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Identifying and characterizing the health promotion practice of Alberta Health Inspectors

by

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DEDICATION

This thesis is dedicated to family; my wife Komali's love, support, critical assessment, encouragement provided necessary motivation to complete the study. The love and patience of my daughter Anushka, and son Tejas were important morale boosters. My mother Lily, father Basil, and my brothers Rajeshwar and Rikhye and their families for their inspiration and commitment to my education. My thanks also go to my in-laws Dr. D.B. Naidoo and Kruschid Naidoo who encouraged me to complete my Masters. I am very proud and grateful for everyone's support in this long endeavor. Those who started the journey with me and did not see it end, Johnny and Gyp, I am sure you are keeping each other company and watching from afar.

ABSTRACT

This study identified and characterized how health inspectors practiced health promotion. A literature-derived policy framework, the social determinants of health, and Ottawa Charter (WHO, 1986) were used in a mixed-method research design of interview, survey, and document analysis. Fifteen health inspectors were interviewed, 51 surveyed and four key policy documents were analyzed. Content and statistical analysis revealed that health inspectors practiced health promotion opportunistically and unintentionally, creating an incremental, inconsistent approach when enforcement of public health policy (health protection) did not resolve individual client needs. The evidence supported the assertion that without clear policy and leadership health promotion practice was inconsistent and uncoordinated. Research following on from the study's findings should be focused on identified facilitators and barriers of public health policy implementation building organizational capacity for health promotion practice. This study demonstrated that health protection and health promotion can work together to maintain and enhance the health of Albertans.

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1. INTRODUCTION

Alberta public health inspectors are responsible for implementing provincial regulatory health policy. They are mandated and empowered by the Government of Alberta through legislative policy to ensure that minimum standards of hygiene and safety are maintained in areas that affect public health. The acknowledged implementation method is health protection, which is the enforcement of regulatory policy. This approach strives to ensure consistent and fair application of public health standards across Alberta. Implementation, however, is limited to enforcement, which is not always appropriate for all situations. An enabling approach, such as that advocated through health promotion, does allow more policy options when dealing with unique situations. This study, through the use of a mixed-method research design, sought to understand public health policy implementation by identifying and characterizing health promotion practice within the regulatory public health protection context in Alberta.

The World Health Organization (WHO) (1999) believes that public health policy must enable a healthy environment for communities and individuals. Health policy is considered to be a consensus on health issues, goals, and objectives (WHO, 1999, p.1). Two important public health policy implementation methods are health protection and health promotion. Health protection, based on the work of Hall (1964) and the Government of Scotland (2011) is defined as identifying public health risks, protecting the public from exposure to those risks, and limiting impact where exposure is inevitable. The Lalonde Report (Government of Canada, 1974) identified that environmental conditions pose a greater risk to health than shortcomings associated with healthcare delivery. Justice Hall (1964) noted that community action on health problems has long been a Canadian tradition.

Health promotion, as defined by the World Health Organization (WHO, 1986, p.1) focuses on enabling people to control and improve their health. Voytecky (1986) stated that health protection and health promotion are viewed as parallel approaches; however he contends that the two complement each other, and if an integrated health protection health promotion approach could be developed it may achieve stated national health objectives. Ideally, health protection and health promotion work synergistically to maintain and enhance the health of Canadians. However, Voytecky (1986) acknowledged that the two approaches rarely work together in practice.

Alberta Health Services (AHS), legislatively responsible for publicly funded healthcare services in Alberta, was created by the Government of Alberta on May 15, 2008, amalgamating multiple healthcare delivery systems under one umbrella organization (Government of Alberta, 2008). Included in the amalgamation were the nine existing environmental health programs that became Alberta Health Services – Environmental Public Health (AHS-EPH) (AHS, 2010). Environmental health programs attempt to control factors in the environment that may have a negative impact on human health (Council of Managers of Environmental Health [CMEH], 2001). AHS-EPH includes all the health inspectors in the province designated as Executive Officers of the Public Health Act of Alberta (Government of Alberta, 2010). Provincial legislation, specifically the Public Health Act (Government of Alberta, 2010) and Alberta Health and Wellness (AHW), the provincial ministry of health, create the guiding regulatory policies that enables the public health mandate for AHS-EPH, the organization.

AHS-EPH has defined the regulatory public health policy implementation approach as a risk-based, coercive enforcement of the Public Health Act and Regulations. This approach is well-articulated in policy and in the practice of the organization and the individual health inspector. However, this is not the only approach available: the practice of health promotion offers the option to engage in non-coercive, capacity-enabling actions. If, when, and why health inspectors

choose this approach over the dominant, organizationally approved approach was the subject of this study. The aim of the study was to demonstrate public health policy implementation within the context of health protection in Alberta.

1.1 RESEARCH PURPOSE AND QUESTIONS

This study demonstrates public health policy implementation by identifying and characterizing health promotion practice by Alberta health inspectors. It also investigated facilitators and barriers that affect the capacity of health inspectors to practice health promotion within this regulatory health protection context. One of the study's key concepts was to define the capacity for health promotion practice. If capacity existed for health promotion, then identifying and characterizing that practice was a logical objective.

Specific research questions were posed that focused on the personal and organizational capacity for health promotion practice within AHS-EPH.

The research questions were:

1. What was the current state of health promotion practice within AHS-EPH?
2. What were the policy facilitators and barriers that affect the capacity for health promotion practice by the organization and the health inspector?
3. What was the effect of capacity on the ability of AHS-EPH and individual health inspectors to practice health promotion?

The foundation of the study was policy implemented by public health inspectors. The Public Health Act (Government of Alberta, 2010) is the key regulatory policy used by health inspectors. Their participation in the study offered an opportunity to obtain practice- based evidence of facilitators or barriers to health promotion practice. Personal and organizational capacity for health promotion practice within this context was heavily influenced by facilitators and barriers. Capacity affected the practice of health promotion within the regulatory, health protection context.

By focusing on one organization, AHS-EPH, and one concept, health promotion practice, the study illuminated how health inspectors affect public health policy implementation.

1.2 BACKGROUND

AHS-EPH was the study's focus to understand how organizational implementation of public health policy affected health promotion practice. The individual health inspector is the subject of study as the implementation agent for public health promotion policy and practice.

Health inspectors are mandated by the Public Health Act (PHA) to implement regulatory public health policy (Government of Alberta, 2010). These policies were critical documents to environmental health protection activities and had an impact on health promotion practice. It was important, to fully ground the research in both policy and practice, to obtain the perspectives of the health inspector regarding policy implementation. Facilitators and barriers within policy texts, organizational structure, and individuals affect the capacity to practice health promotion within a health protection context.

Health protection in Alberta is the primary role of AHS-EPH health inspectors. The organizational flow chart specifies field staff, Supervisors, Managers, and Director. Field inspectors perform policy actions, Public Health Act-mandated inspections in which policies interact with the public mediated by the health inspector. Supervisors tell field inspectors how to implement policy, and forward feedback from the field to the managers. They are responsible for the daily overall operations of AHS-EPH and are responsible to the Director for performance metrics. The Director is responsible for all of AHS-EPH, reporting to AHS according to policy. Together, the Director, Managers, and Supervisors, transform policy documents into policy action by planning and communicating policy implementation actions.

Examining how health inspectors implement policy provided insight into the method of public health regulatory interventions. The Public Health Act of

Alberta (Government of Alberta, 2010) outlines wide responsibilities for health inspectors. A necessary part of this study was to understand how that regulatory policy was implemented and how it impacted the health of individuals. Demonstrating health inspector's use of health promotion principles as part of regulatory health protection may support the perspective of Voytecky (1986). Health promotion and health protection may have a greater impact on public health working together than either working alone.

2. LITERATURE REVIEW

2.1 INTRODUCTION

A review of the relevant literature is an important first step in any research project. The literature enables a study to be focused and limits the scope to a reasonable size. A history, past and current findings, and terminology of the subject area are all found in the literature. The literature provides necessary information to frame the research questions, format the data collection methods, analyze the evidence, and inform future research and recommendations (Creswell, 2009). The literature search for this study was based on both a structured process, and researcher experience. This dual process was used because policy is often not found in the peer-reviewed literature but in gray literature. Turner (2005) defines this type of literature as not available through the usual process because of its diversity and non-traditional format. Finding this literature can be problematical; however researcher experience guided the process.

2.2 LITERATURE SEARCH METHODS

The literature search was conducted using three methods: keyword database search, reference list review, and researcher experience. The database search used keywords and phrases: health promotion, health protection, public health policy implementation, Ottawa Charter, social determinants of health, and health inspectors. These keywords were derived from the basic focus of the study encompassing public health policy implementation. The experiences of the researcher as a practicing health inspector also influenced the keywords that were used, and enabled access to gray literature. That focus was further refined as health inspector practice of health promotion. Journal databases were chosen based on the description of their contents. First those databases dealing with health sciences were chosen. Then databases containing health policy, health promotion, public health, or multi-disciplinary content were examined. The two

databases searched were CBCA Complete, and CINAHL Plus. CINAHL Plus focuses on nursing and allied disciplines. Nursing studies often use qualitative or mixed-methods designs, which was applicable for this study. CBCA Complete is comprised of multidisciplinary health sciences research. Public health, health promotion, and health protection are often studied from a multidisciplinary perspective. Both databases were searched with the keywords singular and combined as phrases. Documents were identified as relevant by reviewing the abstracts and looking for use of health policy pertaining to health protection, health promotion, or health inspector practice. Once documents were found by the database search their citation sections were reviewed to find more literature.

Gray literature was found through the researcher's experience as a practicing health inspector. Other provinces' legislation was found based on discussion with other health inspectors. The Alberta regulatory public health policy is based on the Public Health Act (Government of Alberta, 2010), and the regulations under it.

2.3 PUBLIC HEALTH POLICY AND REGULATION

A health inspector working for Alberta Health Services – Environmental Public Health (AHS-EPH) must be certified by the Board of Certification of the Canadian Institute of Public Health Inspection (CIPHI). Also, to enforce the regulatory requirements under the Public Health Ac, the inspector be designated an Executive Officer of the Act (Section 9, Government of Alberta, 2010). Enforcement of the PHA is synonymous with health protection which attempts to identify public health risk factors, protects the public from exposure to those risks, and limits impact of any exposure. The health inspector, as an implementation agent of public health regulation and policy, operates within a framework defining and setting mandate. There is the defined regulatory framework, created by law and elaborated by various governmental and organizational policies. There is also a policy framework, an ideal process for changing existing policy or creating new policy that reflects the public's current needs. That framework is not static, but

subject to change. Factors such as ideology, economic influences, political and social values, and resource availability can initiate framework change. Individual health inspectors can also, to some extent, influence policy implementation. If they have the knowledge, skills, leadership, and values they may adapt policy to fit changing social needs.

2.3.1 Regulatory Frameworks

Effective regulation helps the regulator implement standards despite the challenges of practice. Current AHS-EPH policy speaks to the "ladder of enforcement" approach to environmental health practice (Appendix A). This approach specifies a series of increasingly punitive measures to obtain compliance with regulatory public health policy. These measures include administrative hearings, closure of facilities, and media exposure. Braithwaite, Makkai, & Braithewaite, (2007) describe a similar enforcement pyramid to the ladder of enforcement approach, but one which reflects a more responsive regulatory approach. They state that regulatory mechanisms use negative reinforcement, that is demonstrates errors, to facilitate learning. The regulatory pyramid described by Braithwaite et al. layers regulatory strategies starting with minimalist 'conversational' ones, to progressively more coercive ones. Persuasion and education are the first response, followed by successively more coercive strategies. This regulatory scheme uses coercion through successive severity of punishment as the instrument of education not rewards.

The enforcement pyramid and ladder emphasize a subject's weakness, or inability, to comply with regulation. Braithwaite et al. (2007) propose another pyramid that would emphasize the strengths of an organization or individual. Any one individual's weakness would be covered by the strengths of another. Instead of an escalating series of coercive measure, it is an escalating series of rewards contrasting shame and pride, sanctions and prizes (Braithwaite et al.). This pre-supposes that individuals subject to public health regulatory policy fall into one of three categories: the "virtuous actor" who would be on the strengths-based

pyramid, the “rational” actor whom the inspector could move between pyramids to coerce and encourage compliance, and the “incompetent” or “irrational” actor who would swiftly move up the enforcement pyramid (Baldwin & Black, 2007).

To be effective, policy must assist the regulator in meeting the challenges of practice. Highly responsive regulation would provide the health inspector with a range of policy options specific to the food establishment or landlord, the organizational culture, and the regulatory environment (Baldwin & Black, 2007). Baldwin and Black also identify one of the main barriers of enforcement as scarce resources. They point out that enforcement strategies such as the ladder and the pyramid do not incorporate other factors affecting the regulator. These strategies overlook factors such as resource constraints, organizational pressures, unclear objectives, regulatory change, and enforcement activities affecting other regulatory activities (Baldwin & Black). Baldwin and Black believe that highly responsive regulation accounts for compliance with regulation, as well as the organization’s operating and cognitive framework, the broader organizational environment of the regulatory regime, the logic behind the regulatory tools and strategies, the organization’s performance with the regulations, and changes to each factor. Health inspectors may act as agents to enforce regulatory standards or to educate about public health risk. A health inspector can be either or both during the same inspection, depending on where the subject of inspection is on the enforcement ladder. The compliance approach may be preferred, because of organizational resources, culture, practices, or broader systemic constraints (Baldwin & Black).

One drawback to the risk-based approach is the focus on known risk with a concurrent lag time in response to new risk (Baldwin & Black, 2007). Changing demographics within an area may introduce new risks that environmental health would be slow to acknowledge. Another criticism is that focusing on higher level risks may allow lower level risks to proliferate, resulting in a broad base of existing lower level risks, and fewer higher level risks (Baldwin & Black).

These different regulatory approaches, responsive, risk-based, and highly responsive all have different advantages for environmental health practice in Alberta. The regulatory approach is driven by the policy process. Understanding the policy process in a public health inspection setting is an important facet of the research. The policy process could significantly affect health promotion practice, because it would govern how, or if, health promotion principles are incorporated into health protection practice.

2.3.2 Policy Frameworks

Although government policy statements are important, translating intentions into actions does not always result in positive health outcomes (Collins, 2005). Resource allocation is a crucial barrier to policy implementation; to design a far-reaching policy (such as health promotion programs) without sufficient funds to implement is a recipe for failure (Oliver, 2006). Vogel, Burt, and Church (2010) stated that overcoming this type of barriers requires equally strong facilitators at different levels in the policymaking framework. This exemplifies how healthy public policy can fail or succeed to support individuals making informed healthy choices. A policy framework helps the researcher and the policymaker to visualize how the policy will affect policy implementers and the target audience. Frameworks assist visualization but suggest that policymaking is a logical, rational, and linear process (Bowen & Zwi, 2005).

There are many different policy frameworks in use. Six are considered here: the ecological model of McLeroy et al. (1988): Bowen and Zwi's (2005) three-stage model: Vogel et al's. (2007) policymaking capacity model: GermAnn and Wilson's (2004) conceptual model of organizational capacity and community development: Collins'(2005) eight-stage tool for decision makers: and Smith et al's. (2001) model for capacity building for health promotion.

McLeroy's et al. (1998) ecological perspective, for example defines individual and environmental causes of behaviour, and then targets interventions to change those behaviours (McLaren & Hawe, 2004). Using this perspective

requires understanding the interaction and reciprocal causation between individuals and their community context: change one to change the other (McLaren & Hawe, 2004). This organic interaction of consultation and policy refinement changes policy implementation over time as feedback from the community affects how governmental and other agencies enact and implement public health policy (McLeroy et al., 1988). Research should respond to the participant's experience (Green, 2006). Public health research specifically should use a recursive, or iterative, method guiding the researcher by the experience of the practitioners discovering relevant data (Green, 2006). Attempting to take results from controlled settings into the community tends to be less effective than "ecological" approaches, such as that suggested by McLeroy et al. (1988) (Green, 2006).

The ecological model describes behaviour as the outcome determined by intrapersonal, interpersonal, institutional, community, and public policy factors (McLeroy et al., 1988). This model determines the environmental causes of behaviour and suggests interventions. McLeroy et al. (1988) posits that change is bidirectional, the environment shapes the individual and the individual shapes the environment. The ecological model further frames the interaction between behaviour and the social environment, and specifies the levels of interaction and type of intervention using interest to generate behaviour change (McLeroy et al., 1988). Society, acting through governmental agencies, employs many different strategies to change individual behaviour. The government policy process starts with making very broad statements of intent or desired ends. Enabling legislation generally provides enacting organizations with the policy tools for implementation. These organizations then further focus the policy by establishing priorities, articulating a programmatic or management framework. Depending on the extent of government commitment, the organizations also assign resources, to implement the policy.

Bowen and Zwi (2005) designed an evidence-informed policy and practice model to describe the diffusion of innovation ideas. They explored how

individual-, organizational-, and system-level values impacted the decision to accept new policy. Their model seeks to incorporate the beliefs and values of policymakers, contending that these factors affect how policy is designed. Individuals have a great influence on policy, as they are responsible for accepting or rejecting innovation. An individual's membership in an organization and total level of skills and training also influence new policy. The Bowen and Zwi model is split into three stages, after the policy idea has been initiated; sourcing the evidence, using the evidence, and considering capacity to implement (Bowen & Zwi, 2005).

Collins (2005) developed an eight stage framework for policy analysis. The eight stages are: context definition; problem statement; evidence search; considering different policy options; outcome projections; criteria for evaluation; considering the outcomes, not the options; and decision-making. This framework highlights the iterative non-linear process of making and advancing policy (Collins, 2005). Iteration, within policymaking as described by Collins, recognizes that policy intentions are often refined, resulting in policy which is more likely designed to have an impact. Policy frameworks allow a clear identification of levels and targets of intervention (McLeroy et al., 1988). Once barriers are identified intervention strategies can be devised to overcome them (McLeroy et al., 1988). These strategies ideally account for the organization's capacity to implement and sustain the changes. A wide variety of factors affect capacity building within organizations.

Bowen and Zwi's (2005) three-level model describes policymaking beginning with the system, organization and then the individual. Vogel et al. (2007) expanded on Bowen and Zwi's framework to examine the importance of individual, organizational, and system level capacity for policymaking. Where McLeroy et al. (1988) separates policy interactions into five levels, the three-level models, such as that of Vogel incorporates indicators within the levels to capture similar influences. For example, within the individual level, Vogel's indicators include knowledge, which is similar to that of the intrapersonal level factor

described by McLeroy. Within the organizational level Vogel identifies processes and procedures which are similar to the institutional level formal and informal rules described by McLeroy. Another comparison occurs at the public policy or system policymaking stage (Vogel et al., 2007). McLeroy emphasized governmental intentions while Vogel focused on governmental values. One of the important facets of these frameworks is their inclusion of external factors that influence policymaking.

GermAnn and Wilson (2004) outline a different policy framework capturing the concept of organizational capacity and community development within an organization. This model breaks the policy process down to three basic levels: organizational, work unit and individual (GermAnn & Wilson, 2004). Unlike the framework proposed by Bowen and Zwi (2005) for evidence-informed policy process, the focus here is on the organizational capacity to support community development.

Smith et al. (2001) visualized capacity building as generated by leadership, capacity development, organizational learning, and health promotion actions. This model also includes an iterative process with feedback loops oriented to increasing the capacity for health promotion actions (Smith et al.). For example, applying health promotion concepts within an organization requires adopting the idea, adapting health promotion concepts to fit the regulatory and operating context of the organization, then implementing, or acting, on that new policy (Bowen & Zwi, 2005).

In their qualitative study of public health target-awareness at two organizational levels, Lindberg and Wilhelmsson (2007) identified that communication was a barrier. They used interviews of policy planners, policy implementers, and document analysis in their study of Swedish public health. The policy planners were county council officials responsible for planning the implementation of national public health targets. The policy implementers were District Nurses (DN). Among many other things, they were responsible for public health; specifically prevention and health promotion. The evidence demonstrated

that although policy planners and policy documents assigned public health responsibility to DN nothing actually indicated that the nurses were specially trained in public health interventions. Despite the lack of specialized training the DN believed they had the necessary skill-set and could perform public health work (Lindberg & Willhelmsson, p. 247). In order to legitimize the public health work they did DN would use projects as a method of implementation. The projects were aimed at different age groups, risk categories, or staff. The DN did not publish the results of the projects, some were evaluated, some were not, and the results from the evaluations were not available. Lindberg and Wilhlmsson's (2007) findings demonstrated a communication gap between policy planning officials and the policy implementers, the DN. The study concluded that success of the national public health targets relied on the county council's ability to disseminate new ideas (Lindberg & Willhelmsson, 2007).

