010 Food Safety Performance World Ranking (Charlebois & MacKay, 2010) suggests that Canada has done generally well in the area of food safety. The publication ranked Canada highly relative to other jurisdictions in the area of communication (education). Certain

interview respondents confirmed this assessment but also underscored the challenges that occur within a federal system.

> The federal government has severe limitations on how far it can take this type of campaign (education, risk communication). I think within the limitations of the federal system, HC has done a good job. They are there to provide information to Canadians. Their outreach will be limited because of the limits placed them as a federal structure (Health Organization respondent #1).

The structural limitations of the federal food safety system reinforce the need for federal food safety agencies to both create new partnerships and strengthen old ones.

Subsequent to the 2008 listeriosis outbreak, new partnerships have emerged. The Canadian Public Health Association (CPHA), a national, independent, not-for-profit association has partnered with and been funded by Maple Leaf Foods to create a risk communication campaign targeting those at greater risk to foodborne illness - the elderly, immune-compromised and pregnant woman. The CPHA has not collaborated or communicated with HC, the CFIA or the PHAC in relation to this campaign. Not only does the campaign focus on providing information about food safety to those at greatest risk, the information will be made available in 12 languages, something that has yet to be done and which shows the CPHA to be focused on reaching non-typical populations. The materials will be available on-line and also disseminated through stakeholder groups, such as nursing organizations and senior organizations.

HC also reports that it has begun a social marketing campaign targeting those at greater risk to foodborne illness. Both the Maple-leaf / CPHA campaign and HC's social marketing campaign are similar strategically, conducted for the same general objective, but communication and collaboration between the two groups on this particular issue is absent. The coordination of risk communication will not reach a mature stage until such time that major parties involved in risk communication are coordinating their efforts and ensuring that the approach is balanced and

representative of the public's needs.

One organization conducting work completely in isolation of another organization can easily misdirect the focus of a particular campaign or duplicate the work already done (Sellnow et al., 2009). Sellnow et al. (2009, p.28) write, "in the case of a food related risk, for example, food producers, industry groups, several federal and state agencies, and consumer groups can be expected to serve as sources of information. Risk communication, in these cases, can be significantly compromised if these agencies and groups offer contradictory and inconsistent messages. Consistent messages can help develop a more coherent and effective public understanding of risks we haven't been working or communicating with the federal bodies with responsibility for food safety."

Secondary data reveal also that there is not enough collaboration between agencies in their market research endeavors. The final report on *Consumer Perceptions of Food Safety and Quality* (Ipsos-Reid, 2010, p.52) revealed that respondents were asked to "identify the organizations(s) which you feel, are responsible, should be responsible, for setting food safety standards and/or policies in Canada". Eight choices were given to respondents, including CFIA, Agri-Food Industry Associations, Food Companies, Independent Experts, Advocacy Groups, International Governmental Organizations, No one is responsible, Don't know/Not sure. While 73% of respondents identified the CFIA as the organization responsible for setting food safety and quality standards, the true answer, and one that was not provided as an option is, Health Canada. It should be reasonably expected that research conducted by a branch of government interested in understanding consumer perceptions has itself an accurate perception of the roles and responsibilities in the food safety governance system. At the very least, it should coordinate its activities with agencies or departments that are the focus of its research objectives.

In October of 2010, the CFIA (2010b) released a collaborative report prepared by Agriculture and Agri-Food Canada, the CFIA, HC and the PHAC on the progress they have made in the area of food safety. The report details the measures taken on the part of the federal actors since the 2008 listeriosis outbreak. The report highlights, among other things, that the policy on *L. monocytogenes* in RTE foods has been revised and that the approval process on food additives has been expedited (CFIA, 2010b). With respect to engagement and consultation with stakeholders, the report states that the food safety partners are promoting greater collaboration between them and external entities:

> Building on existing mechanisms to consult the public and stakeholder groups, Agriculture and Agri-Food Canada (AAFC) has collaborated with industry representatives from the Value Chain Roundtables to establish the Agri-Subcommittee on Food Safety (ASFS), which also includes members from CFIA, Health Canada, and PHAC. The purpose of the Subcommittee is to strengthen relationships among all federal food safety partners and the food industry to ensure a common understanding of the roles and responsibilities of all partners, and to contribute to the continuous improvement of food safety policies and standards (CFIA, 2010b).

Certainly it is positive for partnerships to be strengthened amongst federal departments and between federal departments and industry members. One industry member, who sits on the board, expressed the importance of such collaboration, towards the goal of strengthening food governance:

> There is a now a new food safety committee I sit on nationally that is trying to build that partnership between industry and government and academia to really define best practice and look at some of the issues of governance… It's actually been sponsored by Agriculture Canada. The lead in providing the secretariat for it but sitting on it are representatives of CFIA, HC, PHAC, Agriculture Canada and at this point there are about a dozen industry representatives at different levels and different sectors and different levels from primary agriculture through retail and food service. And the group has just had its first meeting. We are going into a heavy schedule of meetings through the fall. This again is trying to strengthen the system to look at the key strategies we need to employ in Canada (source).

One interview respondent, himself a representative of a non-profit health organization

commented that though his organization has a partnership with HC and the PHAC, improvements could be made:

> I think HC and the PHAC have done better than most agencies and do have mechanisms of developing partnerships with non-governmental organizations but its not always as easy or effective as it should be (Health Organization respondent #1).

Creating partnerships with non-governmental organizations is challenging. The absence of a more formalized partnership between the federal government and consumer, health and food safety organizations should also be noted. PAC respondent #1 expressed that there is a general sentiment that the federal agencies (in this case, the respondent referred to HC) appear to be working for the industry's benefit:

> We think the government is there for industry, more so than the public because they get more lobby from the industry. We always felt that the board was there with all good intentions but that the government (HC) was more interested in the business, in helping the business get along than in the end product to the public, regardless of what the product was.

The formation of the Agri-Subcommittee on Food Safety (ASFS) does nothing to dispel that notion. It is important to draw on the fact that each of HC, the CFIA, the PHAC and industry convey that food safety is a shared responsibility, stating not only that the responsibility is shared between federal, provincial and municipal levels of government and industry but, also, shared with the public at large. While that may be the case, it should be noted that the general public remains largely overlooked in the formation of committees (such as the ASFS) whose members are seen to have a shared responsibility for food safety.

5.4. Summary

Food safety crises on a scale of the listeriosis outbreak of 2008 are known to undermine confidence and trust in food safety actors. In certain instances, it prompts widespread change. The opening to this chapter presented public opinion research results that show there to be a

generally high degree of trust and confidence afforded to the government towards the goal of ensuring a safe supply of food. Trust, while important, is not the only factor required to ensure good risk communication practice. Good practice is dependent on there being a multi-step, systematic approach. Accordingly, this chapter served to describe the extent to which relevant risk communication issues are addressed and to identify changes that have been made since the listeriosis outbreak.

Two analytical frameworks (Sellnow et al., 2000; Renn, 2009) were used to help describe risk communication in the food safety context and to gain an understanding of the changes in risk communication that has occurred since the 2008 listeriosis outbreak. The description shows there to be weaknesses and strengths in the approach to risk communication. It also shows there to have been changes made since the listeriosis outbreak. The analytical frameworks helped to classify six themes or issues by which risk communication could be assessed: Feedback and Risk Communication as a Critical Process; Uncertainty and Risk; Communication Reflects the Target; Recognize Differing Levels of Risk Tolerance; Creating Dialogue, Openness and Accessibility; and, Collaboration and Coordination.

To varying extents, each of HC, the CFIA and the PHAC understand the collection of feedback to be an important component to their risk communication objectives and have conducted critical reviews of their own processes. However, government agencies have typically shown very little interest in understanding what the drivers are of consumer behavior. Encouragingly, since the listeriosis outbreak, there has been a discernible change in the government's approach to understanding consumer behavior. For instance, in 2010 and for the first time, HC funded public opinion research that not only focused on consumer behavior in the area of food safety but also focused on the behavior of vulnerable populations.