Rutten, Roger, Abu-Omar, and Frahsa (2009), examined the implementation of a health policy promoting physical activity for women in difficult life situations. Their study identified some key determinants of successful programs. These determinants were found at different policy levels (national, state, and local), within their theoretical framework. Some of these determinants were perceived goals, resources, opportunities, organizational values, and competence. Health policy action was correlated with engaging with these determinants. Variables affecting program implementation were policy barriers at the national and state levels. Local organizations did not seem as policy-restricted. Once local organizations had adopted the program, some of the state and national level organizations were policy-enabled to assist the local levels. The national and state organizations could not support the program without the local organizations first implementing the health promotion initiative (Rutten et al., 2009). This approach demonstrates where there are direct barriers to health promotion policy implementation indirect measures can achieve success.

The peer-reviewed literature has demonstrated a variety of methods to implement public health policy. A Canadian provincial example from the gray

literature frames the local setting of health protection and health promotion policy. While Alberta does not have such an integrated policy approach British Columbia has defined the roles of health protection and health promotion in public health.

2.3.3. Canadian Public Health Frameworks – Gray Literature

In 2002 the British Columbia (BC), Ministry of Health, developed the province-wide Framework for Core Functions in Public Health (2005). It outlined four core functions: health promotion, health protection, preventive interventions, and health assessment and disease surveillance. While defining its health promotion strategy BC used the standard WHO (1986) definition of health promotion, encompassing health advocacy, public policy, private versus government sector practice, partnership building and education (Government of British Columbia, 2005). The BC government's health protection definition is proactively focused on involuntary risks that pose actual and potential negative impacts to people (Government of British Columbia, 2005). Health protection is reflected across a continuum through legislation, regulation, inspection, enforcement, and prosecution (Government of British Columbia, 2005). This is very similar to AHS-EPH's risk based ladder of enforcement approach. The BC framework uses the Ottawa Charter (WHO, 1986) as the basis for its health promotion strategy.

Within the BC government's (2005) framework the target population for action is not individuals, but groups or communities. This applies both to health promotion and health protection. While the BC framework mentions the SDOH, it limits public health's ability to influence them as being "outside the mandate or jurisdiction of the public health sector" (Government of British Columbia, 2005, p.48). This limitation reflects traditional public health protection policy and programming, supporting Voytecky's (1986) statement that the two approaches are traditionally viewed as parallel and not complementary approaches.

BC's sequestering of public health from the SDOH is in sharp contrast to Voytecky's (1986) position that public health protection and health promotion should work together to achieve health objectives. Green (2006) also indicates that the determinants of health are important to public health practice, and are not just "confounders" to be controlled in an experimental design.

Frameworks are idealized representations of how policy should be created, modified, implemented and adapted. Public health policy contains both health protection and health promotion features. How health promotion is described and policy created in the Canadian context is instrumental in this study.

2.4 HEALTH PROMOTION IN CANADA

The Canadian Institute of Health Research (2003) frames public health as including these basic functions; population health assessment, health surveillance, health promotion, disease and injury prevention, and health protection. Health promotion is defined by the World Health Organization (1986, p.1) as a "…process of enabling people to increase control over, and to improve, their health." This is more than just the physical aspect: it also includes the mental and social well-being of the individual and the group (WHO, 1986). Disease prevention or health protection as exemplified by environmental health is concerned with the physical, chemical, and biological aspects that can impact the health of an individual or group (WHO, 2013). According to the Public Health Agency of Canada (PHAC), a population health approach includes both health promotion and disease prevention (PHAC, 2012).

An important Government of Canada White Paper; *A New Perspective on the Health of Canadians* (1974) became one of the foundation documents of health promotion. Colloquially known as the Lalonde Report, after federal Minister of Health Marc Lalonde who was a major proponent, it advanced the idea that multiple underlying causes of mortality and morbidity operate completely outside of the healthcare delivery system. Health promotion, which often stands apart from healthcare, is focused on influencing these underlying

causes in order to enhance, not just maintain health (Government of Canada, 1974). The Lalonde Report was among the first high-level documents to advance the Health Field Concept. This idea integrated the four elements; human biology, lifestyle, health service organization, and environment as factors affecting human health (Government of Canada, 1974).

The World Health Organization in 1986 set out the Ottawa Charter, which together with the Lalonde Report has framed health promotion in Canada. The Ottawa Charter emphasized that healthy public policy is an important instrument useful for maintaining and enhancing the health of citizens (WHO, 1986). Potvin and Jones (2011) believed that the Charter's focus provided a framework of alternative public health practices to the accepted biomedical model. The Ottawa Charter had specifically influenced health promotion and public health generally through three trends. These trends were: the integration of health promotion as a function of public health on par with health protection; health equity as an objective of national public health programs; and the adoption of a policy mindset to promote health as a principle of governance (Potvin & Jones, 2011). Milio (2001) saw policy informing action, changing what would otherwise occur, by articulating vision and principles, and setting priorities. Policymaking manifests across all levels of government attempting to shape the course and nature of change in a preferred direction. Effective policy must incorporate the amount and allocation of resources, for example time and money which, according to Milio (2001), would enable healthy public policy to both maintain, and enhance the health of the population.

Health promotion involves health education and related organizational, political, and economic interventions designed to facilitate behavioural and environmental changes to improve health status (Awofeso, 2004). The health of individuals and communities is integral to their living and working conditions (Williams, Costa, Odulami & Mohammed, 2008). Health inspectors have the unique responsibility and ability to directly affect living and working conditions, therefore, they have influence on the health of individuals and communities.

Health promotion has focused on reducing risk-taking behaviour or increasing protective behaviour using such methods as policy instruments. Economic, regulatory, and educational government action are instruments in policymaking. Effective healthy public policy instruments improve the population's health by changing people's living conditions (Milio, 2001).

Watt, Sword, and Krueger (2005) pointed out that implementing these policies in any healthcare system relies upon provider commitment, in this case both AHW and AHS. Front line practitioners such as health inspectors implement government policy through interaction with the public. Characterizing the health of individuals and communities must include social factors that are often overlooked in the biomedical model, but are affected by policy.

2.5 SOCIAL DETERMINANTS OF HEALTH (SDOH)

Social determinants of health (SDOH), as described by Mikkonen and Raphael (2010), are constituents that, in addition to biological and medical factors, influence people's health. In Canada 14 SDOH are identified: Aboriginal status, disability, early life, education, employment and working conditions, food insecurity, health services, gender, housing, income and income distribution, race, social exclusion, social safety net, and unemployment and job security (Mikkonen & Raphael, 2010). Food insecurity is the certainty of obtaining adequate, nutritious food in a socially acceptable manner. Unsafe, insecure, or unaffordable housing increases the risk of ill health (Mikkonen & Raphael, 2010). These two key SDOH are areas that AHS-EPH health inspectors also deal with as part of their food safety and safe built environment responsibilities.

All 14 SDOH are important to health promotion practice, they provide targets for interventions, and provide a useful lens to examine public health policy. Williams et al. (2008) stated even within developed nations, such as Canada, there continue to be large health disparities across socioeconomic status, race, and ethnicity. Government policy can directly affect the SDOH, but the current focus is on improving access to and coverage for healthcare, not

promoting public health (Williams et al.). A worthwhile goal, according to Williams is increasing the awareness of governments to underutilized opportunities to act on the SDOH. Non-governmental associations, such as the Canadian Public Health Association, while advocating for action on the SDOH, have done little else (Manzano & Raphael, 2010). Failure to link policy with the SDOH can be traced to ignoring political, economic, and social factors (Raphael, 2006). Public health policy has a direct affect on the SDOH, as that policy affects health services delivery. Raphael (2006) stated that where there is a lack of a strategic action plan on the SDOH, some public health agencies in Canada and the United States have taken local initiative. Why they have taken that action despite the lack of enabling policy has not been answered (Raphael, 2006). This study, focused on a specific organizational context, explored the relationship between policy and implementation by public health inspectors striving to answer that question.

Raphael and Bryant (2006) identified three activities comprising health promotion: traditional public health activities, advocating and contributing to healthy public policy, and delivering health services. They identified that Canadian municipalities and regional authorities were responsible for public health, under the direction of provincial legislation that is policy. Health inspection is included under the public health umbrella. Raphael and Bryant (2006) also described that the limited amount of health promotion programming had been refocused to biomedical concerns; such as disease prevention and obesity. The broader determinants of health were not a focus of Canadian public health policy. Also, provincial policy was more focused on the consequences of poverty not the causes (Raphael & Bryant, 2006). Healthy public policy and the effect of the SDOH were understood but not incorporated into public health action. Raphael and Bryant (2006) only found isolated instances across Canada where local authorities acted to influence healthy public policy.

The Lalonde Report advanced the idea that science identifies solutions to pressing public health problems, but politics through public policy instruments

turns those solutions into reality (Oliver, 2006). Oliver also suggests that politics are the interactions between citizens and policy makers. These interactions define social conditions and create policies that facilitate some public health interventions and pose a barrier to others.

2.5.1 Health Inspectors as Policy Agents of Health Promotion

Public health policy can contain both health promotion and health protection mandates. Health inspectors may be responsible for all or part of public health policy implementation. The literature describes the setting and reasons why, when and how health inspectors may choose a health promotion implementation path instead of, or in addition to, a health protection one.

Stewart (1999) examined the relationship between health inspectors and poor housing conditions in the United Kingdom (UK). Stewart described how health inspectors dealt with poor housing conditions, low socioeconomic status, mental and physical ill health, and lack of funding resources. Health inspectors in the UK were responsible by public health policy to investigate complaints of poor housing conditions, a largely reactive approach. Health inspectors were recognized as the key professional at the local level with the legislative power to address public health and housing concerns (Stewart, 1999). Stewart indicated that legislation did not fully accommodate all the complexities of poor housing that the health inspector encountered. Health inspectors were also hindered in their ability to act because they could not include the team of health professionals needed to support them in complex housing situations. This team would have included general practitioners, community workers, public health nurses and others, but legislation and lack of funding did not allow that support system, indicated Stewart. The health inspector's ability to act on housing complaints was controlled by various pieces of policy and local authorities. They pieced together enforcement actions from a number of different Acts and the discretion afforded them by their local board of health. Many inspectors used creative and innovative

policy implementation as a proactive means of dealing with poor housing. They were supported in these actions by their local boards of health (Stewart, 1999).

Lefebvre, Montgomery, Michel, Warren, Larose and Kauppi (2012), using a photo vignette-driven, qualitative study of 34 health inspectors in Ontario, described a strong linkage between health inspectors, housing conditions and public health policy. Lefebvre identified a knowledge gap between the roles of public health inspectors and the health threats of poor housing conditions. Health inspector's roles were self-described as maintaining healthy housing, inspection of water systems, restaurants and other food-related facilities, and outbreaks of communicable diseases (Lefebvre et al.). During housing inspections aspects of Ontario's public health policy system were revealed; where some health inspectors were reluctant to enforce because of a lack of clear policy. Similar to Alberta's Housing Regulation (Government of Alberta, 1999), if the home is owned and not rented then health inspectors have very limited regulatory power. This created a tension between the health inspectors desire to intervene and a lack of authority to act. Other constraints were felt to be internal public health unit policies and practices that outlined their decision-making and actions. Limited resources, people and money, were also identified as barriers to action. However, health inspectors found that they could use a network of contacts as referral agencies to assist in meeting the client's needs. If this network was missing health inspectors felt that the individual would not be assisted and would be in an even worse situation. Where there was an absence of municipal infrastructure many health inspectors perceived this as a barrier to positively resolving housing issues, because an important referral agency was missing. Other health inspectors saw this as a facilitator, because it provided them with more independence to resolve the issue (Lefebvre et al.). The individuals who required housing interventions were predominantly from vulnerable populations such as the elderly, low socioeconomic status, or those with chronic physical or mental health issues. These individuals would often struggle to find alternate accommodations, and that influenced health inspectors decision-making. Considering all these factors health

inspectors often had to engage in unconventional negotiations to resolve housing issues. This was supported by the local public health units as better than regulatory enforcement that may not be supported by existing legislation (Lefebvre et al.).

Bourne (2008) posits that disparity in environmental health outcomes is caused by social and economic factors. These factors are not currently understood or used in environmental health practice, but if used they would be extremely effective in reducing environmental health disparities. Since health promotion uses a sociological approach to create health interventions, Bourne contends that this approach could be combined with environmental health. Adding in knowledge management techniques to support the merger of the approaches creates a new "Envirohealth promotion" paradigm. This new paradigm would use environmental health tools to target the environmental determinants of disease, and health promotion tools to optimize conditions for individuals to make healthier decisions (Bourne, 2008).

Campbell, Foggin, Elliott and Kosatsky (2011) surveyed and interviewed 15 British Columbia (BC) health inspectors to determine the level of health promotion practice in that province. Fourteen inspectors indicated that they practiced some form of health promotion, as defined by the Ottawa Charter criteria (WHO, 1986) (Campbell et al.). Health inspectors in BC also use a risk-based, ladder-of-enforcement approach to ensure compliance with public health legislation. This approach is believed to enable the operator (the person being inspected) to consult proactively with environmental health before there are significant economic and social impacts caused by prosecution for violations. This is considered a proactive approach to enforcement. Campbell's findings indicate that health inspectors believe they already use health promotion principles to enable the operator to comply with legislation. Regarding the Ottawa Charter (WHO, 1986), Campbell et al. indicates that the most commonly used strategies were building healthy public policy and creating supportive environments.

Campbell et al. (2011) explored the relationship between health promotion and enforcement. Health inspector's learn about health promotion during their environmental health training and perform both functions during their career depending on inspection context. Awareness of health promotion principles occurred during environmental health training and subsequent career for BC inspectors. The inspectors felt that there was a tension between health promotion and enforcement functions, despite the validity of the health promotion approach; they are, ultimately, enforcers of the law. A lack of guidance, time, and money were all identified as barriers to health promotion by BC inspectors. Health inspectors identified the history of enforcement as a barrier to building health promoting relationships with individuals and firms that are the enforcement target of the legislation.

McLeroy, Bibeau, Steckler, and Ganz (1988) proposed that creating healthier environments to support individual and community health behaviour change, however, requires a government, or an organization, to have the capacity to create desired policy and to support it. There are three basic concepts that can affect capacity: a) values and beliefs that support it b) leadership to champion it c) a shared understanding of what capacity development is and its contribution to the organization (GermAnn & Wilson, 2004). O'Louglin, Elliott, Cameron, Eyles, Harvey, Robinson, and Hanusaik (2001) stated that to assess capacity it is important to understand the current practice of health promotion and the facilitators and barriers that affect the individual and the organization. Smith, Raine, Anderson, Dyck, Plotnikoff, Ness, and McLauglin (2001) identified such factors as organizational and personal leadership, knowledge and skills, resources, guidance, and values affecting capacity for health promotion. These factors are either facilitators or barriers of health promotion practice.

Based on Stewart (1999), Lefebvre et al. (2012), Campbell et al. (2011), and Bourne (2008) all indicated health promotion is a useful tool for health inspectors. The various policy frameworks describe an idealized process. How health inspectors actually practiced health promotion within the public health

policy structure of Alberta was the focus of this study. Setting health promotion within the context of public health policy was a necessary component of the study.

2.6. PUBLIC HEALTH POLICY IN ALBERTA – GRAY LITERATURE

Policy strives to create a general standard across an organization. This organizational policy establishes frames and concepts that enable policy to be implemented as consistently as possible.

AHS-EPH's primary texts include legislation and internal policy documents that provide the guidelines for action for all health inspectors. Many policy documents describe and enable AHS to provide public health services to Albertans, but two documents stand out. These key policy documents are the Public Health Act and Regulations (Government of Alberta, 2010), and *A common reference system and operational standards for Alberta regional health authority environmental health programs,* colloquially referred to as the "Blue Book" (Council of Managers Environmental Health [CMEH], 2001). Each text represents one element of a policy framework. The Public Health Act represents the system, and the Blue Book represents the organization. Proceeding from the system's broadest, most abstract level, each text further focuses and defines policy into practical interventions realized by the individual health inspector who implements that policy at a street level.

There is a complex interaction between the health inspector, AHS, AHW, and the public. The health inspector's role is to implement legislation, regulations, and health policy designed by the government and the organization to maintain the public's health and safety. Health inspector's activities include educating the public about and enforcing provincial legislation and organizational policy. Fully understanding the health inspector/AHS-EPH relationship requires analyzing enabling legislation such as the Public Health Act of Alberta (Government of Alberta, 2010), which is the main legally-binding instrument that governs AHS's environmental health practice. Consolidating service delivery organizations into

AHS involved many changes; relevant to this study is the effect of amalgamation on policy documents. AHW published *Vision 2020; the future of Health Care in Alberta* (2008), which outlined the basic projected structure of AHS. It included a Strategic Goal of a strong public health foundation incorporating health promotion (AHW, 2008). While espousing an aspiration or intent within a policy document is important, translating policy into action is crucial. Food security/safe food and housing/safe built environment are two important similarities between health promotion and health protection. Health promotion identifies them as important SDOH, and health protection, represented by environmental health, has two regulations dedicated to those areas.

Regulatory public health policy is the method through which the Government of Alberta sets minimum standards of hygiene and disease control. These system level texts define the parameters within which the organization functions. AHS-EPH implements these texts through the actions of health inspectors that are the regulatory inspection system. Implementation planning, communication, and action are the responsibility of the health inspectors, whom AHS-EPH designates Executive Officers of the Public Health Act (Government of Alberta, 2010). The Blue Book (CMEH, 2001) guides planning and communication staff as they transform regulatory policy to operational policy. These key documents frame and coordinate health inspector activities across the province, clearly defining the role of the health inspector and AHS-EPH in a health protection program, using a risk-based regulatory ladder of enforcement paradigm.

The Government of Alberta expresses regulatory public health policy through the PHA. The Act is the primary regulatory public health policy and sets out the mandate for health inspectors. First drafted in 1985, amended in 2005, and the current edition updated in 2010, the Act's 75 Sections and 18 Regulations provides the framework for public health regulatory policy in Alberta (Government of Alberta, 2010). The PHA empowers health inspectors to implement its provisions and the accompanying regulations in Section 9(1)

(Government of Alberta, 2010). All powers and responsibilities of the health inspectors of AHS-EPH are created and outlined within the Act. Also, it identifies specific areas of public health concern. Of particular relevance to this study are Sections 10 and 12 which specify provision of health promotional services. Section 10 includes the important wording "…*that the regulations require it* (the regional health authority) *to provide*" (Government of Alberta, 2010, pg. 14). The rest of the PHA is concerned with communicable diseases, public health emergencies, and enforcement measures such as prosecution at Court of Queen's Bench. These areas are described in the Act and minimal standards are set out in the pertinent regulations. Section 75 of the PHA explicitly places it paramount to every other piece of provincial legislation, including the **Health Information Act** (Government of Alberta, 2003), except for the **Alberta Bill of Rights** (Government of Alberta, 2002). This section also specifies that regulations under the PHA are paramount over any other similar types of legislation which may be in conflict (Government of Alberta, 2010). All other policy considered in this study falls under the jurisdiction of the Act.

After the regional health authorities were amalgamated to form AHS (May 2008) the Blue Book was confirmed as the provincial environmental health standard. The intent of the Blue Book was to coordinate environmental health practice and enable a consistent approach to public health concerns (CMEH, 2001). The Auditor General of Alberta has used this standard as an evaluative measure of food safety for provincial environmental health programs (Auditor General, 2006, 2009). The Blue Book categorizes environmental health practice into seven main areas of focus; Communicable Disease Control, Safe Food, Safe Built Environment, Safe Indoor Air, Safe Outdoor Air, Safe Drinking Water, and Safe Recreational Water. Environmental health's focus on these key areas of public health intervention was based on risk perception, risk mitigation through health protection actions, and other public health tools to enhance health protection, such as health education and health promotion (CMEH, 2001).

The PHA and subsidiary public health policy sets out the boundaries for enforcement action, which is health protection. Applying the policy is the task of the health inspector. Policy application takes place in the public setting, not usually in an office. The health inspector should apply the policy consistently and fairly in each situation. However, each situation is unique and requires the judgment and discretion of the health inspector, guided by policy. A term coined by Lipsky (1980) is “street-level bureaucrat”, defining and characterizing how policy interacts with the public via an individual member of an organization. The health inspector, as a street-level bureaucrat, may find that regulatory policies do not cover all the contingencies of dealing with complex public health issues.

2.7 HEALTH INSPECTORS AS STREET-LEVEL BUREAUCRATS

Smith (2005) stated that expected organizational norms and policies regarding individual behaviour are codified for specific items. Policy guides individual’s work perspective and behavior to ensure consistency on policy issues (Smith 2005). However, Lipsky (1980) identified that the individual’s experience may influence how he or she implement’s policy at the “street level”, adapting it to fit social reality. Street-level bureaucrats, become the policies they implement. They are the embodiment of policy for the client they are interacting with, and they have significant discretion in the implementation of policy (Lipsky, 1980). That discretion may be a facilitator or barrier to policy implementation and the client. I have observed that health inspectors adapt policy to fit the individual, enabling compliance. Policy documents create the potential for action; implementation is that potential action becoming reality.

There continues to be a tension between the organization and the practitioner, when situations do not fit within policy boundaries. This creates a situation where the individual must either adapt policy or force the situation to fit the policy (Lipsky, 1980).

Street-level bureaucrats control their clients using a variety of mechanisms, both policy and situational (Hudson, 1993). Clients can be

controlled using available policy tools, which the street-level bureaucrat can justify as being in the best interest of the client. The street-level bureaucrat can exert situational control because they are in the client's home or business, embodying policy within that client's personal space. The street-level bureaucrat's organizational accountability, which is exemplified by his answering to the organization for his actions, is difficult to exert in these situations where there is a high level of discretion and autonomy. The nature of the service that street-level bureaucrats provide to clients makes it convenient for organizations to allow discretion. This does not mean that the street-level bureaucrat is completely independent and autonomous; they are accountable to the organization through policy metrics (Hudson, 1993).

Organizational accountability strives to ensure that the street-level bureaucrat is attaining policy objectives (Hudson, 1993). Ensuring compliance can be very difficult for supervisors, since the street-level bureaucrat practices in often inaccessible places and situations. The street-level bureaucrat may also engage in a form of internal regulatory ritualism, whereby he ensures that he is ostensibly meeting all performance measures, while working actively to ensure those measures do not change his behaviour (Braithwaite et al., 2011) (Hudson, 1993).

2.8 SUMMARY: LITERATURE REVIEW

The literature has described the importance of health promotion and health protection working together to maintain and improve the health of the population. The functions of health inspection have traditionally been defined based on the biomedical model described by Justice Hall (1964). This approach strives to control environmental risks to public health. Health promotion has been defined by both Lalonde (Government of Canada, 1974), and the WHO (1986) as a holistic approach to public health including both biological and social determinants of health. Health promotion action can occur through a number of approaches, including healthy public policy. McLeroy et al. (1988) and others

constructed a series of policy frameworks articulating how public policy is ideally created, written, implemented, and evaluated. Various approaches to policy implementation have been examined. Environmental health organizations, such as BC's and Alberta's, have chosen to implement public health policy using enforcement-compliance tools. Health inspectors, through the Public Health Act, have a great deal of power and responsibility. Given the discretion available to the health inspector, acting as a street-level bureaucrat, public health policy implementation may be either an enforcement-compliance-health protection approach or a capacity-enabling-health promotion one. Moore et al. (2011) described how health promotion policy can be ineffective because of failure to consider implementation-level factors. Creating an effective health promotion component of AHS-EPH requires understanding why, how, and when health inspectors choose to implement public health policy from a health promotion perspective in place of, or in addition to, health protection. Findings from this study could be used to develop health promoting attributes within the public health protection system of AHS-EPH.

3. RESEARCH METHODS

Organizational and individual capacity for health promotion practice by Alberta health inspectors was studied using a sequential mixed-methods approach. This approach consisted of interviews with key informants, an online survey, and key policy document review. The objective of this approach was to provide complementary, mutually supporting, practice-based evidence to answer the research questions.

3.1 RESEARCH QUESTIONS AND APPROACH

The study was focused on health promotion practice by Alberta health inspectors as an example of policy implementation. The research questions that defined and focused the scope of the study were:

1. What was the current state of health promotion practice within AHS-EPH?
2. What were the facilitators and barriers that affect the capacity for health promotion practice by the organization and the health inspector?
3. What was the effect of capacity on the ability of AHS-EPH and individual health inspectors to practice health promotion?

Answering these questions required a rigorous but flexible approach that would reveal practice-based evidence. The approach taken was:

1. Determine if and how health promotion practice was or was not enabled within the key policy documents of AHS-EPH.
2. Determine how the organization influenced health promotion practice by health inspectors.
3. Determine how the individual health inspector addressed health promotion practice.
4. Determine how health inspectors interpreted the relationship between health protection and health promotion using the social determinants of health (SDOH) and the Ottawa Charter (WHO, 1986).

A mixed-method design was used to investigate the research questions. A design of qualitative, quantitative and document analysis was chosen.

3.2 MIXED-METHODS RATIONALE

A mixed-methods approach was used in this study consisting of quantitative and qualitative components that were explicitly related and provide mutually illuminating data following the approach articulated by Creswell (2009) and Woolley (2009). This approach was chosen as it provided the best potential to identify and characterize health promotion practice in this context. Qualitative and quantitative methods address different aspect of research problems, providing a more nuanced understanding than one method alone, allowing for data validation (Woolley, 2009). Data validation was instrumental to data synthesis. Complimentary qualitative and quantitative information was synthesized to develop and support evidence of health promotion practice. Using the indirect and reductive approach of quantitative methods, coupled with the direct and holistic approach of qualitative methods increased the quality and the quantity of available data. An integrated sampling design which specified the same units of analysis for each method, and measured overlapping variables, enabled data integration. As a result meaningful conclusions were developed. Meeting the criteria set out by Creswell, and Woolley required using a common set of key term definitions (Appendix B) and a policy framework that structured each method. The methods, therefore, were complementary, mutually supporting, and generated comparable data.

Data collection focused on practice-based evidence elicited from the health inspectors through interview and surveys. The policy context was described by key policy document analysis viewed through a health promotion lens. The lens was developed using the Ottawa Charter (WHO, 1986), and the SDOH. Using these three criteria data collection was designed around a mixed-methods format.

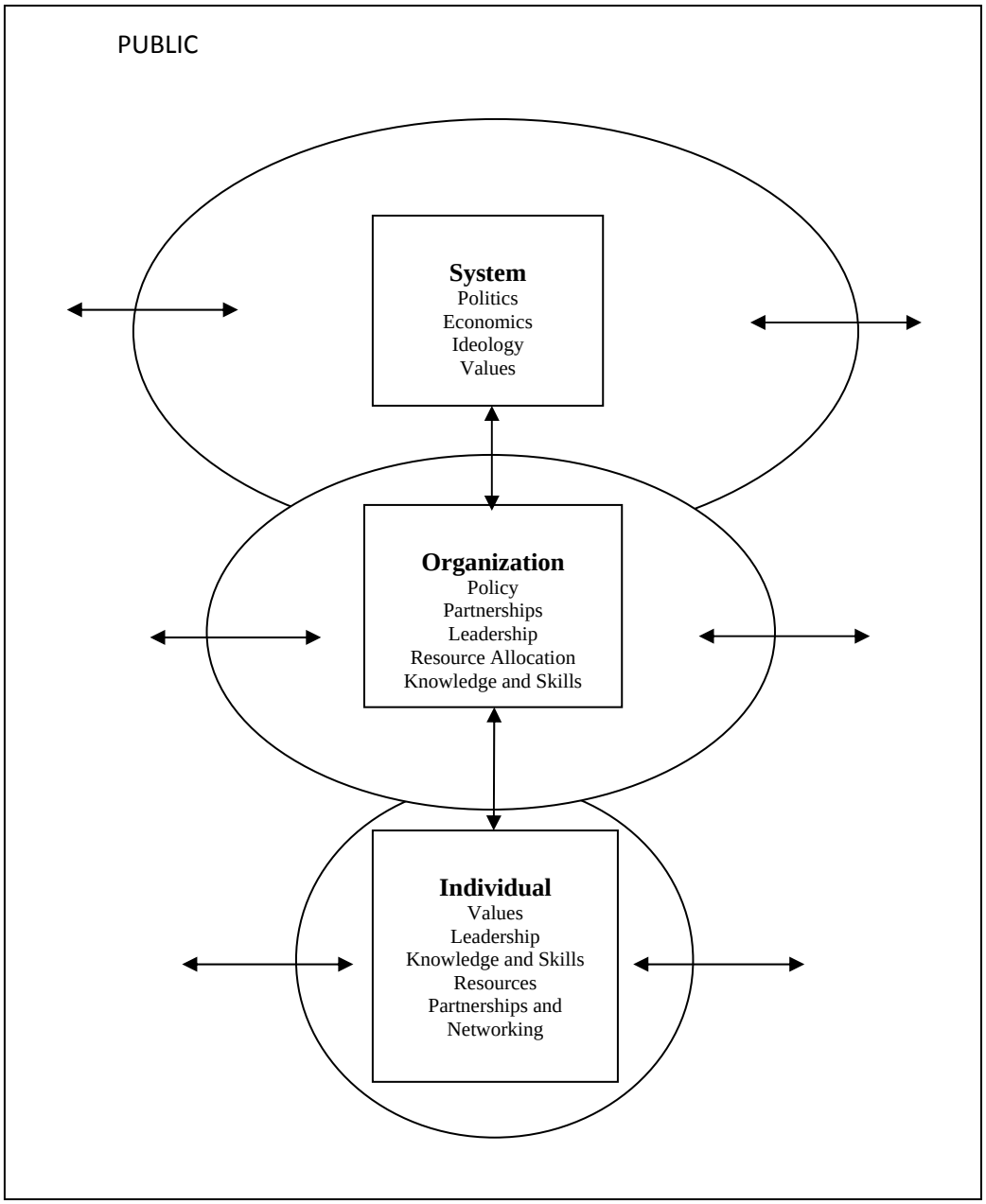
This mixed-methods format described the policy context. It also showed how system, organizational and individual factors affected the capacity to use health promotion principles. Through this identification, and characterization the relationship between health protection and health promotion as public health policy implementation was investigated.

3.2.3 Research Design

The case study method of inquiry assigned meaning and significance to the relationships between the individual health inspector, policy texts, and AHS-EPH, adhering to the definition offered by Creswell (1998). All SDOH were examined during the interview, survey, and document analysis to determine if they were relevant to AHS-EPH, current practice, and future actions. Coordinating the SDOH with the Ottawa Charter Action Areas provided relevant assessment criteria for participants and a framework for future action.

Organizing data collection, collation, and analysis was aided by the work of Smith et al. (2001), O'Loughlin et al. (2001), GermAnn and Wilson (2004), Bowen and Zwi (2005), and Vogel et al. (2007). The policy framework was derived from their work and provides a basis to answer the research question. The work of GermAnn and Wilson (2004) provided great insight into understanding what an organization says it is capable of and what it actually has the capacity to accomplish. Smith et al. and O'Loughlin et al. provided the capacity indicators for each level. Bowen and Zwi and Vogel et al. provided the structure of system, organization, and individual-levels of policy formulation and implementation.

FIGURE 1. POLICY FRAMEWORK FOR CODING AND DATA ANALYSIS*



*(Based on Smith et al. [2001]; O'Loughlin et al. [2001], Bowen & Zwi [2005]; Vogel et al. [2007]).

Figure 1 outlines a framework that incorporates the practice-based evidence approach advocated by Green (2006). The bi-directional arrows indicate that the system, organization and individual affect how policy and practice react to changing social realities. The system-level was represented by the provincial government's ministry of health AHW.

The organizational-level, reflective of health services delivery, was represented by AHS-EPH. The AHS-EPH Departmental Standards of Practice (DSOPs) coordinate policy implementation across the province. The organization-level is heavily influenced by the AHS and EPH internal policy processes and procedures. Resources to support specific programs include factors other than money: for example technology and a skilled workforce (Bowen & Zwi, 2005). In order to accomplish program objectives, an organization must have appropriate capacity (Vogel et al., 2007). Smith et al. (2001) and Bowen and Zwi (2005) suggest that at the organizational and individual level, capacity takes the form of management support, resource allocation, knowledge and skills, and clear guidance.

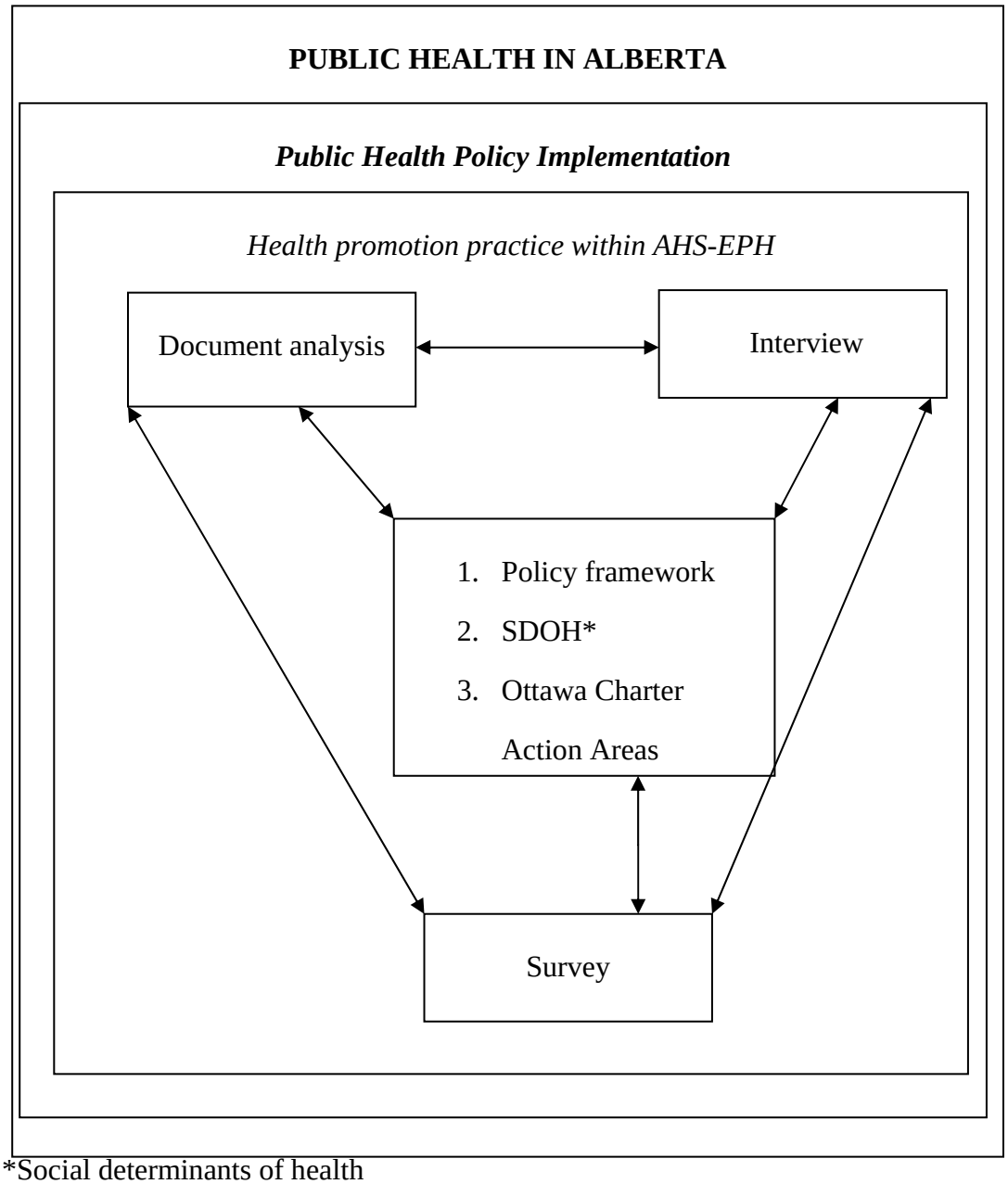
The individual-level construct described those persons who are engaged with the policy documents by creating implementation plans, and communicating those plans to the health inspector. Health inspectors at the individual level convert public health policy into action, and they are enabled by leadership, knowledge and skills, resources, clear guidance and policy directives, and resources (Smith et al. [2001], Bowen & Zwi [2005]). These factors, considered collectively, constitute a description of individual capacity for health promotion practice.

Interactions with the public occur at the system, organization, and individual-levels. Indicators of this interaction at the system level are: politics, economics, ideology and values. Organizational-level indicators are: policy, resource allocation, leadership, partnerships, and knowledge and skills. Individual-level indicators are: leadership, values, resources, partnerships and networking, and knowledge and skills (Smith et al., 2001; Bowen & Zwi, 2005;

Vogel et al., 2007). The impact of system-level policy on the organization and individual-levels affects their capacity for health promotion practice. Policy is shaped in a constant iterative interaction between all three levels and the public. Ideally this relationship between the four entities creates a policy document that is a best fit between the needs of the public and the capacity of the individual, organization and system to meet those needs.

This tri-part research method used interview, survey, and document analysis to determine the capacity for the organization's and individual health promotion practice. Figure 2 summarizes the link between and among the setting, the three component parameters, and the three methods.

FIGURE 2. RESEARCH DESIGN



*Social determinants of health

This design meets the criteria for mixed-method studies set out by Tashakkori and Creswell (2007), Creswell (2009), and Woolley (2009). The format is a case study of health promotion policy implementation. The research question and sub-questions examined the facilitators and barriers to health promotion practice capacity. Each method targeted a specific facet of AHS-EPH:

interviews with key informants responsible for policy implementation planning and communication, a survey to elicit complementary quantitative data on developing themes, and analysis of key policy documents. According to Creswell (2009) this was "connected" data implying that the qualitative and quantitative information had a similar basis and a common aim. The similar basis is demonstrated in Figure 2, and common aim provided by the research questions. Analyzing of the qualitative data influenced collecting of the quantitative (Creswell, 2009). Data collection used a sequential exploratory strategy in which the first qualitative data collection and analysis influenced the successive quantitative phase (Creswell, 2009). The quantitative results aided the interpretation, validated, and triangulated the qualitative results (Creswell, 2009). All three methods were used to gather data regarding the SDOH, the Ottawa Charter Action Areas and AHS-EPH's relationship with these key health promotion indicators.

3.2.1 Assumptions

In this study, policymaking was assumed to be a rational process based in problem formulation and evaluation of alternatives, resulting in policy implementation (Gordon, Lewis & Young, 1977). It was understood that policymaking is a political activity that affects implementation. This may be a rational process, but results in a negotiated outcome between the different stakeholder interests. The policymaking process is assumed to be a recursive, or iterative, relationship between policy and action, with the policy itself being a dynamic representation of the process (Gordon et al., 1977).

3.2.2 Limitations

There are limitations to all studies; the nature of a Masters study is such that verifying credibility of the qualitative data, and statistical analysis of the quantitative through external review is not possible. The researcher was the only one that examined the data and developed the conclusions, which were discussed

with the supervisory team. While the supervisory team ensured consistency and methodological rigor this process does not allow for multiple perspectives that may reveal subtle themes and characteristics. A similar mixed-methods study would use several individuals to examine the data from differing perspectives and expertise. Due to time constraints and limited resources, it was not possible to directly examine governmental organizations, non-governmental organizations, community and other groups that impact environmental health practice.

3.2.3 Researcher Embedded in Research Context

The researcher is a health inspector with AHS-EPH. This provided an insider's perspective of policy creation, access to the study population, and experience with public policy implementation. When recruiting key informants for the interview the researcher drew on knowledge of which health inspectors could provide a well-informed policy implementation planning, communicating, and implementation perspective. This allowed an efficient use of limited time and financial resources. When designing, deploying, and recruiting for the online survey the interview experience guided the process. The survey was designed to provide supporting evidence of emerging themes from the interviews. The use of an online format allowed provincial accessibility at low cost. Recruitment was directed at the operations-level staff, the policy-action group, which the researcher was familiar with through his work experience. Experience also guided the choice of key policy documents that were important to both health protection practice, and had health promotion implications, also.

3.3 RESEARCH METHODS

This study was undertaken in three phases:

1. Interviews with key informants were conducted using a detailed guide. At the end of each interview a preliminary analysis was done using an iterative method that identified emerging themes then developed further questions to expand on the themes. This

made it possible to explore emerging themes with successive interviews. The emerging themes were further elaborated within the online survey.

2. The online survey provided quantitative and qualitative data from a larger sample of the health inspector population than were interviewed. These two methods provided the practice-based evidence of health promotion use by health inspectors.
3. Key document analysis provided the policy-based evidence of health promotion within environmental health practice. The policy, examined using the framework, determined policy formulation and health protection implementation. The SDOH and the Ottawa Charter Action Areas provided a means to demonstrate how policy could also be used for health promotion.