The communication of risk emerges largely from the assessment of risk. From the perspective of a risk communicator, such as HC, the CFIA or any other organization for that matter, the success of risk communication hinges largely on the degree to which the risk is understood. The analysis has shown that there is a relatively high level of uncertainty about the foodborne illness patterns in Canada, which is due to the fact that Canada borrows its surveillance data from other countries. It is the opinion of various respondents that in the absence of greater scientific certainty, risk communication will not attain its objectives. This uncertainty puts communicators in a position, as Academic respondent #1 noted, "where they are just chasing their tail." Interview respondents representing academia, industry and non-governmental organizations revealed a principal criticism of the food safety system to be a lack of a system through which surveillance data are collected to form the basis of risk communication practice.

Historically, the approach to risk communication in Canada has been general. In the past, information has not been delivered to specific at risk groups apart from what is generally available. The main vehicle through which information has been and continues to be disseminated is the Internet. A number of governmental, industry, and non-governmental web sites are available that provide generalized information. Since the listeriosis outbreak, the federal food safety partners (HC, the CFIA and the PHAC) have made key improvements to their web-based tools. Though public opinion research (Phoenix Strategic Perspectives Inc, 2008) shows the Internet to be a useful mechanism through which the food safety partners can communicate, most Internet related tools developed by the partners are unidirectional, failing to provide consumers with an opportunity to interact with officials and experts. Those web-based tools that have a more interactive focus, such as discussion forums and 'ask an expert' are yet to have been implemented. Industry and non-profit food safety respondents recognized the importance of

moving away from generic forms of communication.

Respondents representing the federal government, industry, consumer group and non-profit organizations recognized there to be a gap between consumer and technical perspectives of risk and suggested this to be an important impediment to effective risk communication. This comes as no surprise given that the literature on risk perception shows there to be a significant disjuncture between layperson and scientific risk assessment. In fact, all Focus group #1 respondents indicated they had little to no knowledge of the risks associated with *L. monocytogenes*, and failed to identify themselves to be at greater risk of foodborne illness than the general population. This is consistent with POR data and with governmental respondents. Furthermore, public opinion research (Ipsos-Reid Corporation, 2010) results show that the general public reports the pattern at which it succumbs to foodborne illness in the home to be strikingly different than that which the experts suggest to be the pattern.

The disjuncture between risk perceptions reinforces the need to create an open dialogue about risk. In actuality, there are few mechanisms through which the federal food safety partners have promoted a 'dialogue' about risk with the lay public. The most common, focus testing and public opinion surveys, are used largely to gain insight about the public's opinion about a policy, program and activity. More recently, these mechanisms have been used as a way to further understand consumer behavior and perceptions. These methods do not, however, promote opportunities for dialogue. And rather than seeking mechanisms through which dialogue can be strengthened, less effort appears to have been devoted towards engaging the lay public in meaningful dialogue now than in the past. At HC, for instance, the HPFB Public Advisory Committee (PAC), which was dissolved in 2005, provided a strong opportunity for all departments at the HPFB to engage with the public. In the years since the PAC was disbanded,

there has been no systematic process through which an ongoing dialogue between the public and HC has been maintained on issues related to food safety. “Dialogue” appears limited to the collection of the lay publics’ comments, perspectives and views and does not include face-to-face engagement of an ongoing type.

There is a great deal of evidence in support of the fact that important partnerships and meaningful collaboration exists amongst food safety actors. Both federal and inter-jurisdictional committees exist with a mandate of ensuring there to be a degree of consistency and collaboration among committee participants. When it comes to the formulation of risk communication campaigns, there appears not be the level of coordination and collaboration as might be ideally expected. Though new campaigns have been initiated, they appear to have been conducted by each party independent of the other. The data show also that efforts have been made to promote greater collaboration amongst *certain parties* who have responsibility in food safety. A case in point is, in 2010, the Agri-Subcommittee on Food Safety was created with the purpose of strengthening relationships and of contributing to the continuous improvement of food safety policies (CFIA, 2010b). However, the committee members represent, exclusively, industry and governmental interests.

CHAPTER VI: Conclusions and Recommendations

6.1 Overview

The listeriosis outbreak of 2008 undermined trust and confidence in the food safety system. It also brought attention to the manner in which food regulatory and enforcement decisions are made and the way in which regulators involve and communicate with the public. These developments provided an opportunity for this exploratory study. The purpose of this research was to *explore* public involvement and risk communication in food safety governance in Canada through a particular focus on *Listeria monocytogenes* and vulnerable groups. The specific objectives were to:

1) describe (and assess) public involvement and risk communication in food safety governance;

2) identify changes made to public involvement and risk communication since the 2008 listeriosis outbreak; and,

3) make general recommendations to improve public involvement and risk communication in food safety governance and specific recommendations to improve *Listeria monocytogenes* related public involvement and risk communication undertakings.

The first two objectives were met using data obtained from document reviews and open-ended interviews with key respondents along with data obtained through two focus groups with seniors 65 years of age or older (with one participant being age 61). Chapter four was devoted to the public involvement component of objectives one and two, while chapter five was devoted to the risk communication component. This chapter provides a summary of the key results, followed by conclusions interwoven with discussions and five key recommendations. In that regard, it satisfies the third objective of this research.

6.2 Key Results

The following section provides a brief summary of the key results presented in Chapters IV and V (see Table 6.1, pp. 167). Chapter IV was devoted to describing the state of public involvement (PI) in food safety governance and identifying changes made to PI since the 2008 listeriosis outbreak. The data in chapter IV reveal a number of key points, beginning with the observation that HC has historically shown a greater commitment to involving the public in decision-making than has the CFIA. This is reflective of the fact that HC's HPFB has an office devoted directly to PI, it generally reports upon its PI activities (though it does not do so consistently), it has various PI guidance materials rooted in the existing literature on PI and has shown itself to consistently involve the public on key issues. On the other hand, the CFIA was not found to have succeeded on any of the aforementioned points.

It is a fundamental observation that HC gives less weight to involving laypeople in decision-making than professional stakeholders, and this is reflected in the department's greater commitment to identifying and engaging technical and scientific experts than to engaging laypersons. In the last ten years, only the PAC provided laypersons with a direct link to decision-makers and enabled decision-makers to explore a greater variety of issues than is possible through non face-to-face methods. The PAC was disbanded in 2005, and there is no evidence to show that laypersons have since been provided an opportunity for involvement on a similar level.

While HC espouses transparency as a central feature of its approach to PI, there is a clear contradiction between what the agency professes to be its commitment to reporting upon PI activities and the degree to which it was actually found to report upon these activities. HC does not systematically and consistently report upon PI undertakings and is poor in showing how any and all information gathered has been incorporated into decision-making. This is a crucial

limitation of HC's approach to PI.

Since the listeriosis outbreak, HC and the CFIA have taken various steps towards improving PI in food safety governance. For example, HC has revised its policy on *L monocytogenes* in RTE foods, having actively solicited the opinion of key scientific experts and passively solicited the opinion of the lay public. It has also, in the second year following the listeriosis outbreak, assembled a food regulatory advisory committee comprised of professional stakeholders. In another policy development, however, HC has seemingly failed to take advantage of an opportunity to strengthen its commitment to PI. While it has instituted a policy lauded by industry and those in the scientific community to fast-track the approval of food additives and technologies that have the potential to contribute to food safety (Health Canada, 2011c), an examination of the policy shows that the new measures fail to address how the public will be consulted with each new submission.

The CFIA on the other hand, has taken some incremental steps towards involving the public since the listeriosis outbreak; it has begun to communicate with the public through a publication, the Liaison magazine, it has formed an Academic Advisory Committee and it has developed an agency wide consultation framework.