3.3.1 Interview

The interview guide (Appendix C) was based on the policy framework. The indicators at the organizational and individual levels -partnerships, leadership, resource allocation, knowledge and skills, values, and partnerships and networking -formed the basis for many questions. The Ottawa Charter Action Areas formed the basis for some questions as did the SDOH. Emerging themes, therefore, could be correlated with survey information and policy analysis. Thematic analysis was used to develop themes that informed the online survey and the document analysis.

Basic demographic questions described the participant's experience, training, policy implementation level, and geographic work area. Defining capacity for health promotion practice was one objective of the interview. Capacity is affected by facilitators and barriers to health promotion practice. Identifying those factors was part of the interview protocol. Eliciting practice-based evidence regarding the relationship between health protection and health promotion helped to identify the facilitators and barriers, at all levels of the policy

framework. Comments from the interviews regarding facilitators and barriers helped described capacity for health promotion practice.

External factors that affected public health policy implementation were examined during the interview. There were questions included about the affect of demographic change, the Auditor General of Alberta, and social factors. The SDOH are a critical part of health promotion, and an important measure of social forces on individual and population health. The question regarding SDOH and the Ottawa Charter Action Areas was phrased to allow the participant to identify which of the 14 SDOH he or she, as a health inspector, could impact the most.

The difference between public health policy implementation and changing social realities can create policy gaps. In order to identify those policy gaps, it was necessary to understand how policy was formulated, communicated and implemented. Partnerships with other agencies are an effective method of filling policy gaps; therefore the relationships between AHS-EPH and other organizations were investigated.

The interview was recorded on a Panasonic digital recorder and notes taken on the interview guide to aid in transcription. The interviews were transcribed, then broken into developing themes, and entered them into an Excel spreadsheet.

3.3.2 Online Survey

The online survey (Appendix D) was based in part on the interview data and the policy framework. The survey's basic structure emulated the interview guide and linked back to the framework in the same manner. Emerging themes from initial analysis of the interviews made it possible to focus on certain questions within the survey to further develop the themes.

Most of the questions were close-ended offering either a range of possible response based on the interview information, or a Likert-type six-point scale. Six-point Likert-type scales enabled interview and survey participants to choose where on the scale a particular concept or statement fell. A six-point scale

without a neutral response forced each respondent to provide an answer, or they could choose not to answer. Some of the questions, such as the one for educational institutions, allowed open-ended responses, such as “other”, in addition to the known range. Others, such as the question about self-assessed policy level, allowed for more than one choice. Definitions of health promotion, health protection, health education, and population health were developed from analysis of the interview data. These practice-based definitions were then presented to the survey participants for their evaluation.

The objective of the survey was to elaborate on themes developed from the interview, and provide a quantitative perspective of health promotion practice, providing triangulation and validating themes. The participant’s perspective on health promotion concepts, facilitators, barriers, and external factors was determined. Another goal was to add nuance to the qualitative data using quantitative metrics. The questions were posed in a manner that allowed each participant’s responses to be analyzed statistically. Open-ended questions allowed respondents to add more depth to their answers.

One of the most innovative aspects of this study was the melding of the SDOH, the Ottawa Charter Action Areas, and participant assessment of usefulness. Participants were presented with each SDOH and asked to itemize which of the Action Areas they could use in their health protection practice to affect that specific SDOH. This technique made it possible to use two powerful tools of health promotion- SDOH and Ottawa Charter Action Areas- via the medium of health protection as envisioned by the policy implementer: the inspector.

The participant was asked to assess the strength of health promotion within the primary activities of AHS-EPH: inspections. These were broken into the main categories of inspection type that would be familiar to all health inspectors. Self-assessment was a key component of the study, and included such factors as personal knowledge and ability to apply health promotion principles,

and the organizational capacity of AHS-EPH to deliver health promotion programming.

3.3.3 KEY POLICY DOCUMENTS

Document analysis for the key policy and implementation documents centered on the SDOH (Appendix E). The assessed documents were:

1. The Public Health Act of Alberta (Government of Alberta, 2010)
2. The Blue Book (CMEH, 2001)
3. The Food Regulation (Government of Alberta, 2006)
4. The Housing Regulation (Government of Alberta, 1999)

The Public Health Act (Government of Alberta, 2010) was the key System-level document analyzed. *A Common Reference System and Operational Standards for Alberta Regional Health Authority Environmental Health Programs* (**The Blue Book**) (CMEH, 2001) was the key organization-level document analyzed. To describe the relationship between these two pieces of policy, and the inspector at the individual level the **Food Regulation** (Government of Alberta, 2006) and the **Housing Regulation** (Government of Alberta, 1999) were compared. The study focused on the Safe Food and Safe Built Environment Program areas of AHS-EPH, mirroring the focus on the Food and Housing Regulations (Government of Alberta, 2006 and 1999 respectively) comparing and contrasting these two important roles of an Alberta health inspector. They, Housing and Food are also the most congruent areas between health promotion and health protection in the Alberta public health context. Supporting these regulations is Departmental Standard Operating Procedures (DSOP), designed by AHS-EPH to ensure that the individual health inspector is consistent when applying policy.

3.4 SAMPLE

The target population of this study was all of the board certified health inspectors working for Alberta Health Services-Environmental Public Health.

This population numbered approximately 235 (Hohn, W. personal communication, 2009). The Board of Certification of the Canadian Institute of Public Health Inspection certifies all inspectors as Certified Public Health Inspectors (Canada) or CPHI(C). The AHS-EPH staff, or the pool of potential recruits, was broken down into three, study-specific, sub-groups:

1. Policy Action: Consisting of field inspectors/operational staff, responsible for policy action and delivering the designated service to the public.
2. Policy Communication: Consisting of supervisors for the field staff, responsible for policy communication to field staff and ensuring that policy targets are completed.
3. Policy Implementation Planning: Consisting of managers and the director responsible for policy implementation planning, which involves taking strategic policy goals, creating an implementation framework, and then communicating that framework to the supervisors and field staff?

These are general descriptors and do not capture the mosaic of AHS-EPH across the province. The legacy of the forced amalgamation into AHS had not been fully resolved during this study.

AHS-EPH is a province-wide program though, regardless of legacy issues. Therefore, it was important to capture data from all five of AHS's zones across the province to get an accurate representation of how the organization was implementing policy province-wide.

3.4.1 Recruitment Criteria

Each participant was employed by AHS as an Executive Officer of the Public Health Act working in Environmental Public Health as a certified public health inspector. These individuals were qualified to provide insight into the practical application of health promotion concepts within a health protection context, because their role is public health policy implementation.

3.4.2 Recruitment Methods

Potential interview participants were primarily recruited through snowball sampling techniques. Eligible health inspectors were determined based on the experience and knowledge of the researcher. Eligibility criteria for the interview was based on the policy position of the health inspector; specifically policy implementation planning, or policy communication was desired. These individuals are responsible for designing public health policy implementation for the public health inspector. There was also secondary, direct recruitment activity advertising for participants in the CIPHI Alberta Branch Newsletter. A snowball sampling technique was used to recruit participants. After the first participants were obtained they were asked to "spread the word about the study" among their colleagues. The recruitment was strategically focused on the policy implementation planning and communication staff; it was believed these health inspectors could provide the greatest insight into the organizational policy process. Survey respondents were obtained by snowball sampling initiated during the interview process. Recruitment focused on the health inspectors in the policy action group because they were best positioned to offer information about the themes developed based on the interviews with health inspectors of the policy implementation planning and communication groups. Interview participants were eligible to complete the survey.

3.5 DATA COLLECTION AND ANALYSIS

Data collection was chronologically sequential, that is, interviews were conducted first, then the survey was made available online, and then the documents were analyzed. This sequence was intentional, as each succeeding method built on the data collected using the preceding method. Linked by the policy framework, the SDOH, and the Ottawa Charter Action Areas each method added layers of connected, complementary data to the study. The interview and survey were field-tested with a group of certified health inspectors who did not work for AHS-EPH, and were not eligible to participate in the study. The policy

analysis protocol was pre-tested on the Food Regulation to determine efficiency and usefulness. Changes were made to all three methods to increase efficiency and efficacy.

Data analysis for each method was based on the type of evidence collected. The interviews were transcribed and a qualitative analysis method applied. This method was also used on the open-ended questions from the survey. The closed-ended questions from the survey were analyzed using standard statistical methods. The policy document analysis was performed using the SDOH as criteria for health promotion impact.

3.5.1 Qualitative Data Analysis Procedure

Thematic analysis was the basis for analyzing the qualitative information and identifying emerging themes (Creswell, 1998). Emerging themes from the data became the categories for analysis in the survey, following the method outlined by Fereday and Muir-Cochrane (2006). Keywords were derived from the policy framework: for example organizational Leadership, Partnerships and Networking, Knowledge. Other keywords came from the SDOH, including Housing, Food, and Aboriginal status. The Ottawa Charter supplied keywords, specifically the five action areas; Healthy Public Policy, Supportive Environments, Community Action, Personal Skills, and Health Services. All of these keywords were used as coding tools. During the interview process the recursive, iterative method described by Morse et al. (2002), and Srivastava and Hopwood (2009) was used to explore concepts introduced in one interview in the succeeding interviews. This process created two complementary analysis protocols; primarily comments assigned based on key words from the policy framework, SDOH, and Ottawa Charter Action Areas; secondarily, comments that illuminated aspects of health promotion practice.

The primary analysis method involved interview transcripts entered into an Excel spreadsheet, and grouped according to interview questions. Once the initial grouping was accomplished each question-set of comments was analyzed

for the presence/absence of key words, or their effect. Characteristics of key concepts were also identified: for example, health promotion was “non-coercive” versus health protection being “coercive.” These similar comments were used to determine saturation and characterize the various aspects of the data.

Secondarily, illustrative examples were developed from the interview comments. An example used by one interview subject to describe his or her use of health promotion principles was introduced to the next interviewee to determine his or her perspective. In this manner, pertinent illustrative examples were discovered, validated, and then used in the survey.

3.5.2 Verification Strategy for Qualitative Evidence (Rigour)

The verification strategy used in this study was to ensure that the methods were applied in a rigorous fashion. That is the chosen method was used correctly and was appropriate for the question it sought to answer. Rigour for the qualitative portion of this study was evaluated using measures associated with trustworthiness. According to Graneheim and Lundman (2004) a qualitative study should strive to attain trustworthiness. This goal is achieved through verification strategies that employ credibility, dependability and transferability (Graneheim and Lundman, 2004).

Credibility addresses how well the data and analysis answer the research questions. A major part of credibility is choosing participants with enough varied experience to answer all aspects of the questions (Graneheim & Lundman, 2004). In this study the interviews recruited exclusively from the policy implementation planning, and communication groups. This was done to gain an in-depth understanding of how policy was shaped and communicated to the policy action group. The survey, while available to all policy groups was aimed to recruit as many policy action health inspectors as possible. This would enable a wider policy audience to assess the themes developed from the interviews. Judging the similarities and differences between thematic categories is also a function of credibility. Identifying and presenting representative quotes is one method of

demonstrating the credibility of the qualitative analysis (Graneheim & Lundman, 2004). This was done to demonstrate the evolution of the data from the literature-derived codes to the interview-derived codes, then sub-themes and meta-themes.

Dependability addresses how data and researcher decisions change over time during the analysis (Graneheim & Lundman, 2004). This was an acknowledged method of fitting the interview to the data as Green (2006) and Srivastava and Hopwood (2009) recommended. The interview was first piloted with a group of health inspectors who did not work for AHS-EPH. The original interview guide was changed to reflect their comments before the first data-collection interview occurred. Graneheim and Lundman (2004) acknowledge that as data collection progresses over time new insights are gained that are applied to subsequent interviews. Far from being an inconsistent approach this evolving process aids in verifying emerging themes.

Transferability is based on the reader's decision if the findings are transferable to another context (Graneheim & Lundman, 2004). This is not something the researcher has much control over other than to suggest the findings have a broader applicability.

The reliability of the interview qualitative analysis was tested internally by comparing characteristics to determine if saturation had been reached for each characteristic, or theme. Once this internal validation was completed, questions were created and placed in the survey to elicit complementary qualitative data, following the method described by Woolley (2009). Placing the interview-based questions in the survey was a verification strategy. The survey participant's quantitative and qualitative responses (closed- and open-ended questions respectively) formed a verification step to check the reliability of the themes developed from the interviews.

3.5.3 Quantitative Analysis Procedure

The statistical analysis of the quantitative data was done using Predictive Analytics SoftWare Statistics (PASW) an edition of Statistical Package for the Social Sciences (SPSS) version 18.0 (August, 2009, IBM).

The results from the close-ended, Likert-scale questions were suitable for descriptive statistical analysis. The first critical number was to obtain more than 30 participants so that the calculations inherent in the central limit theorem applied, following the method described by Field (2011). This method assumes that the population is normally distributed. The confidence level chosen was the typical 95% level. The confidence intervals were calculated following the standard formula derived from the means and the standard error.

Some of the survey questions were in a Yes/No format and proportion, that is the percent of Yes/No answers, was calculated. The SDOH and Ottawa Charter results were calculated as proportion of respondents who chose a particular SDOH to be acted upon by AHS-EPH via a particular Ottawa Charter Action Area. Mean and confidence interval were not calculated for these types of responses as they did not present the data in a meaningful fashion.

3.5.4 Policy Document Analysis Procedure

The purpose of the document review was to determine how regulatory public health policy framed the implementation response of the health inspector. Where deviation from the policy articulated approach was found, characterizing that deviation as health promotion was necessary. The document review sought to determine the manifest and latent health promotion content of key policy. Graneheim and Lundman (2004) define manifest content as the visible portion of a text, and the latent content as the underlying meaning (Graneheim & Lundman, 2004). The SDOH, Ottawa Charter Action Areas, and policy framework provided a filter examining the documents for manifest and latent health promotion content. This enabled an assessment of the document as an instrument of health promotion policy not just health protection. The documents were assessed as having a Direct

(manifest), Indirect (latent), or No Impact on health promotion practice. Direct Impact indicates the policy document mentions health promotion, one or more SDOH, or the Ottawa Charter. Indirect Impact the policy document does not mention health promotion, any SDOH, or the Ottawa Charter but clearly demonstrates links to health promotion. No impact indicates the policy document does not have any effect on health promotion, any SDOH, or the Ottawa Charter. Linking the document assessment into the framework indicators made it possible to correlate the data across the two other methods, as Creswell (2009), and Woolley (2009) recommended for mixed-method data integration.

3.6 QUALITATIVE AND QUANTITATIVE DATA SYNTHESIS

The mixed-method design employing interview, survey, and document analysis provided holistic (qualitative), reductionist (quantitative), and policy context for health promotion practice. Questions regarding health promotion content or effect of key policy documents were included in the interview and survey. The survey's closed- and open ended questions developed the emerging themes from the interviews. The interviews provided a holistic, practice-based perspective of public health policy implementation. This mixed-method design follows the protocol articulated by Tashakori and Creswell (2007), Creswell (2009), and Woolley (2009).

The policy framework derived from O'Loughlin et al. (2001), Smith et al. (2001), Bowen and Zwi (2005), Vogel et al. (2007), the SDOH, and the Ottawa Charter Action Areas provided the public health policy and health promotion lens that enabled the three-part mixed-methods format. The study focused on the articulated public health policy framework of health protection in Alberta and the possible effect of using health promotion principles to influence this process.

Synthesizing the evidence involved supporting the themes developed from the qualitative analysis with quantitative data from the closed-ended questions. The documentary evidence provided the policy context which influenced health promotion practice.

3.7 ETHICAL CONSIDERATIONS

Ethics concern centered on researcher involvement with the study group and organization, the researcher is a health inspector with AHS-EPH. Therefore, it was necessary to address issues of participant confidentiality, and possible conflict of interest between the researcher's role as a graduate student and practicing health inspector. These concerns were addressed by following the ethical protocols of the Faculty of Graduate Studies and Research, University of Alberta.

3.7.1 CONFLICT OF INTEREST

The Health Research Ethics Board; Panel B of the University of Alberta approved the research. The requirements specified in the ethics approval were followed for data confidentiality, participant privacy, data analysis, and short- and long-term data storage. No conflict of interest was identified during the ethics approval process.

3.7.2 DATA CONFIDENTIALITY AND PARTICIPANT PRIVACY

The identity of each participant was available from the interviews. However, at the transcription stage each interview was assigned a number. The document linking the number and interviewee was kept in a locked filing cabinet. Rigorous measures were taken to ensure confidentiality, because of the small population size and the fact that the researcher works for AHS-EPH. Information was not stored or analyzed on AHS computers. All data, including computer memory storage devices were kept in a locked cabinet in the researcher's home office. Clicking on the link for the online survey indicated informed consent for participation in the study. Surveymonkey (www.surveymonkey.com) was the web-based survey software. Data security was ensured because all information was downloaded to the researcher and saved on separate secure offline device. Data were pooled and all personal identifiers stripped. The privacy and confidentiality of participants was protected by removing any identifying

information that they system may have captured during the survey, for example email addresses, IP addresses. No raw data was shared with anyone other than the supervisory committee. Confidentiality was maintained through the following steps: all survey and interview information was stored on two encrypted portable storage devices and kept in a locked cabinet when not in use. All textual analysis was done at the researcher's home office and kept in a locked file cabinet. At the end of the study all the information was forwarded to Dr. Kim Raine, supervisor of this Masters study. She will keep it in a locked cabinet, until after five years the data will be destroyed.

3.7.3 Informed Consent

Before being interviewed, each participant was briefed about the study's aims and objectives, and assured that the data would remain confidential and anonymous. It was made clear that no personal identifiers would be released to AHS or be used in publications. All interview participants signed an Informed Consent letter: the participant retained a copy and the original was kept with their file in a locked cabinet in the researcher's home office. This data will also be destroyed after five years.

All participants were competent to give informed consent. Consent for the online survey was implied by saving the survey at the end, if the participant aborted the survey before completion it was not saved. A participant could withdraw at any point in the survey, up to and until clicking SAVE.

3.*8 SUMMARY: RESEARCH METHODS*

The literature review provided a policy framework for the study. The mixed-methods design enabled the data to be examined from multiple perspectives, namely, qualitative, quantitative, and policy analysis. Using a variety of methods aided credibility by increasing the strength of the verification strategy. The verification strategy enabled trustworthiness because of credibility and dependability mechanisms offsetting possible researcher bias. The research

questions lend themselves to a qualitatively focused study, with quantitative metrics and policy evidence providing support for emerging themes. This aligns with the principles laid out by Tashakkori and Creswell (2007). They explicated three principles for questions used in mixed-methods research: there is one explicit question requiring integration of data types; that the question generates qualitative and quantitative sub-questions; as data collection and analysis progress, the different components results in the question(s) being reexamined or reframed. This aligns with the Srivastava and Hopwood (2009) theory regarding the iteration of data collection and analysis. The mixed-methods design followed the format and nomenclature described by Creswell (2009). Following Creswell (2009) this study used a sequential, mixed-methods design. A sequential design, according to Creswell, means that one method precedes the other: in this case that method is the qualitative interview, which preceded the quantitative survey, which preceded the policy analysis. Other traits of mixed-methods design identified by Creswell (p.17) and present in this study are; practice-based evidence, the presence of open-and closed-ended questions, and visual guides of study procedures (Figure 2). The quantitative design was based in the policy framework, SDOH, and the Ottawa Charter allowing supporting evidence for the qualitative themes. The policy analysis examined the key documents for manifest and latent health promotion content. This described the policy context for the health promotion practice themes developed from the qualitative and quantitative evidence.

4. RESULTS

4.1 INTRODUCTION

The results are presented together with the qualitative analysis being the focus and the quantitative and documentary evidence providing complementary and triangulation data. The qualitative data was generated from thematic analysis of the interviews and the open-ended survey questions. Quantitative data was derived from analysis of the close-ended survey questions. Analysis of the key policy documents provided the policy context for the quantitative and qualitative data. The key strength of this study is that the mixed-methods design provided different types of triangulating, complementary evidence, enabling the emerging themes to be fully grounded in the practice-based context.

4.2 INTERVIEW TIMEFRAME AND DEMOGRAPHICS

The interviews were conducted from late April to early June 2011. The results of the interviews are linked to the three study parameters: policy framework, social determinants of health (SDOH), and Ottawa Charter Action Areas.

There were 15 interviews conducted; 10 were done in person, five via telephone. The participants were from all three policy levels: implementation planning (5, 33%), communication (7, 47%), and action (3, 20%). The self-identified geographic distribution of interview participants was: rural (1, 7%), urban (8, 53%), rural and urban (3, 20%), and province-wide responsibility (3, 20%).

Seven (54%) of 13 interview participants had some training in health promotion, while six (46%) indicated they had no health promotion training. Two (13%) of the 15 interview participants did not answer that question.

Table 1 details the codes used in the qualitative analysis: the literature-derived codes from the policy framework, and the interview-derived codes. Identified sub-themes and meta-themes are also included.

Table 1. Qualitative Analysis Coding Summary

Literature-derived Codes	Analysis-derived Codes	Sub-themes	Meta-themes
Politics	Policy	Health inspectors are agents of policy. They enforce regulations through inspections. Their effectiveness is measured by the quantity of their inspections	Opportunistic
Policy		Not a priority, treat everyone the same	Unintentional
	Health promotion definition	"gray area", varying understanding, proactive, qualitative, giving information, explanation, encouraging, allowing, choice not to comply	Incremental
		Lack of shared health promotion vision	Inconsistent
	Health Education definition	Health education is what AHS-EPH does as health promotion	
		Risk communication	
	Population Health definition	Measures the health of the population but is not focused on the health of the individual	
		Not applicable to AHS-EPH	
	Health protection definition	External application of power to enforce health behavior change	
		Reactive, quantitative, accountable, policy-defined, no choice must comply	
	Health promotion practice	Not an application of power	
	Communication	Risk communication is health education is health promotion	
	Health Behaviour change	Enforcement or enabling	
		Initiated by health information transfer	
		Health information transfer will initiate behavior change	
	Gap-analysis	Auditor General identifies gap between policy and implementation for food safety	
		Health inspectors in the field versus policymakers in the office	
	Accountability	Health protection quantitative, justifiable	
		Health promotion qualitative and unjustifiable	
Economics			
Organizational Resources	Resources	Limited resources assigned to health protection, doing health promotion takes it away and do less health protection	
Individual Resources			
Organizational Leadership	Leadership	Very little leadership demonstrated. Health promotion would benefit AHS-EPH but no one wants to be lead person	
Individual Leadership		"Nothing stopping us"	
System Partnerships		After effects of transfat initiative	
Individual Partnerships and Networking	Partnerships	Referral to other agencies but not handoff and ignore	
Organizational Knowledge and skills	Health Protection-Health Promotion Practice	Health protection is coercive	
		Health promotion non-coercive	
Individual knowledge and skills		Not there to encourage there to enforce	
Values	Barriers to health promotion	Demographic change a barrier to health information transfer because difficult to communicate	
		Lack of shared vision of health promotion, lack of support, time, resources	
	Facilitators of health promotion	Put in policy, create a specific program with funding	
Social Determinants of Health (SDOH)	SDOH: Direct Impact	EPH directly affects SDOH through targeted intervention	
	SDOH: Indirect Impact	EPH affects SDOH unintentionally through policy or inspection	
	SDOH: No impact	EPH does not affect SDOH	

An example of the qualitative analysis is provided in Appendix F. Developing themes created codes that assisted development of the online survey. For example: health protection as enforcement "*…you have to carry a big stick and use it…*", health promotion is choice-based "*…give somebody all the information they need…*". Other emerging themes included: policy implementation "*…upper management set the goals…inspectors "deliver the goods"…*". The ethos of health inspectors who practice health promotion could best be summed as "*…because we care…*" and "*….we are the social safety net…*". Developing themes (Table 1: Sub-themes) informed some of the open- and closed-ended questions. This was done to gain more evidence to support the emerging themes.

4.2.1 Online Survey

The survey combined closed-ended questions and open-ended questions. The closed-ended questions enabled quantitative analysis. The quantitative analysis supported developing themes from the interviews. The open-ended questions enabled qualitative analysis that triangulated themes developed from the interviews. Some survey questions were based on the thematic analysis of the interviews to validate saturation, correlate across methods, and obtain quantitative data that supported and triangulated the qualitative themes. Examples are provided below demonstrating the qualitative and quantitative data synthesis that generated the themes outlined in Table 1.

4.2.2 Online Survey Sample Demographics

The survey was completed by 51 (21%) of 235 health inspectors. The survey participants comprised the range of policy levels; policy implementation planning (8, 12%), policy communication (15, 22%), policy action (44, 66%). When given the choice of policy levels online survey participants chose more than one level unlike the interview participants who chose only one. Hence, while

there were 51 online survey participants the response to the policy role question was an n = 67.

The geographic work area distribution was; rural setting (9, 18%), urban (28, 54%), rural/urban (11, 22%), and province-wide (3, 6%). The close-ended questions from the survey included some about the participant-assessed strength of various attributes, such as the presence of health promotion in general inspection types, in AHS-EPH generally, and in actions by health inspectors. Close-ended questions included some about participant-assessed agreement of various attributes, including effect of demographic change, definitions of health promotion and protection, organizational health promotion vision, and resources. The results were entered into the Predictive Analytics SoftWare (PASW) package where the mean and standard deviation at a 95% confidence level were generated.

4.2.3 KEY POLICY DOCUMENT ANALYSIS

Analysis of key documents provided the study's policy context. Crucial components of policy implementation planning are the actual policies and procedures that enable action. Key documents were identified and analyzed in a systematic manner that complemented the interviews and surveys and tied into the policy framework. The social determinants of health (SDOH) and the Ottawa Charter Action Areas were the health promotion criteria used to examine the chosen key policy documents. The primary piece of regulatory policy (legislation created by AHW that enables and sets the jurisdiction and mandate of the organization and the individual) is the Public Health Act of Alberta (PHA) (Government of Alberta, 2010). Also examined were the Housing (Government of Alberta, 1999), and Food Regulation (Government of Alberta, 2006).

Organization-level policy consists of *A common reference system and operational standards for Alberta regional health authority environmental health programs* the Blue Book (CMEH, 2001) and Departmental Standard Operating Procedures (DSOPs). The role of the Blue Book is to enable consistent application of policy. Policy flow within environmental health is emulated by the

policy framework describing policy from the system-level to the organization to be used by the individual (Figure 2). Table 2 details how the relevant policy documents impacted health promotion and the SDOH.

Table 2. Policy impacts on health promotion and the SDOH

SDOH ***Policy***	**Health Promotion**	**Aboriginal Status**	**Disability**	**Early Life**	**Education**	**Employment Working Conditions**	**Food Security**	**Health Services**	**Gender**	**Housing**	**Income**	**Race**	**Social Exclusion**	**Social safety net**	**Unemployment and job security**
Public Health Act	Direct	No	No	Direct	Indirect	Direct	No	Direct	No	Direct	Indirect	No	No	Indirect	No
Housing Regulation	No	No	No	Indirect	No	Indirect	No	Indirect	No	Direct	No	Indirect	Indirect	Indirect	Indirect
Food Regulation	No	Indirect	No	Indirect	Direct	Direct	Indirect	Indirect	Indirect	No	Indirect	Indirect	Indirect	Indirect	Indirect
Blue Book	Direct	No	No	Direct	Direct	No	Indirect	Indirect	No	Direct	No	No	No	No	No

*Direct impact: policy mentions SDOH including regulatory response
Indirect impact: policy does not mention but it clearly demonstrates link to SDOH
No impact: policy does not mention and does not demonstrate impact on SDOH

Of the 15 health promotion parameters examined, only six were directly affected by policy. The PHA directly impacts five because there is specific language or regulations regarding health promotion, early life, employment and working conditions, health services, and housing. The Housing Regulation specifically targets safe living accommodations. The Food Regulation is focused on food safety and includes sections on provision of food safety education. The Blue Book has sections referencing health promotion, early life, education, and housing.

4.3 RESULTS: DATA INTEGRATION

Since this study is a mixed-methods design with an emphasis on the qualitative evidence with the quantitative and policy evidence supporting the main themes, data integration followed that basic principle. Qualitative coding of the 15 interviews revealed sub-themes and meta-themes as detailed in Table 1.

The first step in data synthesis was comparing the literature-derived definitions of health promotion, health protection, health education and population health with the practice-based evidence. That process revealed that health inspectors have an experienced-based understanding of the relationship between the different areas.

4.3.1 A COMPLEX RELATIONSHIP: HEALTH PROTECTION, HEALTH PROMOTION, HEALTH EDUCATION AND POPULATION HEALTH

The relationships among health protection, health promotion, health education and population health are complex and interrelated. Understanding this complex paradigm was an important facet of the study because policy implementation was affected by it.

4.3.1.1 CONTEXT-SPECIFIC DEFINITIONS

Evidence presented in Table 3 describes the AHS-EPH specific definitions for the study's key concepts: health protection, health promotion, the relationship between health education and health promotion, and health promotion and population health. Health inspectors believed that health protection was enforcement oriented, and coercive (the enforcement-compliance approach). Health promotion was perceived as "*a message to a targeted audience, not well defined, and there is no formal health promotion* actions" (policy communication participant). The general theme was one of encouragement-oriented and non-coercive: capacity-enabling. Health inspectors also believed that health education and health promotion "*is an advocacy role, proactive, and qualitative*" (policy

action participant). Population health, from the health inspector's perspective "*broadest sense deals with things like asthma and BMI, measuring overall health*" (policy action participant). This is in contrast to health promotion which targets behaviour change in individuals. This supports the characteristic incremental nature of health inspector health promotion practice, since health inspectors believed, and due to policy gaps and organizational barriers these definitions reflect, the health inspector's capacity to use health promotion principles.

Table 3. Survey participant-assessed agreement with definitions of health promotion, and health protection, (n=51, 95% CL)*

Attribute	Mean	Lower – Upper CI
Health promotion encourages and is non-coercive	4.69	4.40 – 4.98
Health protection enforces and is coercive	4.08	3.77 – 4.39

*1 = strongly disagree, 2 = disagree, 3 = somewhat disagree, 4 = somewhat agree, 5 = agree, 6 = strongly agree

The PHA (Government of Alberta, 2010) has definitions that were very clear on health protection terms, creating a regulatory, enforcement oriented philosophy. There was no definition of health education or health promotion, however. One of the keys to health protection policy is in Section 1(ee) definition of a "nuisance". This definition is a linchpin of jurisdiction. Other key sections regarding jurisdiction were laid out in Section 1 (hh, ii) defining public place and private place and establishing the PHA's jurisdiction. The PHA explicitly mention health promotion in Section 10: *"A regional health authority shall provide the health promotional, preventive, diagnostic, treatment, rehabilitative and palliative services, supplies, equipment and care that the regulations require it to provide"* (Government of Alberta, 2010, p. 14). That is the responsibility of the delegated authority of the Government of Alberta, Alberta Health Services. The

Minister of Health also has a health promotion role articulated in Section 12: "*The Minister may provide to any person any health promotional…services…prescribed in the regulations"* (Government of Alberta, 2010, p. 14).

These sections in the PHA enable health promotion with the caveat that it is prescribed in the regulations. First let us consider what health promotion, health protection, health education, and population health mean, then examine how they relate and were delivered.

4.3.1.2 HEALTH PROTECTION

The literature-based definition of health protection is that it is an attempt to identify public health risk factors, protect the public from exposure, and limit any impact where exposure cannot be avoided (Hall, 1964; Government of Scotland, 2011). Practice-based examples were elicited during the interviews.

Health inspectors characterized health protection as "*quantitative, driven by inspection numbers which are mandated from the program; however, health protection alone cannot fulfill EPH's entire mandate*" (policy communication participant). It was also described as "*reactive to public health concerns and not proactive*" (policy action participant). Health protection can be considered "*a process of enforcement where the individual does not have a choice*" (policy communication participant). Health protection "*you have to carry a big stick and use it, our primary role is enforcement, they must comply*" stated a policy implementation participant.

Health promotion may be an unintended effect of health protection:

> *When enforcing can find promotion effects, this does not make us practitioners of that promotion method, it simply means that there are unintended consequences of the enforcement actions.*
>
> (policy implementation planning participant)

The nature of health protection was summed up by this policy implementation participant:

> *Prosecution under the PHA is protection without a health promotion component. The purpose is punishment and setting an example to others.*

These comments indicated that health inspectors view health protection as coercive, enforcement-based regulatory compliance, or enforcement-compliance.

Inspection is a health protection action manifested as enforcement activity mandated under the Public Health Act (Section 59, 60, Government of Alberta, 2010). Approved policy implementation motivated health inspectors to focus on enforcement-based health protection and discouraged health promotion. Risk communication that is transfer of "relevant" health information was considered as health education. This perspective also articulated the enforcement-compliance approach of the "ladder of enforcement".

Enforcement of the PHA and Regulations are an important function of health protection and may have health promotion affects, also. Table 3 demonstrates that participants agree that health protection is coercive.

4.3.1.3 HEALTH PROMOTION

The health inspectors' perspectives of health promotion were an important aspect of the study. The definition provided by the Ottawa Charter (1986), that of enabling control over and improvement of health, combined with the participant's practical examples gave insight into how health promotion principles were used.

The way interview participants described health promotion emphasized health information transfer enabling behaviour change. Their comments included:

> *You are able to give somebody all the information they need so they can make their own choice, you're promoting the benefits so they have a choice.*
>
> (policy communication participant)

Some health inspectors equated health promotion with health education:

> *We are educating the public to understand what factors could affect their health and to promote activities to improve their health.*
>
> (policy implementation planning participant)

Some health inspectors perceived that:

> *There are opportunities for health promotion in every Blue Book program area.*
>
> (policy implementation planning participant)

Health inspectors, according to Table 3 define health promotion activities as specifically non-regulatory communication aiming to elicit a non-coerced response. Their definition of health education focused on the similarities and differences compared to health promotion and health protection. The quantitative data from the survey provided support for the quantitative evidence in Table 4.

*Table 4. Participant-assessed strength of AHS-EPH health promotion attributes (n=51, 95% CL)**

Attribute	Mean	Lower – Upper CI
AHS-EPH current health promotion practice	2.95	2.64 – 3.26
There is a shared vision of health promotion within AHS-EPH	2.49	2.18 – 2.80

*1 = very weak, 2 = weak, 3 = somewhat weak, 4 = somewhat strong, 5 = strong, 6 = very strong

Table 4 demonstrated that health inspectors assessed current health promotion practice and vision as weak at the organizational (AHS) level.

4.3.1.4 Health Education

The WHO (2013, para 1) defines health education as any form of learning experience aimed at individuals and communities to increase their knowledge and change attitudes to improve their health. The relationship between health promotion and health education was investigated during the interviews:

> *Health promotion and education are synonymous and interchangeable.*
>
> (policy communication participant)

Health inspectors visualize health education as formalized with a clear program and objective. Health promotion is seen as generalized with longer term goals:

> *Health education is the "formal" provision of information, such as a classroom setting. Health promotion is the informal information transfer that occurs during inspections.*
>
> (policy communication participant)

The interviews suggest that health education is seen as an implementation tool of health promotion. Interview subjects often mentioned the idea of creating specific messages for certain sensitive sub-groups, such as children and the elderly and suggested that doing so would encourage changes in behavior. Assessing long-term changes to population health was not considered to be a role for AHS-EPH.

4.3.1.5 POPULATION HEALTH

Health promotion and population health are interrelated. The Public Health Agency of Canada (2001) developed a population health promotion strategy that integrated the strategic vision of population health with health promotion concepts. How the health inspectors visualized the relationship between health promotion and population health in this context was investigated. Similar to the specific-general dichotomy reflected in the health education and health promotion evidence, health inspectors believed that health promotion was more individual-health focused while population health focused on community and population-level health:

> *Promotion is directed more towards the individual. Population health deals with all the population as a group.*
>
> (policy communication participant)

> *I would say that promotion is a significant tool of population health.*
>
> (policy implementation participant)

However, generally, some health inspectors did not have a clear idea of population health or its relationship to health promotion. For example:

> *I guess, population health is larger and directed towards the masses. Health promotion is small groups at a time? It's very confusing.*
>
> (policy communication participant)

The relationship between health protection, health promotion, health education, and population health was explored from the quantitative perspective in the survey. Definitions of health protection and health promotion were derived from the interviews, and then presented in the survey. Participants were asked to indicate how strongly they agreed with the definitions. The health protection definition focused on enforcing of the PHA and regulations using coercive, direct action to mitigate identified risks to public health. Thirteen (26%) disagreed, and 38 (74%) agreed that this definition described health protection as practiced by provincial health inspectors in Alberta.

In the interviews, participants-defined health promotion as encouraging healthy lifestyle and behaviour change through non-regulatory communication of health information. Five (10%) participants disagreed with this definition, and 46 (91%) agreed with that this definition described health promotion as practiced by provincial health inspectors in Alberta. This supports the theme that risk communication is health education which is the same as health promotion.

Health promotion and health education are closely linked, and understanding the health inspector's perspective was important. Information derived from the interviews ranging from being independent of each other to working equally together to using health education as a tool for health promotion. The survey data indicated that four participants (8%) believed that health education is distinct from health promotion, 11 (22%) believed that health education is targeted and health promotion is a general strategy, 20 (39%) believed they worked together, one (2%) believed that health education is a structured approach unlike health promotion's diffuse approach. Fifteen (29%) believed that health education is an integral component of health promotion.

The relationship between health promotion and population health was identified on a similar spectrum; ranging from being independent of each other to working together to health promotion as a tool of population health. No one indicated that health promotion and population health were distinct concepts. Seven participants (14%) indicated that health promotion targeted a specific segment of the population while population health was a general measure. Twenty-three (47 %) indicated that health promotion was a strategy to change health behaviour and population health was a measure of that change. Nineteen (39%) indicated that health promotion was an integral tool of population health.

The interview and survey participants were not as aware of population health as they were of health promotion. They believed that health promotion requires action via health education to enable individuals and groups to make healthy lifestyle choices. Population health is passive and monitors the health of the population and may indicate areas of impending or current health concern.

4.3.2 Internal Factors affecting Policy

The Lieutenant-Governor of Alberta acting for the Government of Alberta may under Section 66(1(m)) *"make regulations…respecting the kinds and basic standards of health promotional, preventive….care that must be provided by regional health authorities"* (Government of Alberta, 2010, p. 51). Where this power is clearly used is Section 66(1) which contains 38 subsections detailing the subject areas of possible Regulations, Standards and Guidelines (Government of Alberta, 2010). Most of these 38 areas are covered under at least one Regulation, some are covered in both the Act and Regulation, and some are covered in a Regulation and a Standard or Guideline. Health inspectors are designated as Executive Officers of the Public Health Act, granting them powers and responsibilities of this key regulatory policy. Implementing the PHA is stated in Part 4; specifying that inspections are the implementation tool of health protection via enforcement action (Government of Alberta, 2010). A public health nuisance is the generic criteria for enforcement of the PHA (Government of Alberta, 2010).

Inspections are used to identify existing or potential nuisances that are considered risks to public health. The PHA and the regulations are enforced so as to mitigate risk by eliminating the nuisance. Health promotion is not covered explicitly in a Regulation, Standard or Guideline.

The PHA demonstrates a biomedical perspective, for example it focuses on such things as vaccines (Section66(1(g)), the detailed process of communicable disease directives; including pandemic influenza, sexually transmitted infections, quarantine, and isolation; and public health emergencies (Government of Alberta, 2010). Processes emphasize the medical or epidemiological approach and set the parameters and influence the perspective of those implementing the policy, the health inspector.

The PHA and the Regulations are designed to empower the organization, AHS-EPH, and the individual health inspector to implement regulatory public health policy using enforcement. Health inspectors implement policy through inspections, using the authority and guidance provided by regulatory and organizational policy coupled with their training and experience.

4.3.3 The Blue Book

The Blue Book (Council of Managers-Environmental Health, 2001) lays out the basic framework for implementing environmental health policy throughout Alberta. Upon review, strong health promotion themes were evident underpinning most of the health protection goals. The Blue Book cites the Lalonde Report (1974) on page 6, an example of health protection using health promotion language to enhance the environmental health program. Designed to meet the need to apply the PHA and regulations consistently across the province in 2001, the Blue Book focus was to control possible human risk factors in the environment, reinforcing the perspective articulated by Hall (1964). The Blue Book does take into account that health needs across the province may differ and that some areas require more services than others. The Blue Book directly references the Regional Health Authorities Act (Government of Alberta, 2000),

stating that it will promote and protect the health of the population (CMEH, 2001). However, the Blue Book does not reference Sections 10 or 12 of the Public Health Act which refers to health promotion. This results in one of the fundamental policy gaps between planning system-level policy and organization-level policy implementation. Delivery of environmental health programs are broken up into seven functional program areas: Disease and Injury Control, Safe Food, Safe Drinking Water, Safe Recreational Water, Safe Indoor Air, Healthy Environments, and Safe Built Environment.