In Chapter V, a number of key points were presented on the state of foodborne related risk communication. The description shows there to be weaknesses and strengths in the approach taken. It also shows there to have been changes made since the listeriosis outbreak. In the area of feedback, government agencies have typically shown very little interest in understanding what the drivers are of consumer behavior. Encouragingly, since the listeriosis outbreak, there has been a discernible change in the government's approach to understanding consumer behavior, and in 2010 HC funded public opinion research that for the first time focused on the behaviors

and perceptions of vulnerable populations.

The analysis has shown that there is a relatively high level of uncertainty about the foodborne illness patterns in Canada, which is due to the fact that Canada borrows its surveillance data from other countries. It is not surprising then that the approach to risk communication in Canada has been general, failing to adequately target at risk groups. The main vehicle through which information has been and continues to be disseminated is the Internet. The available web sites are well developed and have been improved since the listeriosis crisis. However, most Internet related tools developed by the partners are unidirectional, failing to provide consumers with an opportunity to interact with officials and experts. Those web-based tools that have a more interactive focus have yet to be implemented.

The approach to risk communication is also impeded by the gap that exists between consumer and technical perspectives of risk. In fact, all Focus group #1 respondents indicated they had little to no knowledge of the risks associated with *L. monocytogenes*, and failed to identify themselves to be at greater risk of foodborne illness than the general population. This finding is consistent with POR data.

The gap between layperson risk perception and scientific risk assessment has not been bridged through dialogue. In fact, there are few mechanisms through which the federal food safety partners have promoted a dialogue about risk with the lay public. The most common methods used, focus testing and public opinion surveys, do not promote dialogue. Less effort appears to have been devoted towards engaging the lay public in meaningful dialogue now than in the past, when as far back as 2005 the HPFB assembled a Public Advisory Committee (PAC).

There is a great deal of evidence indicating that important partnerships and meaningful collaboration exists amongst food safety actors. Inter-federal, federal-provincial and

governmental-industry partnerships exist and appear to have been strengthened. On the other hand, other stakeholder groups are not the focus of collaborative and coordination efforts. A case in point is, in 2010, the Agri-Subcommittee on Food Safety was created with the purpose of strengthening relationships and of contributing to the continuous improvement of food safety policies (CFIA, 2010b) but whose members solely represent government or industry interests.

Table 6.1: Key results from chapters IV and V

Chapter IV - Public Involvement
- HC has involved the public in decision/making to a far greater extent than has the CFIA. - At HC, engagement level consultation opportunities have been given to scientific and technical experts and not to the lay public. Only the PAC provided laypersons with an engagement level consultation opportunity. HC no longer has a PAC. - While HC articulates and affirms the importance of being open and transparent, and has shown initiative in support of this position, it has lacked consistency and thoroughness in being open and transparent. - Since the listeriosis outbreak, HC has taken measures to improve food safety and has consulted with the public in that regard. It has also assembled a food regulatory advisory committee. However, the new policy for the expedited approval of safety submissions lacks a clear consultation component. - The CFIA has become more open with the public since the listeriosis outbreak, having created the Liaison magazine and assembled an academic advisory committee. - While the CFIA has also taken steps to make more systematic its public involvement approach, it appears far from having an institutionalized strategy like that found at HC.
Chapter V - Risk Communication
- HC has shown a greater propensity since the listeriosis outbreak to understand the behaviors of consumers generally, and vulnerable populations specifically. - The basis of risk communication practice is weak in Canada given the absence of an adequate foodborne surveillance system. - Historically, the federal approach to risk communication has been too general, overly reliant on the Internet, and has failed to provide opportunities for dialogue. - The disjuncture between technical and layperson risk perception undermines the effectiveness of risk communication activities. - Coordination and collaboration among food safety partners has improved since the listeriosis outbreak, although there is significant room for improvement.

6.3 Discussion, including Conclusions and Recommendations

The reader should observe that the key conclusions and recommendations are interwoven into the ensuing discussion on public involvement and risk communication. A summary of the

key conclusions and each ensuing recommendation is shown in Table 6.3, pp 180. In addition, the recommendations are rooted not only on the preceding analysis, but also on new results presented in this chapter. These new results derive from interview and focus group questions that specifically sought views on recommendations for change.

It is clear that budgetary decisions impact the federal government's ability (here I refer primarily to HC and, secondarily, to the CFIA) to fully embrace a highly developed public involvement and risk communication approach. Recognizing that funding is a necessary precondition of effective public involvement and risk communication, the particular recommendations made here are presumed to carry a relatively low financial burden on federal agencies. Recognizing also that change in governmental agencies can be slow, the recommendations are intended not to completely reinvent the approach taken but, rather, to make improvements in light of the systems currently in place and in light of the key results discussed in chapters four and five (Table 6.1).

HC, as the regulatory authority on issues related to food, assumes a leadership role in food safety. Most but not all opportunities for involving the public in food related decision-making occur in the context of HC's responsibilities. This research has generally shown HC to be dedicated to involving the public in decision-making. Having said that, the results show its approach to be two-tiered. In the first tier, it involves key professional stakeholders who are usually individuals participating in their professional capacities and in the second tier, it involves the lay public. Of course, it is necessary to acknowledge that the lay public group is not homogenous; and, to qualify the preceding observation, no actual distinction was made in the analysis between the lay, 'non-affected' public and the lay, stake-holding public. For analytical purposes, they have been generalized one and the same - as the lay public.

On any given issue, there may or may not be one or more groups more deserving of participation than another. In instances when one group has a direct interest in an issue, as is the case of seniors on the issue of *L. monocytogenes*, a case can be made for the participation of laypersons from the vulnerable (stake-holding) group over laypersons from a non-vulnerable (general public) group. Nevertheless, it was suggested by a former HC official (HC respondent #2) and, it has been otherwise inferred, that the reason for more higher-level PI opportunities being given to professional stakeholders than to the lay public is the technical nature of HC's regulatory activities. The rationale for involving laypersons appears, therefore, to be one of legitimizing decision making rather than informing decision-making. On the other hand, those involved in their professional capacities (scientific, technical, industry experts for instance) are more likely to help inform decision-making.

Advisory committees are a fundamental mechanism through which the public can be involved in a dialogue about policy, regulatory and management decisions. In the time since the 2008 listeriosis outbreak, HC has assembled a food regulatory advisory committee, which is comprised of a range of stakeholders, including those affiliated with academia, industry, consumer groups and the health care field. Though these committees include a diverse range of participants and a mechanism for the disclosure of their affiliations, the committees themselves do not diminish the threat from regulatory capture to the same extent that the inclusion of laypersons on engagement level committees of this kind could accomplish. Certainly, through having disbanded the Public Advisory Committee (PAC) in 2005, HC appears to have regressed in its efforts to involve the public in decision-making. Historically, only the PAC provided lay participants with a consistent and direct link to decision-makers. The HPFB justified dissolving the committee on the grounds that it would expand the methods and opportunities for involving

laypersons. The analysis shows this expansion has not taken place.

While a direct comparison of PI activities in Canada and other jurisdictions was not undertaken as an objective of this study, it is nevertheless useful to look to what other jurisdictions have done to improve upon their activities. The British regulatory model is instructive. The formation of the British Food Standards Agency (FSA), which is equivalent to the component of the Canadian federal food safety system that includes HC, the PHAC, the CFIA and Agriculture and Agri-Food Canada, resulted from a number of high profile food-related disease outbreaks in Britain, including the infamous BSE crisis (Blair, 1998). The British model focuses on involving technical and scientific experts on issues of importance. It also shows a strong commitment towards reporting upon these processes in a systematically coherent, transparent, timely and open manner. In addition, the FSA has established a number of food safety committees. A cursory review of the committees, information about which is available on the FSA website, shows there to be at least 13 advisory committees on issues related to food safety. Table 6.2 lists four of these committees and describes their mandates.

Table 6.2: British Food Standards Agency advisory committees and their mandates (Food Standards Agency, 2010).