The Safe Food Program is driven by a mandatory inspection system based on high, medium and low risk. Generally the program interacts with the food industry to ensure that the public receives food prepared in a safe manner. The public does not interact with the program directly other than to file complaints or when there is a food borne illness outbreak.

Safe Built Environment however, specifically the Housing Regulation component is a complaint-driven system. Some areas, including: Edmonton, Calgary, and Lethbridge, have a proactive housing inspection program, where a list of rental accommodations meeting a certain criteria, usually age of the structure, are inspected on a routine, non-complaint based, schedule. The majority of built environment inspection activity is complaint-based. This differs from the Safe Food Program which is routine-inspection based.

This health inspector's response triangulates data with the SDOH and Ottawa Charter Figure 10:

> *Housing, food a little bit (mostly food safety though), childcare programs.*
>
> (policy communication participant)

Participants were aware that not all Program Areas would benefit equally from health promotion, that some areas were easier to influence than others:

> *They all would but the approach would be different; some things are easy to report on and extract from the field. Food is the most important.*
>
> (policy communication participant)

The perspective of AHS-EPH on health promotion is different than that on health protection. Health inspectors not only acknowledged that fact, but understand the role of policy and policy creators such as the Auditor General:

> *The Blue Book mentions the advantages of promotion but separates protection and promotion and EPH does not see them as one and the same. The Blue Book is even more relevant to what EPH is now doing because of the AG's use of it to evaluate EPH efficacy.*
>
> (policy communication participant)

> *Health promotion is mentioned in the Blue Book but it is not well developed. This hinders promotion because there is nothing to tie purpose and action together.*
>
> (policy implementation planning participant)

Table 5 demonstrates that participant's identified all basic inspection types as having some health promotion component.

Table 5. Participant-assessed Blue Book program areas available for health promotion practice, rank ordered (highest – lowest) (n=51)

Blue Book Program Area	**Percent**
Safe Food	96.1
Safe Built Environment	94.1
Healthy Environments	90.2
Disease and Injury Control	90.2
Safe Drinking Water	88.2
Safe Recreational Water	80.4
Safe Indoor Air	78.4

Safe Food and Safe Built Environment (Housing) ranked the highest. This supports the use of the Housing and Food regulation as illustrative examples of the Regulations, because they have the highest similarity between health promotion and health protection principles. The interaction between the different

levels of policy-regulatory and implementation-means that health inspectors can choose either enforcement-compliance or capacity-enabling actions.

4.3.3.1 THE POLICY PROCESS WITHIN ENVIRONMENTAL HEALTH

The data demonstrates that there is a clear view of the public health protection policy process within AHS-EPH. The structure of the policy process is divided: parts of it are formal, other parts are informal. This is important, but it also means there is no consistent application of health promotion principles. There are as many ways to implement as there are people using the principles. Consistency and accountability are the goals of policy texts, according to Smith (2005). The different policy groups within AHS-EPH, which include implementation planning, communication and action, are not necessarily separate individuals, as some participants self-identified as belonging to more than one group (Section 4.1.2.1). All three groups must work within the policy boundaries laid out by AHW.

4.3.3.3 POLICY IMPACTS ON HEALTH PROMOTION PRACTICE

The role of AHW was demonstrated by the interview participants' comments on politics and economics which are system-level capacity indicators. These literature-derived codes were expanded upon in the interviews to include leadership, accountability, partnerships, policy gaps, and communication. Health inspectors identified a tension between policymakers who are removed from field-level implementation, and health inspectors who implement policy.

4.3.3.4 POLITICS

Health inspectors referred to politics as a barrier to health promotion and health protection. They are aware of the ideal policy process, but politics can be a barrier when trying to enforce policy and there is perceived political interference:

> *Politics affects the clear departmental roles and responsibility between policy and operations, resources, executive support.*
> (policy implementation planning participant)

Policy provides, in the words of a policy communication participant, "*regulations that are enforceable, a clear rationale for action, and an obligation for accountability*."

4.3.3.4 ECONOMICS EQUAL RESOURCES

Almost all resources for AHS-EPH activities are derived from funding provided by AHW. That funding is directed to the articulated health protection activities. Some participants described an inverse resource relationship between health protection and health promotion activities in which non-policy mandated health promotion activities take resources away from policy-mandated health protection activities:

> *Over time the perception and use of health promotion has changed. We used to spend a lot of resources on promotion and very little on protection. Currently it's swung the other way with much more emphasis on protection, which may have gone too far.*
>
> (policy action participant)

One health inspector concluded that, because of the lack of health promotion enabling policy documents, AHS-EPH therefore, was not resourced to do any health promotion activities:

> *There are no documents that mention health promotion. There are no recognized activities within EPH because they are only resourced for a regulatory purpose that is expressed under the Act and Regulations and the seven program areas outlined in the Blue Book.*
>
> (policy implementation planning participant)

AHW provides almost all the resources for AHS-EPH. Those resources are specifically directed towards health protection action, but not explicitly prohibited from health promotion. The capacity to use that opportunity for health promotion initiatives lies with AHS-EPH.

4.3.3.5 Organizational Resource Allocation

Any function within environmental health must be funded and resource allocation is critical to program effectiveness. It was important to ask if resources for health promotion practice exist within AHS-EPH.

Participants identified barriers to increased capacity caused by a lack of time, workload, and staff shortage:

> *[Barriers included] time, due to workload and the expectation of the Executive that the health inspectors have to accomplish a certain amount of measurable work, for example 6 inspections/day for Safe Food Program.*
>
> (policy communication participant)

> *We need more resources. Right now it's very difficult to maintain target when we're 1/3 to ¼ without staff.*
>
> (policy communication participant)

Resources are an important factor in health promotion capacity. Some of these sources can be individual health inspectors taking independent action based on knowledge and confidence in applying health promotion principles. Organizational resources and leadership are important factors, as is policy. AHS-EPH is organizationally prohibited from creating policy. However, it can formulate procedures regarding policy implementation.

4.3.3.6 AHS-EPH POLICY IMPLEMENTATION

AHS-EPH operates at an organizational level. It develops the implementation plan for the regulatory public health policy created at the system-level. Resources, funding and time for implementation, are specified at the organizational-level.

A policy communication participant describes AHS-EPH policy implementation structure:

> *The director and upper management set the goals, for example, six inspections per day. Supervisors figure out the process to get the deliverables. The field inspectors "deliver the goods"; they do the inspections that implement public health policy.*

Table 6 demonstrates that participants do not believe there is a health promotion guideline document. However, they do believe that the Public Health Act may enable health promotion practice.

Table 6. Participant level of agreement regarding policy documents (n=51)

Question	Yes (n/%)	No (n/%)
Is there a health promotion guideline?	8/17	42/83
Does the Public Health Act enable health promotion activities?	40/78	11/22

Table 6 also describes an apparent policy gap between enabling policy, the PHA, and implementation policy, the lack of a health promotion guideline document.

4.3.3.7 POLICY AND IMPLEMENTATION (DSOP)

This section describes the role played by the Departmental Standard Operating Procedures (DSOP). The DSOP process's goal is to implement policy consistently across the province.

The health inspector understands the DSOP's role in implementing health protection policy:

> *DSOPs help us do enforcement better, [the] Regulation and standards are in place, and we assess a situation and determine whether the place or circumstances are in compliance or not. There are times when some situations require further assessment. DSOPs allow for that assessment [acknowledge] that discretion may be needed. DSOPs help to make that decision for that officer. The Regulations are very general in their approach. There may be some specific items; it doesn't mean that there's no room for improvement. Standards can be reevaluated and reassessed: DSOPs address areas that need some clarification and guidance.*
>
> (policy communication respondent)

Policy limitations and other factors are understood to complicate implementation:

> *Some regulations are black and white and [others are] open ended and we're told to be consistent and use discretion and enforce some regulations but not others. Then you get shit on for doing the*

> *best public health decision you can. There are pure public health decisions, health protection decisions. Then there are other decisions that are not set out in Regulation[s].*
>
> (policy communication respondent)

When policy compliance is not voluntary the ladder of enforcement is used:

> C*ompliance with Regulation[s] and the Act are the main goals; when education fails to gain compliance then enforcement action must take place*
>
> (policy communication participant)

Instead of always using an enforcement-compliance approach, some health inspectors will engage in capacity-enabling actions, such as partnership-building. Bridging the gap between policy and the needs of the client often entails building partnerships with other agencies. Health inspectors are aware of this capacity-enabling approach, as the following statements demonstrate.

Some of the organizations that health inspectors work with belong to various levels of government: municipal, provincial, federal:

> *Although education, dialogue, advice, recommendations [have] always been a role, we are increasingly participating in [a] more formalized process with other government and municipal approving authorities.*
>
> (unspecified policy group participant)

Participants were aware of the limitations of policy-defined jurisdiction and mandate:

> *[It is important to] Recogniz[e] where jurisdiction ends to find partners to assist the client. This is a team approach so that assessment can happen, and action, where the various agencies complement each other to ensure client safety and still stay within [their] jurisdiction.*
>
> (policy action participant)

The health inspector's perspective of health promotion at the organizational-level has been examined. The implications of the policy framework at the individual-level were also investigated.

4.3.4 AHS-EPH AND HEALTH PROMOTION

The survey developed data regarding the presence of health promotion influences within different types of inspection.

Table 7. Participant-assessed health promotion strength of basic inspection types (n=51, 95% CL)*

Inspection Type	Mean	Lower-Upper CI
Proactive Housing	4.18	3.84-4.52
Notifiable Disease	4.18	3.84-4.13
Childcare	4.12	3.79-4.45
Complaint-based Food	3.90	3.55-4.25
Zoonotic Investigation	3.78	3.43-4.13
Drinking Water	3.78	2.87-3.49
Recreational Water	3.74	3.38-4.10
Routine Food	3.71	3.33-4.09
Personal Services	3.68	3.30-4.06
Work camp	3.41	3.09-3.73
Air Quality	3.18	2.87-3.49
Land Development Approval	2.90	2.56-3.24

*1 = very weak, 2 = weak, 3 = somewhat weak, 4 = somewhat strong, 5 = strong, 6 = very strong

Table 7 demonstrates that health inspectors see some health promotion influence on three basic inspection types. Proactive Housing is an inspection of rental premises before there is a complaint. Notifiable Disease inspection occurs when a disease listed in the Communicable Disease Regulation (Government of Alberta, 1985) is identified in a person and the incident is investigated by AHS-EPH. Childcare inspection is when a day home, daycare, school is inspected to protect the health of children. However, when asked about the strength of AHS-EPH focus on child safety participants said that it was weak (mean 3.19,

confidence interval 3.18-3.80, 95% CL). This illustrates the complementary nature of health protection where child safety is weak that can be balanced by using health promotion (somewhat strong) techniques that would “fill the gap”. Health inspectors did not identify health promotion influence on the other nine inspection types.

Regulatory health policy is targeted at the public; the health inspector applies that policy during public interactions. Policy implementation relies on a number of factors for policy action, such as personal values, leadership, knowledge and skills, and available resources. These factors are indicators of personal capacity for health promotion action as specified by Smith et al. (2001).

4.3.4.1 Personal Values

Health inspectors bring their own value system to policy implementation. These values may include going beyond the mandated inspection policy to ensure that the client, the member of the public, has the best service. For example, The Blue Book does indicate that partnerships will be used to provide service where there is a gap between legislated policy and the needs of the client (CMEH, 2001).

One health inspector summed up the empathy component of environmental health thusly:

> *We would use referral to a better agency that could meet their needs, [and] we would do that because we care.*
>
> (policy action participant)

Another health inspector identified the need to balance the quantitative and qualitative aspects of environmental health:

> *Numbers isn’t a good indicator, as you may have quantity without quality. It is quality interactions with operators that make a difference. If you can shift their understanding and help them come to value the importance of compliance you are more likely to not have issues with them in the future.*
>
> (policy action participant)

This value system, believing that quantitative and qualitative are both necessary for health inspectors, is typified by the following comment:

> *I hate that EHOs [Environmental Health Officers aka health inspectors*] *are numbers driven. I do quality inspections, and I don't mind doing it because I am helping my community. Things would be better if success was not measured in numbers.*
>
> (policy action participant)

These comments demonstrate the frustration felt by health inspector at being restrained by policy to a "pure" health protection interpretation of implementation and accountability.

4.3.4.2 POLICY IMPLEMENTATION ROLES

The study assigned AHS-designated job categories into three policy-based groupings as described in the methods. The interview participants were asked to describe their understanding of these categories. This enabled the grouping-scheme to be validated and placed within the policy context.

The policy implementation planning health inspector category was designed to reflect the role of management- level staff who are concerned with taking policy documents (legislation for the most part) and turning them into an implementation plan. Health inspectors, regardless of job category or policy role, understood how the policymaking and implementation functions:

> *Policy is designed by AHW. If they choose to include us during the policy formulation process they can take our recommendations and accept it or not. Once they've delivered that policy to AHS, [the] Director and others must formulate a policy implementation process.*
>
> (policy implementation planning participant)

Participants are involved on many committees that provide feedback to AHW:

> *Policy is made by AHW and [AHS-EPH] is not supposed to make policy so we avoid using that term. We create Departmental Standard Operating Protocols detailing how to carry out policy.*
>
> (policy implementation planning participant)

Since policy formulation is organizationally-restricted to AHW, DSOPs provide the implementation plan. It is the policy communication health

inspector's job to ensure that field staff is aware of DSOPs, and facilitates field feedback to help plan the implementation.

The policy communication health inspector's role is designed to reflect the work of program supervisors as connects the policy implementation planning staff and the policy action health inspector. Participant's understanding of this role was typified by the comment:

> *Supervisors make it as streamlined as possible to ensure that the field staff concerns are heard and management hears those concerns, [and] also that management directives are taken back to the field staff.*
>
> (policy communication participant)

There are drawbacks to the current system, which can pose a barrier to health promotion activities:

> *We sit around and the framework is good, but we're getting lost in the minutia of creating policy and writing Regulation[s]. We may be DSOP-ing people to death and have over 300 DSOPs to be very familiar with; how can you learn all them when the pressure is to do inspection?*"
>
> (policy communication participant)

Ideally, the policy communication health inspector ensures that field staff is aware of current DSOPs and monitors staff performance to ensure that is applied consistently. The policy action health inspector's role is to use the policy and procedures to protect - and perhaps - promote the public health.

Policy action health inspectors implement policy, they are able to see first-hand the efficacy of a policy and communicate that to their supervisor. This is a role they are assigned and one that they understand:

> *The field inspectors [colloquial name for policy action health inspectors] have an obligation to carry it out and support the organization in carrying out what the organization believes.*
>
> (policy communication participant)

Field health inspectors have valuable skills and perspectives that are used to adapt or change policy and procedures to meet the ever-evolving needs of public health:

> *Field inspectors [provide] feedback on testing whether or not the procedures are valid. They will communicate [feedback] to the supervisor that the procedure is too difficult.*
>
> (policy implementation planning participant)

The policy action health inspector is responsible for implementation. Ideally, their feedback reflecting the social reality of policy implementation is used to change policy and procedures.

4.3.4.3 HEALTH INSPECTOR AS IMPLEMENTATION AGENT

Who is the "street-level bureaucrat"? The policy role of participants (both those who were interviewed and those who were surveyed), was predefined as categories; policy implementation planning, communication and action. These policy categories are not the approved nomenclature of AHS-EPH, rather they were categories defined by the investigator. The participant chose which category applied but also had opportunity to describe his or her role, validating the investigator's assumption regarding the categories. The participant also had opportunity to discuss their perspective of the other policy roles within AHS-EPH. The survey demographics indicated that of 51 participants, 15 chose more than one category. Most likely these 15 were policy communication health inspectors who also clicked on policy action. The policy implementation planning health inspectors, Managers and the Director, are not required to do field inspections. This demonstrates that for many of the health inspectors, they were fundamentally "street level bureaucrats". Despite being office-bound they are in touch with policy action. This perception contrasts with their perception of policymakers:

> *Policymakers are not "in the field" and this is a barrier to health protection. Their interpretation of existing policy or changes to it is based on political pressure [that] may have negative impacts [for] public health.*
>
> (policy action participant)

The study revealed that health inspectors have developed techniques to use health promotion principles as a method to satisfy client needs that are not explicitly covered under current policy. They ensure that they meet the regulatory parameters of public health protection, but given the opportunity some health inspectors will also use health promotion principles such as information transfer, referral and partnerships, to build capacity-enabling actions. Results demonstrate that 50 of 51 (98%) participants' believed that health promotion principles were useful to AHS-EPH.

Table 8 demonstrates that AHS-EPH is weak to somewhat weak in key health promotion parameters such as child safety, capacity-building educational opportunities, current practice, leadership, vision, and resources.

Table 8. Participant-assessed strength of AHS-EPH health promotion attributes (n=51, 95% CL)*

Attribute	Mean	Lower – Upper CI
Organizational health promotion capacity	3.14	2.84 -3 .44
Available health promotion educational opportunities within AHS-EPH	3.00	2.61 - 3.39
Organizational health promotion leadership	2.66	2.34 - 2.98
AHS-EPH has sufficient resources for health promotion practice	2.22	1.93 – 2.51

*1 = very weak, 2 = weak, 3 = somewhat weak, 4 = somewhat strong, 5 = strong, 6 = very strong

Organizational leadership for health promotion was weak according to participants. Leadership in this area would enable a systematic approach to health promotion practice in the health protection context.

4.3.4.4 LEADERSHIP

Guidance and leadership for health promotion within AHS-EPH is crucial to enable health inspectors to use health promotion activities. When senior management sets the tone for AHS-EPH as "*we are not there to encourage, we are there to enforce the law that is set out*" (policy implementation participant), that leaves little room for the capacity-enabling approach of health promotion.

Thirty-six (71%) of participants indicated that guidance for health promotion practice should come from the AHS-EPH director level or senior management. Nine (18%) believed this guidance should come from the zone manager level. Six (11%) believed this guidance should come from the local supervisor level.

Leadership is a component of capacity and has an effect as either a facilitator or barrier of health promotion activities:

> *How do you define the goal: our goal is primarily health protection; if we had the capacity we would do more for promotion. If [the] mandate and Blue Book would allow it, [the]number of inspections are primarily about protection and compliance;[there is] not a lot of capacity left for teaching. Capacity on the part of people, there's not enough people to do that work; our mandate is provided via the PHA and the Regulations under it."*
>
> (policy implementation planning participant)

Table 9 demonstrates that participants do not believe they have a strong knowledge or ability to apply health promotion principles.

Table 9. Participant-assessed strength of personal health promotion attributes (n=51, 95% CL)*

Attribute	Mean	Lower – Upper CI
Personal ability to apply health promotion principles	3.71	3.47 – 3.95
Personal health promotion knowledge	3.63	3.42 - 3.84

*1 = very weak, 2 = weak, 3 = somewhat weak, 4 = somewhat strong, 5 = strong, 6 = very strong

Participants identified that organizational-level leadership would facilitate using health promotion principles:

> *There is a general understanding of health promotion because the inspectors' share a similar training and background, but a more formal policy would be beneficial.*
>
> (policy communication participant)

However, other health inspectors felt that:

> *No there is not a common vision, there are certain shared components and perhaps a final goal, but the method of achieving that goal is different and depends strongly on what the individual may know about health promotion.*
>
> (policy communication participant)

The solution appears to be a:

> *Change in thinking by management that health promotion can have a significant impact on the end point purpose of protection and how promotion [would] contribute to that end point.*
>
> (policy implementation planning participant)

Taking a leadership role in health promotion practice requires that a person have sufficient knowledge and skills about the practice.

4.3.4.5 KNOWLEDGE AND SKILLS

Implementing health promotion activities requires that the health inspector have the personal capacity to do so. Personal capacity can be measured in a

number of different ways, examined here by self-assessment: does the health inspector believe he has the ability to do it?

The health inspector must have sufficient personal capacity for health promotion to appropriately implement the principles to complement and enhance health protection activities. Personal capacity can be measured in a number of different ways such as knowledge of health promotion. Ability is based in knowledge and 14 of the 44 health inspectors (32%), who responded to this survey question, indicated they had no formal health promotion training. Thirty (68%) indicated that they had some health promotion training. Of the 51 survey participants, seven health inspectors (14%) did not respond to this question.

The type of training that the 30 health inspectors had was coded using categories derived from the interviews. Eight (27%) had been exposed to health promotion principles during their environmental health coursework, 15(50%) during their undergraduate degrees, two (7%) at the post-graduate level, and two (7%) at a Masters level. Three (10%) did not specify where they had training.