Committee Name	**Mandate**
Consultative Group on Campylobacter and Salmonella in Chickens	Important role in contributing to technical discussions and providing support to the Agency as it works towards reducing these organisms in chickens
Advisory committee on the Microbiological Safety of Food	Assesses the risk to humans of microorganisms which are used, or occur in or on food, and advises the Food Standards Agency on any matters related to the microbiological safety of food
Foodborne Disease Strategy Consultative Group	Cross-section of stakeholders to help the Agency in the implementation of the strategy to meet its target of reducing foodborne disease
Advisory Committee on Consumer Engagement	Reviews and assesses the Agency's consumer engagement work and provides external challenge to the Executive that they are continuing to "put the consumer first"

The FSA described each of its committees as having clearly articulated roles, responsibilities and

mandates. Though most of these committees have a technical and scientific focus, there is a concerted effort made for the inclusion of layperson perspectives on each of them. The agency writes:

> Each committee has at least one lay member whose role is to challenge the committees to consider the needs of non-specialists and to ensure effective communication of the risk assessment advice. The Agency particularly values the contribution these lay members make because it plays an important role in discharging our core values of putting the consumer first and making our scientific work accessible.... The Agency places a high value on the role of lay members on its advisory committees. These members help to ensure committees are made aware of aspects of issues being discussed that are most of interest to the public. They also help ensure committees formulate their advice in clear and understandable ways (Food Standards Agency, 2010).

In addition to the numerous advisory committees the FSA has created and the opportunities for the involvement of laypersons, it has also facilitated consumer focused stakeholder forums twice yearly with the goal of providing laypersons direct access to decision makers to discuss issues of importance:

> Consumer forum meetings provide an opportunity for stakeholders to ask questions about the Food Standards Agency and discuss topical and emerging issues, with Agency representatives (Food Standards Agency, 2010).

The BSE crisis eroded public trust in the British food safety institutions to a greater extent than did the listeriosis outbreak in Canadian food safety institutions. The reactions by each country's respective authorities reflect this difference, with Britain re-inventing its entire system and Canada focusing on certain key objectives of improvement. Subsequent to the Weatherill (2009) report, the federal food safety actors professed a commitment to act upon the report's recommendations, which included improving PI in food safety. That being said, the British model shows that more can be done to improve PI in food safety governance in Canada.

Like HC and the CFIA, the Food Standards Agency is a scientific based organization. This has not prevented it from instituting measures to provide laypersons with an opportunity to

discuss, and engage decision-makers on, issues of a technical and scientific nature. HC and the CFIA have created scientific and academic advisory committees, and have taken part in the Agri-Subcommitte on Food Safety, all since the listeriosis outbreak. The former two committees include a diverse range of stake-holding groups while the latter, regrettably, includes only industry stakeholders. None of these forums, however, provide an opportunity to involve the public directly, and this creates a contradiction with the position held by HC and the CFIA that the public has a responsibility in the area of food safety and has perhaps the most important role to play in preventing foodborne illness.

From the results and discussion presented above, we can conclude that a fundamental weakness of HC's approach to public involvement is that it has failed to provide laypersons with the same higher-level consulting opportunities that it has provided professional stakeholders. As an acknowledged actor, it is reasonable to assume that laypersons should be provided with at least the same opportunities that other parties have for involvement in decision-making. Other jurisdictions, such as Great Britain, in recognition of this fact, have acted accordingly.

In light of the aforementioned discussion and conclusion, public involvement activities would be improved if HC and the CFIA were to adopt the following recommendations:

1) Provide an electronic forum, similar to the one used by the British Food Standards Agency or the one endorsed by Renn (2009), through which the lay public can interact with officials at HC and the CFIA. Such a forum can be used as a vehicle to discuss an assortment of relevant issues, including the risk of illness due to the consumption of foods tainted with *L. monocytogenes*.

2) Place laypersons on all scientific, technical and expert advisory committees and subcommittees.

These two recommendations, and the aforementioned conclusion, carry implications for the area of risk communication. Even while public opinion research results reveal that the public looks favorably upon web based discussion forums and 'ask an expert' opportunities, neither HC

nor the CFIA have provided the public with these sorts of opportunities. In light of the limited dialogue between the government and the public on food related risks, it is not surprising that respondents representing the federal government, industry, consumer group and non-profit organizations recognized there to be a gap between consumer and technical perspectives of risk, suggesting also that this is an important impediment to effective risk communication. These results suggest that the disjuncture between expert and layperson risk perception is not likely to close in the absence of a dialogue between experts and laypersons. Furthermore, if risk communication is to become more effective, these gaps need to be more understood. To that end, the following conclusion is made: HC's and the CFIA's approach to risk communication does not adequately provide dialogical opportunities for the lay public. The absence of a dialogue about risk and an adequate mechanism through which laypersons and officials can connect is also reflected in the first conclusion and could be addressed with the implementation of recommendation 1.

The communication of risk is likely to be more effective when it comes from more than one source. A consumer group representative recognized that communication should flow from various sources, each of which would hold different opportunities for reaching the public:

> I remember going to a seminar where a person said, how do you really get your message out? You don't expect to get your message out with one shot. You need to layer it. You expect to get your message out with numerous layers of information where either through repetition or one of these media will click with a broader segment of the consumer population (Consumer group respondent #1).

And while the ensuing statement made by a government official does not refer to risk communicators other than governmental actors, it confirms that more than one party is responsible and involved in risk communication:

> What are the leverage pieces? What is the instrument that public health can use? What is the instrument that HC can use, that Manitoba public health can use that

> is not the same as what the feds use? What is it that they use to communicate risk? It is all about the intervention tool. Ours is collaboration and knowledge across Canada (PHAC respondent #2).

Having well-established mechanisms for coordination and collaboration in risk communication is not only important for preventative purposes, they could potentially mitigate the effects of a foodborne outbreak. Collaboration and coordination among stakeholders has proven to be particularly important during a crisis event, such as the outbreak of a foodborne illness. The results from this research suggest that effective coordination and collaboration among the major food safety governance actors, including government, industry, health care organizations, senior organizations, nutritional organizations, public health organizations and others, is lacking in Canada. From this we can conclude that when it comes to risk communication, the federal food safety partners do not place enough emphasis on collaborating and coordinating with key stakeholder groups. The following recommendation is made with the aim of alleviating the problems associated with the lack of collaboration between non-governmental and non-industry food safety partners with the main aim of creating a more layered approach to risk communication at both outbreak and non-outbreak stages. Risk communication activities would be improved if HC and the CFIA were to adopt the following recommendation:

3) Create a permanent forum through which partnerships could be built among organizations involved in communicating food safety and food risk information. This could take the form of a committee or stakeholder forum, amongst other possible methods and would serve to bring together those parties interested in or currently delivering risk communication materials designed to reduce the incident of foodborne *Listeria* (amongst other foodborne illnesses) and who are in a position to disseminate key information during an outbreak.

Section 5.3.3 discussed the importance of having communication reflect the target audiences' needs. Of course, in the area of food safety, there are multiple targets (seniors, pregnant woman, immune compromised people, etc.) and numerous methods of reaching them. The primary

mechanism through which HC and the CFIA have historically delivered information concerning the risks associated with *L monocytogenes* and other pathogens has been websites. HC and the CFIA have intensified their use of web based tools, having created a new website, foodsafety.gc.ca. HC has also become increasingly focused on understanding consumer behavior, with the ultimate goal of improving risk communication. The collection of this type of feedback is an important step towards improving risk communication. Still, a principal criticism of the food safety system in Canada is that it fails to collect foodborne illness surveillance data, which prevents the federal food safety partners from clearly identifying where targeted risk communication measures might be necessary at both the outbreak and non-outbreak stage. From these results, we can make the following conclusion: risk communication in Canada is overly general and will likely remain general until such time that the federal food safety partners make two important changes. They need to improve the way in which foodborne illness surveillance, consumer behavior, and risk communication campaign performance data are collected. In addition, they should broaden the methods through which they disseminate information. The following discussion, followed by a recommendation, is made to redress the information dissemination component of this conclusion.

While it is difficult to cater communication to the requirements and preferences of all targets, there is significant room to learn and explore in greater detail which methods are more cost effective and more likely to resonate with the target. Both the focus group data as well as data found in government funded public opinion research revealed that individuals 65 years of age or older do not view themselves to be at greater risk to foodborne illness. This group has not been effectively reached or if they have, they simply do not view risk in the same manner as the experts. Though this certainly requires further exploration beyond the scope of this work, it is

clear that consumers play an important role in understanding and addressing the risks they face. That being said, it is as or more important to continue to emphasize the roles that industry and government have in the area of consumer behavior change. Doing anything else could serve to absolve industry and government of their responsibility to protect the public, and could end up "blaming the victims" for their perceived failures to heed warnings and advice.

Focus group participants identified the print and television media as effective ways to communicate risk and to provide food-handling advice, something that seems already to be understood by HC and the CFIA. Of course, television campaigns, though effective, are also quite costly. Said Academic respondent #2 in response to having been asked which media of communication are most successful:

> Television, which is very costly, but at the same time, very effective as well, especially if when you are using humor as a vehicle to convey a message around risk, which is of course, inherently very, very serious.

Television and print media campaigns are also difficult to implement from the perspective of a highly centralized federal department. There are alternatives. Focus group participants, in addition to having suggested the print and television media, suggested the advantages that direct labeling on products might provide for the communication of risk and food safety information. Because dietary and nutrition related concerns are reasons why these respondents were already in the habit of reading product labels, they were receptive to the idea that labels could effectively provide them with information they need; though, with some important caveats:

> I think if there is a label on there it should be a different color or maybe so people would be able to read it but I don't know if everybody would read it (Focus group #1 respondent 4).

> I think if you re going to put a warning in a label, you can't just put the information there, you have to bring that information to our notice by actually putting the letter in bright red like, *warning* (Focus group #1 respondent 2).

> I think labels can never give you too much information but they need to print it large enough so you can read it (Focus group #2 respondent 9).

Even in the absence of such direct recommendations to use product labels to communicate information, it could still be inferred that labels are useful for such a purpose, given the high degree to which these respondents reported using food labels to learn about products and to learn about nutritional information.

Various product label options exist. Labels can include a direct warning to specific populations. Such a warning on RTE meats, for instance, might be targeted towards seniors, pregnant woman or any other vulnerable population, informing them that they are at greater risk from listeriosis (or any other foodborne illness or food safety issue) and providing them with food handling suggestions that could mitigate such a risk. Labels can also provide consumers with telephone numbers or Internet webpage links for governmental and food safety organization sources. Though industry interview respondents hesitated to fully endorse the idea of product label warnings, one industry respondent recognized this option could be explored when referring to the ways in which consumer education can be instituted:

> Providing information on the package is one way but there are significant limitations to that. That's a potential avenue for communicating with consumers (Industry respondent #2).

The food industry is well known for branding products that are endorsed for dietary reasons by third party health organizations, such as the Heart and Stroke Foundation. Evidently, they are motivated by the potential competitive advantages such labels might bring them. Labels are currently commonly used to communicate the nutritional and dietary benefits of these branded foods and, in fact, HC has come under criticism lately for its perceived non-transparent approval of such health claims (Schmidt, 2010). It is important to state that this type of food label information is both positive and voluntary. It is difficult to imagine that negative warning labels,

advising vulnerable consumers of some level of risk associated with the consumption of a food product (ready-to-eat meats for instance), would likely be implemented under a voluntary scheme. Mandatory labeling seems to be the only plausible way for negative risk information to be presented on food products. The following recommendation is made with the above noted discussion in mind:

4) HC and the CFIA should explore the potential benefits that product risk or warning labels might have for vulnerable persons. Specifically, these labels could be introduced on foods that harbor a heightened risk of being contaminated with *L monocytogenes.* They should also explore whether government endorsed food safety related information and governmental resources (i.e., web page information) should be provided on product labels.

Sections 4.7.4 and 4.7.5 described in considerable detail how HC's approach to PI lacks transparency. While HC has taken some important steps to address this problem, such as implementing the voluntary disclosure initiative and publishing PI performance reports (though not since April of 2007), there is a clear contradiction between the agency's professed commitment to reporting upon PI activities and the degree to which it actually reports on these activities. The lack of a systematic, continued branch wide approach to reporting upon PI activities and the lack of easily accessible information disclosing the way in which public input has been incorporated into decision-making demonstrate HC has not met its own stated obligation towards openness and transparency. Though the HPFB has an office devoted entirely to PI - the Office of Consumer and Public Involvement - the Branch has been unable to match its stated commitment to openness and transparency with a suitable level of action. The type of information provided from one PI process to another is inconsistent and when information is provided, it repeatedly fails to reveal how PI exercises influenced decision-making. From these results, we can make the conclusion that HC's approach to PI is not wholly transparent. The ensuing discussion, and recommendation is made on the basis of this conclusion.

HC's failure to live up to its own standards of openness and transparency is not aided by flaws in its website. In this day and age, the pervasiveness of the Internet makes it a reliable source of information. If a governmental organization wishes to be transparent in decision-making, it is highly likely that the Internet is the primary vehicle through which it will disclose information. Websites have the potential to reach the largest possible audience and can make information instantaneously available at a few clicks of a button. Having said that, one does not find information on public involvement very easily at the HC website. The most logical sequence of links would take one from the *Health Canada* homepage, to *Food and Nutrition* to *Public Involvement and Partnerships* (which is pretty straightforward). However, on this last page, one will find very little in the way of an organized, coherent and comprehensive list of PI initiatives. The initiatives are separated into two categories, Current Consultations and Past Consultations with the latter category being incomplete. Though the list appears to be chronological, most listed consultations have no date associated with them. Furthermore, clicking on most of the links brings one to the original consultation invitation page and apart from the few summary links, information on the results of the consultation processes are not provided.

HC interview respondents recognized that funding needs to be devoted to the area of transparency in decision-making. Increased funding can have a number of potential benefits. Still, an organization cannot have openness and transparency if there is no reliable channel through which to provide information. With that in mind, the following final recommendation is made to improve transparency in public involvement at HC.

5) HC should improve its website to make it easier for users to obtain information on current and past consultation processes. Categorizing consultations according to food related topics and presenting information in clearly identified chronological categories are two ways in which improvements can be made.

Table 6.3, presented provides a summary of the conclusions reached through this research and the various recommendations that correspond with them.

Table 6.3: Summary of conclusions, and the recommendations that flow from them

Conclusion	**Ensuing Recommendation**
A fundamental weakness of HC's approach to public involvement is that it has failed to provide laypersons with the same higher-level consulting opportunities that it has provided professional stakeholders.	1) Provide an electronic forum, similar to the one used by the British Food Standards Agency or the one endorsed by Renn (2009), through which the lay public can interact with officials at HC and the CFIA. Such a forum can be used as a vehicle to discuss an assortment of relevant issues, including the risk of illness due to the consumption of foods tainted with *L. monocytogenes*. 2) Place laypersons on all scientific, technical and expert advisory committees and subcommittees.
HC's and the CFIA's approach to risk communication does not adequately provide dialogical opportunities for the lay public.	Recommendation 1) described above.
When it comes to risk communication, the federal food safety partners do not place enough emphasis on collaborating and coordinating with key stakeholder groups.	3) Create a permanent forum through which partnerships could be built among organizations involved in communicating food safety and food risk information. This could take the form of a committee or stakeholder forum, amongst other possible methods, and would serve to bring together those parties interested in or currently delivering risk communication materials designed to reduce the incident of foodborne *Listeria* (amongst other foodborne illnesses) and who are in a position to disseminate key information during an outbreak.
Risk communication in Canada is overly general and will likely remain general until such time that the federal food safety partners a) improve the way in which foodborne surveillance, consumer behavior and risk communication campaign performance data are collected and (b), broaden the methods through which they disseminate information.	4) HC and the CFIA should explore the potential benefits that product risk or warning labels might have for vulnerable persons. Specifically, these labels could be introduced on foods that harbor a heightened risk of being contaminated with *L monocytogenes.* They should also explore whether government endorsed food safety related information and governmental resources (i.e., web page information) should be provided on product labels.
HC's approach to PI is not wholly transparent.	5) HC should improve its website to make it easier for users to obtain information on current and past consultation processes. Categorizing consultations according to food related topics and presenting information in clearly identified chronological categories are two ways in which improvements can be made.