It is interesting to note only 60 percent of survey participants had health promotion training, but 76 percent indicated they have used health promotion principles. Despite formal training the health inspectors must see value and applicability of health promotion practice to health protection.

Table 10 demonstrates that participants have identified their changing role in applying health promotion principles.

Table 10. Participant-assessed personal use of health promotion principles (n=51)

Question	**Yes (n/%)**	**No (n/%)**
Health inspector role changed regarding health promotion?	26/51	25/49
Have you incorporated health promotion principles in your work?	39/76	12/24

When others fail to acknowledge that someone has the ability to take on health promotion that can be a barrier:

> *I find my ability to do health promotion is also limited by[a] lack of teamwork individuals within the organization [who do] not recognize[e] the skills I have.*
>
> (survey participant)

Some health inspectors recognize that there are elements of health promotion in most health protection activities:

> *We are consciously or inadvertently using both approaches.*
>
> (policy implementation planning participant)

Personal values, leadership, knowledge and skills are all important factors in health promotion practice. When does the health inspector have an opportunity to use his/her skills? Partnerships and networking with other agencies provide one such opportunity.

4.3.4.6 PARTNERSHIPS

This area of the policy framework is identified in the Blue Book (CMEH, 2001), and used by the health inspectors to cover policy gaps. These gaps occur in situations that are not well-covered within existing policies and procedures; for example in the situation of an owner-occupied dwelling where the owner has a "hoarding" issue that is now affecting the neighbours. This situation is difficult because, as noted in the review of the Housing Regulation (Section 4.5.1.1), the PHA does not have jurisdiction in an owner-occupied dwelling.

Health inspectors who work in the Safe Built Environment program area (Housing) have a unique perspective on health promotion and health protection practice:

> *Unusual clients are ones whose situation cannot be resolved with policy approved procedures.*
>
> (policy communication participant)

> [The] *referral process to mental health, public health nurses [and the] fire department creates a network. This network tries to help those who cannot help themselves and cannot easily access these services independently. This becomes the social safety net.*

(policy communication participant)

The survey asked which agencies the health inspectors cooperated with to fill policy gaps between the needs of the client and the jurisdiction and mandate of the legislation and AHS policy. Thirty-five (69%) (of 51 surveyed) worked with other AHS departments, 42 (84%) worked with local or municipal governments, and 38 (76%) worked with provincial government departments. Thirty-three (65%) worked with federal government departments, and 32 (63%) worked with non-governmental organizations.

The policy implementation process within AHS-EPH is affected by internal and external factors. Internal factors, such as resources, policy, and leadership, have a demonstrated impact on policy implementation. Factors external to AHS-EPH also influence policymaking and implementation.

4.3.5 External factors affecting Policy

Other factors affect how the organization uses health protection and health promotion policy tools. These factors, which include changing demographics, social determinants of health, and the Auditor General of Alberta, determine which method of regulatory compliance the health inspector chooses.

4.3.5.1 PUBLIC Health Policy and Social Reality

Policy implementation is influenced by the interaction of the policy agent, the health inspector, and the target audience, the public. The reality of policy implementation coupled with social interaction through the medium of the health inspector influences how public health policy affects that individual. The social reality is identified and characterized from the perspective of the health inspector and health promotion using perceived demographic change and the social determinants of health.

4.3.5.1.1 CHANGING DEMOGRAPHICS

Participants identified demographic changes as affecting how they apply protection and promotion principles:

> *The mix of religions has changed. [We have an] increased ESL (*English as a Second Language*) population.*
>
> (policy action participant)

The effect of government policy has also had a perceived affect on demographics:

> *[There has been a] decrease in homelessness in urban [areas] due to "Housing First" policies;[there is] greater subsidized and supportive housing for low-income [people].*
>
> (policy action participant)

4.3.5.1.a Demographic changes and environmental health - illustrative example of external factors affecting environmental health

A list of demographic factors was developed from the interview data and included as part of the online survey. Survey respondents then assessed which factors they felt had an impact on environmental health in their area. Interestingly, while only 43 out of the 51 participants answered the question regarding the influence of demographic change on environmental health, all 51 participated in categorizing the types of demographic change. Demographic change is an acknowledged factor that affects the health of the individual and the ability of health services to deliver health care. Whether demographic change has affected environmental health practice was a valid question to ask, and if health promotion activities would help AHS-EPH in dealing with that change. Table 11 summarizes their responses.

Table 11. Participant-assessed types of demographic change (n=51, 95% CL)*

Demographic change	Mean	Lower – Upper CI
Demographic changes affects AHS-EPH	4.84	4.55 – 5.13
Health promotion would help AHS-EPH with demographic change	4.57	4.29 -4.85

*1 = strongly disagree, 2 = disagree, 3 = somewhat disagree, 4 = somewhat agree, 5 = agree, 6 = strongly agree

Twenty-seven (53%) of the health inspectors said that there has been an increase in migrant workers in their areas. Twenty-one (41%) indicated that there has been cultural change, 23 (45%) said they believed there has been an increase in the number of low SES population, 17 (33%) saw a shift from rural to urban areas, and 27 (53%) said they believe the overall population has increased.

Census data would provide a relatively unbiased, quantitative, reductionist perspective of demographic change in Alberta over a defined time frame. However, one of the underlying themes of this study was practice-based evidence grounded in the health inspector's experience, following Green (2006). Therefore, interview and survey questions elicited the health inspector's view of demographic change in his area of Alberta, how that change impacted health protection, and the relevance of health promotion principles within that change-context. Table 10 demonstrates that participants agree that demographic change has affected AHS-EPH, and that health promotion principles can help the organization to deal with the changes. The health inspectors characterized the types of demographic change they observed indicating that increasing demands on their skills require more than just the enforcement-compliance approach of health protection. They identified during the interviews that as the cultural and racial

demographics have changed, the impact of low socioeconomic status individuals in subsidized housing, has affected how they implement public health policy.

Another perceived effect of demographic change was the increased contact with low socioeconomic individuals:

> *Yes, [we are] dealing with disadvantaged people, making more referrals and more inspections than before.*
>
> (policy action participant)

4.3.5.3 SOCIAL DETERMINANTS OF HEALTH

The study organized and categorized information regarding the SDOH as described by Mikkonen and Raphael (2010). The survey data, Table 8 and Figure 3, linked the SDOH with the Ottawa Charter Action Areas through the health inspector's perspective. Coupled with the information regarding demographic change this information characterizes the social reality as it affects how public health policy is implemented. All 14 determinants were identified as impacted in a greater or lesser extent by environmental health. Some of the determinants, such as food and housing, were impacted directly, while others, such as race and gender, were impacted indirectly. Some SDOH were identified as not being impacted.

Interview participants were asked if AHS-EPH could impact each SDOH:

> *Yes, because [being] involved with a program that supplies food more to the aboriginal urban community, HUNTERS WHO CARE, [creates] direct influence of sorts but not too much. That was an unintended consequence of that program.*
>
> (policy communication participant)

The survey participants were asked to determine how AHS-EPH could impact social determinants of health via the Ottawa Charter Action item (WHO, 1986). The results were then converted to percent of 51 respondents who chose an action item for each SDOH, resulting in Table 12. Since the Housing and Food Regulation was the implementation policy focus, those two SDOH were then combined into one graph, Figure 3.

Table 12. Percent rank-ordered (highest-lowest) AHS-EPH ability to affect Social Determinants of Health via Ottawa Charter Action Areas

	Ottawa Charter Action Area					
Social Determinant of Health ***Percent (n=51)***	**Healthy Public Policy**	**Supportive Environment**	**Community Action**	**Personal Skills**	**Health Services**	**Not Applicable**
Housing	76	75	63	53	43	4
Food Security	63	57	51	43	37	20
Early Life	59	61	39	35	33	12
Disability	43	53	33	35	29	24
Education	41	53	43	53	31	24
Aboriginal Status	41	51	45	39	29	25
Employment	37	47	27	43	37	27
Social Safety net	37	45	33	31	25	31
Health Services	31	39	29	25	33	35
Income Distribution	31	35	29	27	22	43
Race	29	35	29	31	22	39
Social Exclusion	25	39	27	31	18	43
Unemployment	18	31	22	25	16	55
Gender	16	29	18	14	16	4

The rank ordering procedure was based on the applicability of the Ottawa Charter Action Areas as demonstrated in Figure 3. This means that as Healthy Public Policy was seen as the most applicable method of impacting the SDOH it

was the primary sorting criteria. Where percent scores tied then Supportive Environment was used as the sorting criteria. Table 2, therefore is sorted on two axes that is according to most impacted SDOH via most relevant Action Area. This procedure aligns with the practice-based evidence approach advocated by Green (2006).

FIGURE 3. TOP THREE SCORING SOCIAL DETERMINANTS OF HEALTH FOR EACH OTTAWA CHARTER ACTION AREA

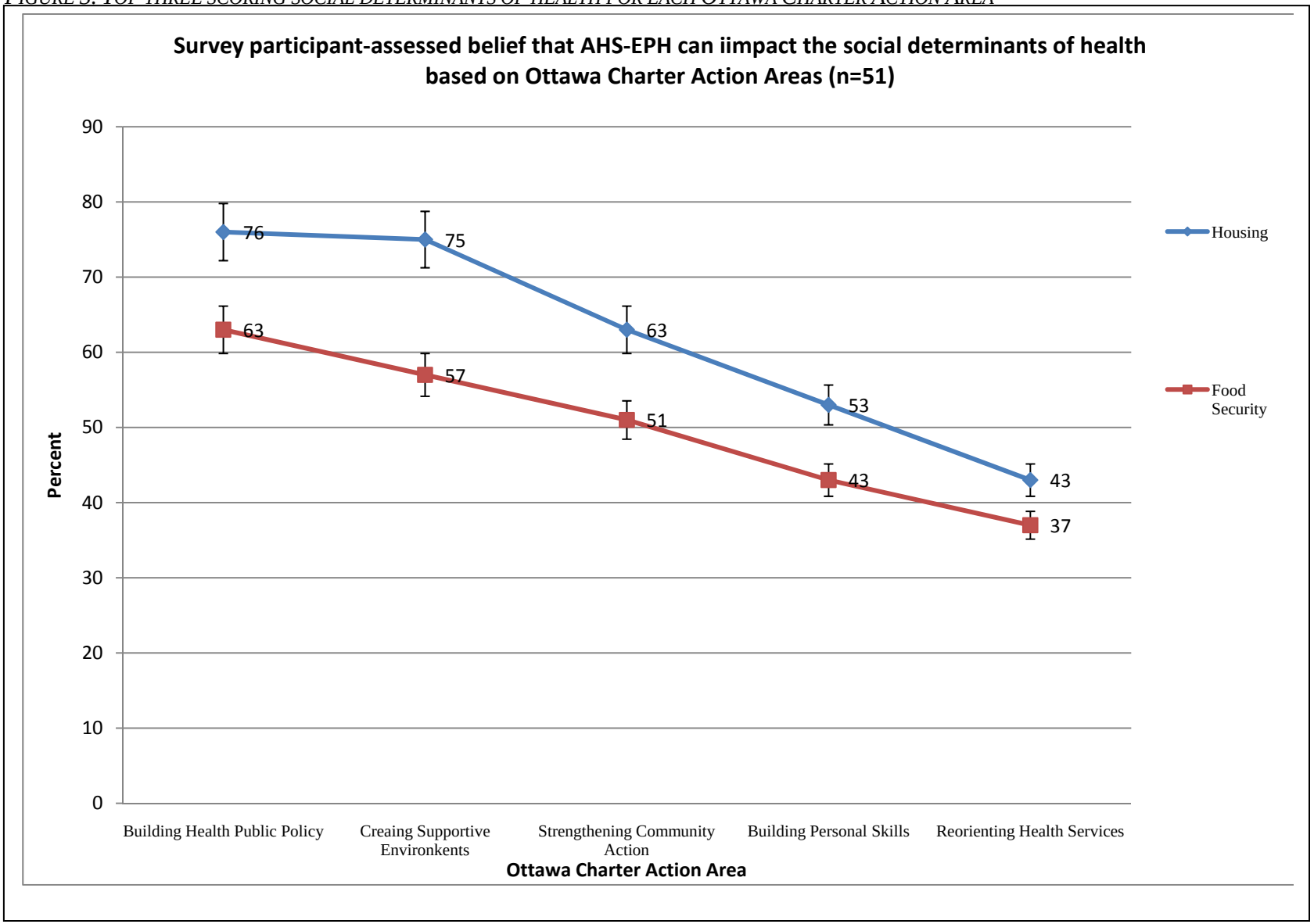


Figure 3 demonstrates the participants' perspective of SDOH and Ottawa Charter Action Areas working together. Housing appears as the highest, or tied for the highest for all five categories. Food Security is second or tied for second in all five categories. Only Housing and Food Security were chosen to be graphed as the evidence supports the choice of the Housing and Food Regulations as illustrative examples for policy analysis based on the similarity between health promotion and health protection.

Healthy housing is an important factor for both health protection and health promotion. Health inspectors know that strict enforcement of regulatory policy can negatively impact the individuals they are trying to serve:

> *[Health inspectors can and] often do [refer clients to] other agencies [when] we can't do much for them directly. We try to ensure that they are taken care of, we aren't mandated to do referrals, but we don't just throw them on the street in -35C because they're living in poor housing that won't benefit their health. We have [a] duty,[a] moral and ethical duty to ensure that these people have care.*
>
> (policy action participant)

This comment echoes the comments of the northern Ontario health inspectors as documented by Lefebvre et al. (2012). Health inspectors also identified safe housing as more than just a health protection function:

> *A safe home is a determinant of health and I think that gets lost in the shuffle.*
>
> (policy action participant)

Further evidence of health inspector impact on SDOH was provided in the interviews. Health inspectors realize that their policy actions may have gender-specific implications:

> *Probably [I] have a bigger audience with women than men. [I have] far more interaction with women, operators of childcare[are] predominantly women, lodge facilities[involve] dialoguing with women, in young families [I am often]talking with Mum as opposed to Dad.*
>
> (policy communication participant)

Some health inspectors identified that:

> *We are part of the social safety net.*
>
> (policy implementation participant)

These comments demonstrate that public health policy has the potential to affect the SDOH. The Housing and Food Regulations were examined from a health promotion perspective to identify the influence of health promotion principles and the presence of the SDOH in these key policy texts.

4.3.5.4 HOUSING REGULATION

The Housing Regulation (Government of Alberta, 1999) is short, only three pages, compared to the much longer Food Regulation (Government of Alberta, 2006). Housing is also very short on details, referring just about all fine detail to the *Minimum Housing and Health Standards* **(**Government of Alberta, 1999). The Regulation outlines jurisdiction and not much else; there are only three definitions: referring to the Public Health Act, what is a "housing premises' and what is an "owner". The very brief nature of the Housing Regulation and the *Minimum Housing and Health Standards* allows for a great deal of interpretation on the part of the field health inspector. For instance, there is only one approved DSOP regarding Marijuana Grow operations; all other situations are dependent on the Nuisance and General Sanitation Regulation (Government of Alberta, 2003) and where applicable other Regulations:

> *Inspection of housing premises is very health protection, these are the guidelines and they must be enforced.*
>
> (policy implementation planning participant)

4.3.5.4.a. Hoarding and Environmental Public Health – an illustrative example of opportunistic and incremental health promotion

Housing issues can be very challenging for the health inspector because of multiple points of public contact. Unlike food inspection where the health inspector is usually dealing only with the food establishment operator, in rental housing issues there is both a tenant and landlord. Hoarding takes housing to another level of complication, especially if it is an owner-occupied dwelling which is specifically not covered under the Public Health Act or the Housing

Regulation. The most difficult scenario is a hoarding complaint regarding an owner-occupied house, which is considered a private space and outside the jurisdiction of the PHA. A public space such as an apartment or condo complex, the PHA has jurisdiction, specifically the hoarder is affecting the other residents of the building. However, in a standalone house it is difficult to draw the conclusion that someone is negatively affecting their neighbours unless the accumulation has gone outside the home and is in the yard. Resolving such a situation often entails the work of multiple agencies, including AHS-EPH.

Most participants take the view that "*focus is with the poorer population so that the people who can't look after themselves are protected*" (policy implementation participant). Demonstrating that health inspectors are aware of the impact they have on low socioeconomic status individuals:

> *The health inspector has a responsibility over and above the abatement of the nuisance. Protecting the public health includes the individual's health too. We may not have a regulatory role, but we're there to help that person individually.*
>
> (policy communication participant)

Housing is as important a concept for health promotion practice as it is for health protection. Safe housing that meets a minimum health standard is the health protection goal; healthy housing is the health promotion goal. Health inspectors are mandated to do one but some strive to do both.

4.3.5.5 Food Regulation

Food security is also important for health promotion as a key component of the SDOH. Health protection's perspective on food is one of safety, enforced through the Food Regulation (Government of Alberta, 2006). The Food Regulation is not a standalone document, but references the *Food Retail and Food Services Code* (Alberta Health and Wellness, 2003) in Section 2 (6). This is the same relationship as that with the Housing Regulation and *Minimum Housing and Health Standard*. The Code provides supplementary details that flesh out the

regulation. The DSOPs are the policy implementation strategy use by AHS-EPH to ensure consistent application across the province.

Health protection is well-defined in the Food Regulation, for example Section 49(1(a)) summarized that food must be handled safely to protect the public health (Government of Alberta, 2006). The Regulation includes food facilities that would be excluded if it was aimed solely at places that ***sold*** food to the public. However, it is aimed at those who are ***serving*** food to the public (Section 3(1), Government of Alberta, 2006). This enables the Regulation to ensure safe food (and protect a lower SES population) at food banks, soup kitchens, and other charitable organizations that offer food service.

The Food Regulation overall is assessed as having the potential for health promotion practice. While some of the social determinants of health are identified by name (Table 2) several are directly enabled by provisions within the Regulation. Other SDOH are enabled as an unintended consequence of sections of the Regulation. One section of the Food Regulation has a direct bearing on Aboriginal Status SDOH; Section 21 (3) provides an illustrative example how policy can have unintended health promotion benefits.

4.3.5.3.a. Hunters Who Care – an illustrative example of health protection policies and SDOH

Section 21(3) of the Food Regulation (Government of Alberta, 2006) authorizes the use of wild game meat (uninspected meat donated by hunters) for wild game dinners, an important fund raiser for many community groups, food banks and soup kitchens. One participant provided this example of how a policy change had unintended health promotion benefits for low socioeconomic status urban Aboriginal residents:

> Hunters Who Care *is not exclusive; [it is] open to everyone, but it is culturally sensitive. [The program is] trying to satisfy the need for cheap, available protein for] inner city soup kitchens. Meat wasn't donated so they may have to buy it which would come right out of their operating budget. The urban aboriginal population benefits as this is a dish that they particularly desire. The use of the meat was an intended act with the unintended consequences*

> *[when] a hunting association approached the food bank to donate a portion of wild game. This started in 1996 and the legislation was not changed until 2003 from 1985, at the first opportunity it was changed, and that didn't occur until 2003.*
>
> (policy action participant)

While the purpose of the policy approval for Hunters Who Care was not targeted towards the urban Aboriginal population specifically it had an unintended health promotion benefit for that population.

When a regional health authority decided to use the PHA and the Food Regulation to craft a proactive health promotion campaign the results were mixed.

4.3.5.5.a. Trans-fat Initiative – an illustrative example of ad hoc health promotion

The former regional health authority, Calgary Health Region, attempted to use existing policy to enforce a health promotion initiative. The Food Regulation, specifically the Food Handling Permit section (Part 1, Government of Alberta, 2006) was used to enforce a ban on trans-fat oils used in cooking in all Permitted food establishments. The use of trans-fat-free oils was made a condition of the Permit. An interview participant who played a key role in the initiative describes it:

> *[In] 2004-5 the federal government, through Health Canada, was trying to encourage producers to reduce the amount of trans-fat in the food. The MOH [Medical Officer of Health for Calgary Health Region] at the time thought it was a good idea because there was a strong correlation between heart disease and trans-fat. Voluntary compliance wasn't very successful; there was a large number of restaurants and producers [who] were using oils that had a lot of trans-fats. We provided baseline information to operators, used a compliance tool, put restrictions on the Food Handling Permit that they had to comply with Calgary Health Region trans-fat policies .Compliance [then] was in the high 90 [percent], suppliers and industry made it easier for the small operators to comply.*
>
> (policy implementation planning subject)

This initiative met with limited success and was not sustained. It did have a lasting impact on health inspector's perspective of the usefulness of health promotion principles within environmental health:

> *All I see is pushing trans-fat by Calgary, did that benefit the Province, was that EPH's role or not? I thought they went about it all wrong, the way they were trying to enforce it. I thought they were wasting their time we have better things to do; we don't do that type of promotion. That's not the way we work. They wanted to do both the protection and promotion.*
>
> (policy communication participant)

Participants who believe that health promotion and health protection complement each other indicated that the trans-fat initiative was worthwhile:

> *Direct education in what is important in food safety, promoting and educating together, they work together, role of promotion in our department but it's separate from what we're supposed to be doing, which is enforcement of the regulation.*
>
> (policy communication participant)

The health inspector's emphasis on food safety and safe housing is best summed up by this policy communication participant "*Everyone is entitled to safe housing and safe food*".