6.4 Concluding Remarks

Two fundamental implications are drawn from this research. First, this study has shown that the risk to vulnerable groups (particularly seniors) posed by the bacterium *Listeria monocytogenes* has not been significantly mitigated through any public involvement undertakings with the lay public nor through any fundamental action in the area of risk communication. Second, the approach to public involvement at Health Canada and the Canadian Food Inspection Agency fails to fully consider and represent the interests of the lay public. Having focused on the food safety governance equivalent of the mitigation phase of the disaster management cycle reveals that risk communication and public involvement undertakings can be improved to further mitigate the effect of a food safety disaster.

While HC and the CFIA, the two principal federal actors in the food safety governance system, have instituted important changes to their approach to public involvement and risk communication since the listeriosis outbreak, their approach in these two areas can be improved. The CFIA has not historically shown itself to involve the public in decision-making. Since the outbreak it has become slightly more open and has begun to consult with external experts in the field of food safety. So far, these changes have been minimal. The absence of a clearly defined public involvement implementation plan will continue to limit its efficacy at involving the public. Though HC has historically involved the public in decision-making, its approach has and continues to focus largely on involving technical and scientific experts, rather than laypersons. HC and the CFIA have a leadership position in the arena of food safety that includes industry and not for profit food safety and health organizations. Though non-profit organizations and industry were observed to have made changes since the listeriosis crisis, the leadership of the federal food safety partnership dictates the scope of these activities.

Certain strategic changes can lead to improvement to the overall risk communication and public involvement approach. These changes echo what has been identified to be important by the research participants and in the literature: promoting dialogue between the lay public and officials, directly involving laypersons in decision making, exploring alternative methods of communication such as food labels, creating a forum through which organizations can collaborate and, finally, improving electronic access to information.

While the stated recommendations would improve the state of public involvement and risk communication in food safety governance, these recommendations should be considered within a larger context. Chapter III opened with the assertion from Waarden (2006) that 'western' citizens have become increasingly concerned with product quality and safety of their food supply, even while many experts exalt that the modern food supply has become safer over time (Roberts, 2009). Modernization has brought with it new types of food risks and food hazards and new expectations as to how those risks and hazards should be handled. In fact, modern food safety risks fall under the category, manufactured risks, which Giddens (1999) identifies as having been created by the scientific and technological progression of human development. How we have come to deal with these modern risks, through regulation, is consistent with responses contained in Ulrich Beck's (1992) notion of a risk society: a systematic way of dealing with the hazards and insecurities induced and introduced by modernization itself.

And even though there is this expectation of the public that food safety should fall under strong regulatory and enforcement action (which carries with it an equally strong commitment to consult and communicate) de-regulation (and less consultation) is always probable, particularly in a neo-liberal political context. It is somewhat peculiar that stringent regulation and enforcement of the food sector is more strongly affirmed by government after, rather than before,

food safety crises, as was the case with the listeriosis outbreak. While HC and the CFIA seem to be moving in the direction of better risk communication and more public involvement, their approach does not remotely resemble the revised food safety governance framework proposed by Ely et al. (2009), wherein participation and communication span the spectrum of the regulatory/enforcement cycle, i.e., framing, assessment, evaluation and management. Having a system of participation and communication in place that has a clear focus on laypersons, promotes a regulatory and enforcement culture that is less likely to become captured by those parties the system is tasked to regulate and enforce.

Moving beyond the scope of this work, more research is necessary to gain an understanding of the institutional mechanisms that can advance the participation and communication objectives of the revised food safety governance framework (Ely et al., 2009) in Canada. Comparing Canada's approach to that of other countries, such as Great Britain, Germany and the United States, can also promote an understanding of Canada's approach in relation to its modern counterparts and can potentially identify opportunities for improvement. Finally, it is clear that continued work is also necessary in the area of risk perception, to gain greater understanding of the gaps between layperson risk perception and scientific risk assessment.

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Appendix A

Year to year description of consultations and methods undertaken by HC's Health Product and Food Branch

April 2004 - March 2005

Consultation Issue	Consultation Method
HPFB Public Involvement Framework	Workshop Web posting feedback
Food Allergen methodologies	Workshop
Food Directorate Stakeholder Forum	Workshop
Identification of irradiated foods and ingredients in meals served by food service establishments	Workshop
Interactive nutrition label and quiz (qualitative research)	Focus Group
Food fortification (see Section 2.3.1)	Focus Group
World-wide Codex Standards for Food Safety, Nutrition, and Quality	Public meeting Web posting feedback Mail out feedback
Feedback for development of a pilot information training session.	Survey Web-posting feedback Mail out Feedback
Comment period for the Draft Nutrition Recommendations for Canadians	Web posting feedback
HPFB Draft Policy on Voluntary Statement of Information **for** Public Involvement	Mail outs feedback

April 2005 - March 2006

Consultation Issue	Consultation Method
Food allergen issues and solutions	Consensus conference
Health Canada International Symposium on Drug, Food and Natural Health Product Interactions	Symposium Public meeting Web posting feedback
Information workshop to the food industry on improvement of allergen prevention practices	Workshop

Draft of the revised Canada's Food Guide to Healthy Eating	Focus Group
Usability testing of Food Guide Web site mock-ups	Focus Group
Stakeholder consultation on draft content for the revised Canada's Food Guide to Healthy Eating (2005–06)	Bilateral Meeting Bilateral Meeting Survey
Meeting with provincial and territorial governments on the development of a national strategy on public health outcomes for food safety and nutritional quality	Bilateral Meeting
HPFB Review of Regulated Products: Policy on Public Input	Electronic Dialogue
Executive interviews with intermediaries who promote healthy eating in multicultural communities	Interview
A multi-stakeholder task force, co-chaired by Health Canada and Heart and Stroke Foundation of Canada, on healthier alternatives and strategies to eliminate or reduce processed trans fat	Advisory Bodies
Animal Livestock Cloning for Food Use	Mail out feedback
Labeling of Unpasteurized/Pasteurized Fruit Juice/Cider	Mail out feedback Electronic Feedback

April 2006 - March 2007

Consultation Issue	**Consultation Method**
Training workshop on the preparation of Novel Food Submissions	Workshop
Consultation on Health Canada's revised document on antimicrobial categorization	Technical Consultation
Consultation on revised mercury risk management strategy	Technical Consultation Bilateral meeting Public meeting Roundtable
Five U.S. generic health claims considered for use in Canada	Technical Consultation Web posting feedback
Qualitative research on layout, comprehensiveness and understanding of content in a draft Food Guide Resource for Intermediaries and Qualitative research with triads on Food Guide	Technical Consultation Focus Group Technical Consultation

consumer resource	Focus Group
Usability testing of Food Guide and My Food Guide Web site mock-ups – draft #2	Technical Consultation Technical Consultation
Food Guide Regional meeting – post launch	Public meeting
Development of Canadian input into the elaboration of world-wide Codex standards for food safety, nutrition, and quality	Public meeting Mail out feedback Web posting feedback
Blueprint for Renewal	Bilateral meeting Electronic Consultation
Modifications to Health Canada's Unpasteurized Juice Policy Raw Milk Cheese Code of Practice	Mail out feedback Web posting feedback
HPFB Review of Regulated Products: Policy on Public Input	Mail out feedback Web posting feedback

Appendix B

Health Canada Respondent #1 & Canadian Food Inspection Agency Interview Schedule

1) The current DRAFT Policy on LM in RTE foods differentiates between category 1 and category 2 foods. My understanding is that category 1 foods carry a NIL tolerance level of Listeria Monocytogenes per gram of RTE food. Is this accurate? How often is this standard going to be reviewed to see if it needs updating/resetting?
b) Apart from federal government actors, which stakeholders are given an opportunity to review the standard?
c) Why was the standard changed?

2) During the current consultation process on the Draft policy of Listeria in RTE foods, how do you ascertain that the people you are consulting with constitute a balanced representation of the general population or a balanced representation of vulnerable groups?
b) How did you involve interested parties?
c) Are there any other regulatory and policy changes being made with respect to food safety?
d) Is there public being consulted in that regard?

3) The HC website reads that "Health Canada is working with the Public Health Agency of Canada and provincial/territorial partners to provide guidance to long-term care facilities around food safety practices."
What work is being referred to here?
b) what level of involvement is there on the part institutional or facility representatives?
c) what other actors have been solicited for involvement?

4) The HC website reads, "Health Canada is in the process of developing an awareness campaign targeting those at greater risk for complications from foodborne illness."
Who or which groups, apart from federal actors, has/have contributed to the development of this campaign?
b) Are vulnerable groups or interested parties going to be involved in helping to inform what is needed for the campaign to be successful?
c) What is the long-term vision?
d) is there a follow-up plan in place to ascertain whether the campaign will be successfully implemented (follow up of some kind)?

5) How has the *risk communication* policy on LM in RTM changed since the Listeriosis outbreak of 2008?
b) Has the pubic, particularly vulnerable groups, been consulted as to how they would like receive messages about food handling and food risks?
c) How were these groups consulted prior to the outbreak?

6) How does your agency determine the extent to which the public at large or vulnerable populations understand food safety risks and to ensure they adjust their behaviors accordingly?

7) Apart from the information available on the internet, what methods does your agency employ

to communicate to vulnerable groups the risks from *L. monocytogenes* associated with the consumption of RTE meats?
b) has there been a consultation program that informed these methods?

8) How would you characterize your agency's approach to public involvement? (What opportunities for interaction are there? How can the general public communicate its concerns? Can it meet face-to-face with decision makers?)

9) Do you feel the public generally trusts the agency fulfilling its mandate - to ensure the food they eat is safe and to take help inform the public about food handling?
b)What has your agency done to restore/maintain/increase trust in the realm of food safety since the 2008 Listeriosis outbreak?

10) What targeted measures has your agency employed to communicate directly with vulnerable populations the risks associated with the consumption of RTE foods? Has your agency considered precautionary labeling?

Appendix C

Public Health Agency of Canada Interview Schedule

1) One of your agency's reported mandates is to "prevent and control infectious diseases." With respect to this mandate...
b) What policies and programs are currently being utilized to help prevent listeriosis among, 1) the general public 2) vulnerable groups?
c) Does the PHAC conduct research or outreach activities to determine the methods through which messages are received and acted upon by these groups?

2) How would you characterize your agency's approach to public involvement? In other words, what opportunities for interaction are there between your agency and the general public/vulnerable groups/institutional actors?
b) Through which means are these actors able to communicate their concerns?
c) Are their opportunities for follow up?
d) Can they meet face-to-face with decision makers or agency representatives?
c) Are special arrangement made to involve vulnerable, at risk or stakeholder groups?

3) If you have come across the Public Involvement Framework for HC and the PHAC could you speak of those instances it has been incorporated into decision-making activities in the Agency?

b) Are there instance with respect to foodborne hazards in which these public involvement activities form the basis of policy decisions?
c) Are you aware of any surveys or statistical data that has guided policy in general and risk communication policy specifically?

4) The HC website reads, "Health Canada is in the process of developing an awareness campaign targeting those at greater risk for complications from foodborne illness."
Has the PHAC contributed to the development of this campaign?
b) which private/citizen/industry groups or parties had or are involved in planning or developing the campaign?
c) Is there a plan in place to ascertain whether the campaign will be successful (follow up of some kind)?
d) Why is the impetus for the campaign?

5) The HC website reads that "Health Canada is working with the Public Health Agency of Canada and provincial/territorial partners to provide guidance to long-term care facilities around food safety practices."
What work is being referred to here?
b) what level of involvement is there on the part institutional or facility representatives?
c) what other actors have been solicited for involvement?
d) Relating back to the framework, with which levels would you characterize their involvement?
e) Why has it been decided upon to involve them?
f) How does HC determine the extent to which institutional food providers understand food safety risks and to ensure they make informed food preparation choices?

6) Would you say that your agency successfully adapts the location and form of risk messages to fit the preference and media consumption patterns of the target audience?
b) Could you speak of how it has done so with respect to food safety threats such as Listeria?
c) Which mediums does your agency employ to reach vulnerable groups?
d) What about with managers/staff of health care or senior care facilities?
e) Much information is available about food handling and food safety risks online directly on the CFIA's and other government websites. Is it available elsewhere, in any other form or through any other mediums?

7) Has the PHAC's preventative (i.e. risk communication message, outreach activities) approach changed or been impacted by the 2008 listeriosis outbreak?

8) What are the challenges the agency faces in communicating risk to 1) the general public 2) health professionals/senior care home professionals 3) at risk, vulnerable people

9) Do you involve the above noted (Question 8) groups of individuals in the drafting of policies?

Appendix D

Health Canada Respondent #2 Interview Schedule

1) How does ## determine weather the public's involvement in decision-making is warranted?

2) Do you think ## can improve its openness and transparency or is it adequate?

3) Were/are laypersons provided with adequate opportunities to consult with ##?

4) What about compared to experts?

5) What were or are some of the impediments to openness and transparency?

6) In your time at ##, were there issues for which you would have liked to have consulted groups but were unable to do so?

7) What were the major impediments towards consultation at ##?

8) How can ## make improvements in consulting with the public?

Appendix E

Industry Respondent Interview Schedule

1) Food safety is said to be a shared responsibility between government, industry and consumers. Speaking on behalf of Maple Leaf, in what capacity have industry players, including Maple Leaf changed their approach to food safety over the course of the last 5 years or so?
No change like in what has occurred

b) What about as a communicator of risks concerning the consumption of certain foods? Has the role of Maple Leaf changed considerably in that regard?

c) With respect to RTE foods, which communication methods does the industry use (ie: Internet) to reach customers/vulnerable groups/stakeholders?

2) It is known that (i) seniors are relatively more vulnerable to listeria, and (ii) proper cooking kills listeria bacteria. How confident are you that vulnerable groups are aware of this link?
b) What about those who oversee (Assisted living institutions/ Provincial Health Care institutions) food decisions for vulnerable people?

3) Has your company made any efforts to change risk communication messages since the 2008 Listeria outbreak?
If yes, the form of the message or the content or both? Could you site some examples?
b) Who is the target audience of your risk communication messages?

4) In what manner do you feel the public should be involved in food safety decision making (indirectly/directly, collaboration/consultation etc....)? As far as your knowledge on the matter is concerned, do you think stakeholders (other than Industry) are consulted with or partnered with sufficiently when it comes to food safety regulations, enforcement activities and risk communication messages.

b) From an industry perspective, at which stage in the process do you think the public should be consulted or partnered with when regulatory decisions are being made?

c) HC identifies the food processing industry as an important stakeholder. In your opinion, is industry involvement in food safety decision making sufficient. How would you categorize your involvement with regulators such as HC - as a recipient of information, as consulting stakeholder or as a decision making partner? Is Maple Leaf satisfied with its relationship to HC/CFIA/PHAC?

5) Does your agency consult with consumers (directly or indirectly) when making changes that could affect them?
b) For instance, changing the recipe of a product that would reduce the level of preservatives, thus impacting their risk to becoming ill?
c) Have you considered product labels for RTE foods where there is a strong risk for vulnerable individuals or which are destined for institutional clients?

6) Knowing that vulnerable groups posses a heightened vulnerability to listeria, what recommendations do you make to companies or institutions that purchase RTE foods from Maple Leaf which they intend to serve to at risk groups?
b) Has this policy changed since the listeriosis outbreak?
c) do you provide recommendations to institutional clients as to the manner in which food should be prepared for vulnerable groups? For instance if a recipe for less sodium has been requested?

7) Who bears the responsibility to educate vulnerable consumers about the threat posed by the consumption of at risk foods? Where does Maple Leaf feel improvements need to be made?

8) How can trust between the public and industry, government regulators be restored or maintained?

Appendix F

Consumer Group, Non-profit Health Association Interview Schedule

1) I was hoping that we could begin by having you speak a little bit about the food safety survey you took part in recently (reserved for consumer group respondent)?

2) In your knowledge, how is the public generally, or stakeholders specifically, solicited to provide their views on regulations and enforcement procedures within HC, CFIA and PHAC?

3) Do you feel that important stakeholders are adequately involved in food safety issues in Canada? Are they given a change to participate in the framing, assessment evaluation and management of issues?

4) In which regard is their involvement lacking in particular?

5) Would you say that the federal partners are generally transparent in the regulation and enforcement of food safety?

6) HC and partners have made efforts recently to consult with the public, including senior care home providers. Have you come across opportunities in this regard?
b) What form did this opportunity take?
c) As far as you have heard or your experience has gone, have you or your peers had an opportunity to meet with regulators and influence policy decisions?

7) What would you like to see HC and partners do specifically to improve communication to the public at large concerning food handling and risks?

8) Would you say that the public has a strong voice in food safety regulations/policies in Canada? Are they listened to? Do they have a position at the decision making table? How differently would you like to see the public involved on issues related to food safety?

9) It is known that (i) seniors are relatively more vulnerable to listeria, and (ii) proper cooking kills *L. monocytognes* bacteria. Are you aware of these facts? Do you think HC and the PHAC adequately informs the public about vulnerabilities and food handling? About which particular class of foods are more risky than others?

10) Certain issues have a larger effect on one group over the other. How does your organization ensure that there is not an overrepresentation of subgroups viewpoint on an issue where that group is less affected by a decision than another demographic that is more vulnerable?
b) If yes, does your organization represent the needs of special groups of individuals and in what manner?

Appendix G

Academic Advisory Committee Member Interview Schedule

How much influence would you say the advisory committee had?

What was the reason given to members for the cancellation of the committee?

Could you interact directly with Branch officials?

Did the agency act upon your recommendations?

Do you feel the PAC provided valuable information to the Agency?

How do you feel the HC handles risk communication?

Do you think that the agency has done a good job of soliciting the opinion of the public?

Appendix H

Senior Care Facility Interview Schedule

1) With respect to the risk from foodborne illness, are you aware which foods are more risky for your clients than others? Does this knowledge influence the foods you provide your clients?

2) It is known that (i) seniors are relatively more vulnerable to Listeria, and (ii) proper cooking kills Listeria bacteria. Are you aware of these facts? Are seniors served (among other food items) RTE meat that has been reheated or are they served unheated RTE meat as well?

3) Are the seniors consulted regarding what food they are served?

4) Do you base food selection on any particular food guide, such as the Canada food guide? Is there a systematic way in which your organization is informed of dietary recommendations made from the federal partners, HC, CFIA and PHAC?

5) Are you bound to make nutritional decisions based on food handling information that might be provided to you from HC or the PHAC?

6) Have the federal partners prohibited the selection of foods to residents that from their perspective, puts residents at risk of foodborne illness? (site example of soft/hard boiled eggs).

7) Do you think the federal food partners do enough to communicate important policy changes?

8) If you take yourself back to the listeriosis crisis of 2008. Could you tell me what you remember learning about listeriosis during the crisis that you did not know before? If you did learn something, what specifically did you learn and through what means, the media, the industry rep's, the government?

9) Do you actively seek information concerning food advisories? Where do you seek this information? Is there a better way you might want to receive such information?

10) Are you required or are employee's who prepare food for your clients required to complete food handling courses?

11) Do you regularly read product labels when selecting one food type over another?

12) HC and partners have made efforts recently to consult with the public, including senior care home providers. The HC website reads that "Health Canada is working with the Public Health Agency of Canada and provincial/territorial partners to provide guidance to long-term care facilities around food safety practices."
Have you come across opportunities in this regard?

13) Who would you contact with questions concerning food safety?

(Questions 14 - 17 reserved for Headquarter respondents).

14) Do you think the federal food partners do enough to consult with stakeholders about regulatory and policy changes?

15) Would you like to see them actively solicit the opinion of or involve dieticians or food staff from this unit?

16) I'd like to get a sense for how information flows from HC to your health unit. So for instance, if there is a determination that the consumption of a particular food is harmful for your residents, who are the contacts and how is this information disseminated.

17) What would you like to see HC and partners do specifically to improve communication with this department

Appendix I

Academic Interview Schedule

1) The current DRAFT Policy on LM in RTE foods differentiates between category 1 and category 2 foods. My understanding is that category 1 foods carry a NIL tolerance level of Listeria Monocytogenes per gram of RTE food. Have you heard much of this new draft policy?
b) Apart from federal government actors, have you some idea as to who reviews the standard?
c) Why do you think the standard changed?

2) Have you personally been involved in processes where the public has been consulted on enforcement activities at the CFIA?
b) Can you speak about the consultation processes?

3) While the use of preservatives in RTE foods is voluntary, in the case of the 2008 Listeriosis outbreak, the decision to reduce the levels of sodium in food seems to contradict all food handling suggestions made by HC to the general public.
b) How effective are sodium-based preservatives in RTE meats at reducing the probability that they might harbor Listeria Monocytogenes.
c) Do you think the public understands the dietary and foodborne illness trade off in RTE foods?
d) Is it a mistake to reduce sodium levels in RTE foods destined for vulnerable populations?

4) With respect to Listeriosis, do you think that HC and the CFIA effectively direct their attention towards risk communication? Also, in understaning the way in which the public perceives this risk?

5) The CFIA moved towards a Hazard Analysis Critical Control Point (HACCP), was the public consulted/informed about this change? b) How do you ascertain that the people you are consulting with constitute a balanced representation of the general population?

6) Has this change made Canadian ready-to-eat meat products safer?

7) What are the drawbacks to the newly implemented CVS? What are the benefits?
b) Did the move to the compliance verification system contribute to the 2008 listeriosis crisis?
c) Was the public consulted about the change to the new system?
d) In what way is the public informed that such inspection changes are taking place?
e) Are there any risks in CFIA relinquishing a level of control in moving towards industry self inspection?

8) In the fall 2009, the CFIA met with consumers and consumer association representatives across Canada to educate them on issues such as CFIA's role in food recalls and food safety investigations and to consult with them on how they wanted to receive information on these subjects.
Are you aware of these activities?

9) Do you think the CFIA is adequately open and transparent

Appendix J

Focus Group Interview Guide

Are you confident that the food you purchase is safe?

Do you feel you know much about foodborne illness?

What precautions do you take for protecting yourselves from foodborne illness?

Are there particular foods you stay away from in general?

- which foods?
- Has this changed as you have gotten older?

Which people do you believe are at greatest risk from foodborne illness?

Do you feel you are at a greater risk from foodborne illness than the general population?

Where do you obtain most of your information about food safety?

Have you heard of listeriosis?

- What do you know of listeriosis?

If you are to be informed about safe food handling advice and about which foods harbor a greater risk, how would you do so?

What recommendations would you make to improve how information is communicated to you?

- Or to make food safer?

What do you think about this brochure?

- Have you seen the brochure before?

Who do you trust the most about information concerning food safety or food risk

Does anyone here know of the Listeriosis outbreak of 2008?

- Were you impacted by the crisis
- Could you tell me what you remember learning about Listeriosis during the crisis that you did not know before?

What is the way in which you would like to hear about information concerning food safety?