The Public Health Act defines what is safe food and creates the health protection policy space to regulate food for public consumption; hence the creation of the Food Regulation (Government of Alberta, 2006). Section 31 of the Food Regulation specifies Ministerial approved food safety training and the formula to calculate how many staff must have the training (Government of Alberta, 2010). The Blue Book takes this policy, couples it with the Regional Health Authorities Act, and interprets it thusly: the *"regional health authority shall ensure that food handler training courses are provided in accordance with the Food Regulation"* (CMEH, 2001, p.19).

4.3.5.6 FOOD SAFETY EDUCATION

Section 31 of the Food Regulation demonstrates where a systematic application of regulatory and organizational policy has health protection and health promotion benefits. The benefits affect the student, the health inspector, and the organization in an enforcement-compliance and capacity-enabling role. The enforcement-compliance aspect is a result of the interaction between the

health inspector and the food facility operator. The health inspector compels the food facility operator to meet the Section 31 requirement as part of the Food Handling Permit and as the education "rung" on the ladder of enforcement-compliance processes. Capacity-enabling effects are created when AHS-EPH, by Ministerial direction, offers courses in all areas of Alberta, no matter how remote (Section 4.1.2.3). This increase in accessibility is not based on a cost-benefit analysis, but on providing equal access to all Albertans. Students who take the course willingly are engaging in a capacity-enabling action. Certification in safe food handling increases their employability in several ways. It enables a food establishment to comply with Section 31 and the student becomes a desired and valued commodity for the food industry. AHS-EPH, according to Section 4.1.2.3, believes that certified food handlers pose less risk to the public, because they understand safe food handling. Increasing employability has the potential to impact several SDOH, including: employment, SES, food security, and housing. Complying with regulatory policy has internal effects for AHS-EPH, including satisfying a regulatory mandate; and external effects, including helping to protect public health.

This one section of one regulation, the implementation policies that are integral to it and the infrastructure facilitating the AHS-EPH food safety course, supports the perspective that health protection and health promotion do work together. This example demonstrates that, when applied in a systematic, policy-supported, funded manner, health protection and health promotion can accomplish both enforcement-compliance and capacity-enabling functions. These two concepts are not mutually exclusive.

4.3.5.7 Housing and Food: Areas of Congruence

The example of hoarding (section 4.2.3.3a) typifies how health inspectors used health promotion principles to enhance health protection activities. This example also demonstrates the capacity-enabling approach adapting policy implementation to fit social reality. Also, the Hunters Who Care (Section 4.5.2.1)

documents AHS-EPH's ability to impact the low SES urban Aboriginal population, although that was not the intent of the policy. Both of these examples demonstrate unintended health promotion effects, occurring in a non-systematic manner.

Health inspectors were aware that environmental health impacts the SDOH coordinated through the Ottawa Charter (Table 8, Figure 3). Housing and food security, are the top two SDOH for all five Action Areas (Figure 3) strongly linking health protection and health promotion practice. These data support using the housing and food regulations as examples of how health promotion impacts health protection practice. The SDOH are not mutually exclusive one from another. Policy that directly, unintentionally, impacted one or more SDOH would have indirect impacts on other SDOH, a logical continuation of the unintended health promotion effect.

The Public Health Act is silent regarding the social safety net. The results indicate, however, that AHS-EPH is a necessary part of the social safety net and can promote to the community food safety under Section 31, and Hunters Who Care. Within the housing area health inspectors enter into homes where there are mental health and addiction issues, (Section 4.5.1.a) and are key players working with Social Services, law enforcement, and emergency medical services to provide assistance to these individuals. According to the Nuisance and General Sanitation Regulation (Government of Alberta, 2003) once the immediate nuisance is abated AHS- EPH is not required to do anything more having met its policy requirement. However, if health inspectors know that if they do not attempt to deal with the underlying mental health issues, the public health concern will re-occur. Some health inspectors will try and assist by finding or creating a support network for the individual in need. Typically in housing situations, health inspectors will deal with the socially and economically disadvantaged as they use housing that is more likely to be in poor condition.

Evidence indicates that of all five action areas healthy public policy scored the highest level of agreement for the determinants of housing (76%) and food

security (63%) (Figure 3). This demonstrates that AHS-EPH and health inspectors can contribute to improvement of health status, not just protecting current health. Therefore, not only do health inspectors use these principles, they can directly, and indirectly impact some of the key social determinants, a central objective for a healthy population.

4.3.5.6 ACCOUNTABILITY

Health inspectors are accountable to AHS-EPH management and to AHW for implementing regulatory public health policy. The qualitative evidence reveals that health protection is a "justifiable process" because it is accountable. Accountability is measured by the number of inspections completed. Health promotion is considered to be qualitative and difficult to justify because it is unaccountable. Public health policy is implemented through inspections which obtain compliance by being coercive.

Implementing health promotion activities requires personal resources; such as time and money. The most consistent complaint by health inspectors is that they do not have enough time for health promotion. Their time is prioritized by the policy-driven emphasis on inspections per day. Inspection, the main activity of AHS-EPH, is always characterized as health protection.

Time is an important factor that affects health promotion activities.

> *Less time is given for health promotion at the policy action level due to time constraints to meet inspection targets.*
>
> (policy action participant)

> *Health protection is accountable through inspections. Inspections demonstrate policy implementation. Policy compliance is the measure of implementation.*
>
> (policy communication participant)

The data revealed that health inspectors understand the ideal policy process and how that affects health promotion practice. It is not just funding, but also:

> *A big buy-in by the whole organization, starting at the VP level and then it would trickle down from there.*
>
> (policy communication participant)

4.3.5.6.1 Role of the Auditor General

The Auditor General of Alberta has had an enormous impact on environmental health. Starting in 2006 with the first **Report on Food Safety** the Auditor General has become the *de facto* food safety policy oversight body (Auditor General, 2006). Another report was published in 2009 (Auditor General, 2009). Each report has impacted environmental health on both the policy and operational levels, causing shifts in focus. Health inspectors at all levels understand the significance the AG has, although not all agree that the AG has been a benefit AHS-EPH.

Health inspectors understand how the Auditor General's Reports are used to change policy. This can greatly facilitate health promotion activities:

> *He [the AG] provides direction that EPH has felt obligated to follow or pursue right or wrong. A lot of the DSOPs created are in response to his Reports, some of them necessary some perhaps less so.*
>
> (policy action participant)

Health inspectors are also concerned, however, with the amount of policy power that the AG can exert on environmental health practice:

> *[I]don't understand how we can have one individual that can have such an impact on what we do, and [I am] surprised at the amount of emphasis that the AG Reports received. It's really changed a lot of our focus.*
>
> (policy communication participant)

Policy accountability, as exemplified by the AG, is not always considered a facilitator:

> *If you have policies follow it. The more policy we have the more potential we create to have problems with the AG. [The]Blue Book has set out the policy that the AG holds us to task for. You're not doing what you said you would do in the Blue Book.*
>
> (policy communication participant)

Accountability for policy implementation focuses on the enforcement-compliance approach of health protection. The capacity-enabling approach of health promotion is ignored. Regulatory policy, as indicated in Chapter 2, is created by the Government of Alberta and specified in the Public Health Act and subordinate policies. Alberta Health Services – Environmental Public Health is responsible for fulfilling regulatory and organizational policy, answerable to AHS-EPH and AHW. There is one external body that is responsible for oversight of one portion of public health policy; the Auditor General of Alberta, whose office has taken an interest in food safety.

4.3.5.7 Auditor General and The Blue Book

The AG has a great deal of impact on the policy process within AHS-EPH. The current focus is on food safety. Health inspectors stated that if the AG wants a policy change, it happens. Health inspectors were more accepting and understanding of the AG's influence than they were about political influence over health policy at the system level but the AG's involvement is not universally appreciated. Health inspectors understand that the AG is holding them accountable for the policy articulated in the Blue Book regarding the Safe Food program's mandatory inspection criteria. The AG's Reports examined all levels of policy from system to individual and highlighted specific instances of non-compliance. These reports, according to the participants' had a tremendous impact on policy implementation and accountability within environmental health. If the AG explicitly stated that health promotion practice was important to public health protection then AHS-EPH would take action and implement a health promotion strategy.

Having to develop or adapt policy, set health promotion program goals, and design an accountability framework can be seen as barriers to using health promotion principles as acknowledged policy implementation tools. The process would also be subject to oversight and audit by AHS-EPH, AHW, and, perhaps,

the AG. However, these factors can also be seen as facilitators to designing a workable and practical health promotion process that enhances the efficacy of health protection interventions, similar to the Section 31 food safety course. Another facilitator generated from the study is the three-part linkage of SDOH, the Ottawa Charter Action Areas, and the health inspector perspective; this provides a blueprint and accountability framework for any health protection and health promotion strategy. Creating a health promotion strategy is not impossible; it requires support from the organizational leadership.

4.3.6 FACILITATORS AND BARRIERS AFFECTING HEALTH PROMOTION PRACTICE

Seven factors that affect health promotion practice were derived from the interviews; 27 (53%) of the 51health inspectors indicated that time was a facilitator, while 42 (82%) indicated that a lack of time was a barrier. Twenty-eight (55%) indicated that money was a facilitator, while 34 (67%) indicated that a lack of money was a barrier. Thirty (59%) indicated that a shared health promotion vision was a facilitator, while 22 (43%) indicated that a lack of a shared vision was a barrier. Twenty-one (41%) indicated that a written policy or guideline for health promotion was a facilitator, while 20 (39%) indicated that a lack of written policy or guideline was a barrier. Thirty-nine (76%) indicated that support from senior management is a facilitator, while 25 (49%) indicated that a lack of support is a barrier. Seventeen (33%) indicated that measurable outcomes would facilitate health promotion, while 25 (49%) indicated that such outcomes would be a barrier. Thirty-seven (73%) indicated that personal capacity facilitates health promotion, while 17 (33%) indicated that a lack of personal capacity is a barrier.

Some health inspectors were aware that the legislation does enable health promotion activities:

> *Section 1(ee) of the Public Health Act, [definition of a nuisance which] allows just about anything including health promotion activities, probably could have a promotion program based on nuisance.*

(policy action participant)

Also that:

> *Health promotion would be facilitated by having a specific program with appropriate funding, not just a band-aid approach.*
> (policy implementation participant)

Facilitators and barriers affected how health promotion was viewed, valued and used by health inspectors to further health protection objectives. Broadening the scope of what is health protection beyond the strict biomedical model had to incorporate health promotion practice.

4.4 SUMMARY: RESULTS

Synthesizing the evidence from all three methods identified a tension between public health policy implemented by an enforcement-compliance approach and the social reality of that implementation. This tension created a situation whereby the health inspector, as the person carrying out the policy, chose how to implement it. Available choices were the formal, acknowledged enforcement-compliance implementation approach; and the informal, capacity-enabling approach. The formal path is organized hierarchically, with the PHA defining and delineating the boundaries of all subsidiary policy: regulations, standards, guidelines, and DSOP's. Supporting policy, the Blue Book (CMEH, 2001) incorporates the biomedical model described by Hall (1964), which also influenced the PHA (Government of Alberta, 2010).

The other path was that of capacity-enabling. While informal, it has clear roots in literature and practice. The practice of health promotion was present in the key regulatory policy, the PHA, and subordinate regulatory and organizational policies and procedures. However, there were no formal mechanisms linking this practice to a larger public health strategy within environmental health. This policy gap specifically affected the practice of health promotion by health inspectors. The gap affected the relationship between the linked concepts of health protection, health promotion, health education and population health. Key health promotion concepts - the SDOH and the Ottawa Charter Action Areas (WHO,

1986) - used with demographic information described the social reality and provided the basis for a strategic health promotion implementation plan within the Alberta health protection context.

The capacity to use health promotion principles was impacted by a variety of factors that created either facilitators or barriers. External factors such as demographic change, and the Auditor General of Alberta were identified as affecting why and how health inspectors used health promotion principles. In addition, qualitative and quantitative evidence generated definitions of health protection, health promotion, health education, and population health that are context-specific for AHS-EPH. Within the AHS-EPH regulatory health protection context, health promotion occurred opportunistically. Health promotion practice occurred during housing and food inspections, when health inspectors chose capacity-enabling actions over, or in addition to, enforcement-compliance. It also occurred as an unintended benefit of policy, such as the Hunters Who Care section in the Food Regulation. Thus, not only were health promotion activities opportunistic and unintended, the health inspectors chose the capacity-enabling approach despite the lack of specifically articulated policy, as they were aware of the potential benefits. Ultimately, policy and capacity issues have affected how health promotion is practiced by health inspectors within the regulatory health protection context of AHS-EPH.

The evidence identified facilitators and barriers affecting health promotion capacity at the system (AHW), organizational (AHS-EPH), and individual (health inspector) level. The facilitators of health promotion practice appear to be unintended effects created at the AHW (policymaking) and AHS-EPH (policy implementation) levels. Health inspectors used health promotion principles, because they valued its effectiveness when dealing with difficult policy implementation situations. Barriers were identified occurring during policy formulation and resourcing by AHW. A lack of leadership at the AHS-EPH level was also considered a barrier.

Health inspectors have identified that demographic changes affect AHS-EPH, and believe that health promotion can help facilitate the response to the changes. Quantitative evidence linked the SDOH and the Ottawa Charter Action Areas indicating that Housing and Food Security are foci for action. This evidence supports the use of the Housing and Food Regulations as more likely to contain elements of health promotion than the other 18 regulations under the PHA.

5. DISCUSSION

Health promotion is not clearly articulated in the well-defined, ideal regulatory health protection process. Lack of a clear health promotion role within environmental health created both opportunity and barriers. Various aspects of organizational policy and implementation, unique to AHS-EPH and health inspectors, created facilitators and barriers to health promotion practice. The texts that coordinate the activities of the health inspectors and their actions revealed these aspects. An outcome of the research was the identification of a policy gap between the public health policy and the social reality of implementation. A comprehensive, consistent health promotion strategy may fill that policy gap.

5.1 META-THEMES

Analysis of all the data has revealed four meta-themes that characterize health promotion practice. It can be an unintentional byproduct of health protection policy and implementation. It is opportunistically used by knowledgeable health inspectors who value its effectiveness to initiate health behavior change. It is incrementally applied on an individual basis not on a community or population level as is normally the case. These three meta- themes: ***opportunistic***, ***incremental***, and ***unintentional*** are the reasons that health promotion practice in the AHS-EPH context is ***inconsistently*** applied.

Williams et al. (2008) stated that individual and community health is linked to living and working conditions. Hall (1964) and the Public Health Act (Government of Alberta, 2010) firmly places public health within the responsibility of the public health inspector. Health inspectors perceive their health promotion role as changing over time, but they continue to incorporate health promotion principles in their work reflecting (unintentionally) Lalonde's (1974) Health Field concept. This implies that even without formal training health inspectors still perceive value in using health promotion principles to enhance health protection practice.

Health inspectors were aware of population health but identify it as working on a macro scale. They saw that health protection and health promotion as practiced in environmental health work on a micro scale that of the individual. Considering how public health policy is articulated and implemented in Alberta there is evidence to support this perspective. Policy implementation must be supported by funding; lack of funding hinders a population-level initiative. Unarticulated and unsupported policy, in this case the use of health promotion principles, can only operate on a small scale basis, at the individual level. Health inspectors are not ignorant of funding commitments: the fact that they continue to use the capacity-enabling approach despite a lack of policy and funding supports the value of health promotion principles within this health protection context. Health promotion practice is characterized as being on an incremental scale, one client at a time, one health inspector at a time.

The health inspector at the individual-level uses his discretionary powers as a street-level bureaucrat to take a broader capacity-building approach, realizing that the reality of public negotiation does not easily fit into the three categories described by Braithwaite et al. (2007). The constraints identified by Baldwin and Black (2007) - resources, organizational pressures, unclear objectives, regulatory change, and overlapping enforcement effects - were all demonstrated in the evidence in this study. The health inspector uses discretion to choose between enforcement-compliance; the approved, regulatory process; and capacity-enabling, implementing health promotion principles. The health inspector is the prototypical street-level bureaucrat; the embodiment of the Public Health Act for the client. The health inspector has significant discretion to use regulatory power because public interaction does not occur in an easily supervised location like an office. Rather health inspectors implement policy in the field where oversight of regulatory power implementation is difficult and there is significant autonomy, very similar to the situation described by Lipsky (1980).

Hall (1964) and Lalonde (1974) both viewed public health policy's purpose as to maintain and improve the health of Canadians. However, policy

does not exist in a vacuum, as explicated by McLeroy et al. (1998), Smith et al. (2001), GermAnn and Wilson (2004), Collins (2005), Bowen and Zwi (2005), and Vogel et al. (2007). Society influences policy formulation through the medium of politics.

External factors, such as demographic change, SDH, and the AG influence health inspectors' health protection practice. The accepted implementation protocol for public health policies, within AHS-EPH, is enforcement-compliance. The qualitative evidence clearly demonstrated, however, that health inspectors value health promotion principles. It allows them to express empathy for the client, and communicate reasons for regulatory policy beyond just directing enforcement-compliance actions. Health inspectors stated that a high-quality inspection was more valuable than simply the quantity of inspections completed. This is supported by the quantitative evidence, indicating that health inspectors value and practice health promotion. For example, health inspectors acknowledged that they practice health promotion while conducting many types of inspections, not just housing and food. Health inspectors identified their health promotion role as changing over time, and they incorporated health promotion principles in their work. They use health promotion principles to supplement and enhance health protection practice, not to replace it. Policies cannot, and usually do not, reflect current social events, nor do they accurately anticipate social change, because of the lengthy policy formulation process (Minogue, 1983). Policies can be effective, but usually have unintended consequences as they meet changing social reality (Minogue, 1983).

There are no official, acknowledged health promotion strategies within AHS-EPH; however health inspectors practice health promotion when implementing public health policy via capacity-enabling action. This dichotomy between acknowledged and unacknowledged implementation strategies creates barriers to health promotion capacity at the system and organizational levels, but facilitates practice at the individual level. This is very similar to the situation described by Moore, Murphy, and Moore (2011) and Jansson, Fosse, and Tillgren

(2011). Both studies found a policy gap between policymakers and policy implementers leading to ineffective health promotion. Whether or not to apply health promotion principles is left to the individual health inspector's discretion. This emulates the actions of the street-level bureaucrat as described by Lipsky (1980). For example, health promotion principles were used to bridge policy gaps between the enforcement-compliance approach and the needs of a client whose mental illness caused hoarding behaviour. Capacity imbalance between AHW, AHS, and the health inspector created a health promotion practice characterized by an opportunistic and incremental application of capacity-enabling action. Health inspector health promotion policy actions are strongly reminiscent of Lindberg and Wilhelmsson's (2007) study identifying the communication gap between county council health officials and District Nurses. The semi-autonomous nature of the work of health inspectors and District Nurses allows them some capacity to tailor interventions to specific client needs. However, these same factors create an inconsistent application of health promotion principles.

5.2 RESEARCH FINDINGS AND THE LITERATURE

Currently, environmental health uses a risk-based approach, where inspection resources are weighted towards those facilities or individuals that pose the greatest risk to public health (Baldwin & Black, 2007), (CMEH, 2001). For example, the Blue Book (CMEH, 2001), identifies food facilities that handle extensive amounts of potentially hazardous foods, such as meat, which must be fully inspected at least three times per year. Food facilities such as retail outlets, where there is minimal or no handling of pre-packaged foods, must be inspected once per year. Practical examples of these two risk categories would be a full-service restaurant and a kiosk gas station, respectively. The risk based approach as used in AHS-EPH contains both a reactive and proactive component. The reactive component is a response to complaints received from the public, for example regarding food safety or sub-standard rental housing. The proactive component is

routine monitoring inspections of food facilities, childcare settings, some housing premises, and other areas where the public has an interest (CMEH, 2001).

Jansson, Fosse, and Tillgren (2011) examined implementation of national public health policy in Sweden. They identified a policy gap between national and local levels of government. The Swedish National Public Health Policy (SNPHP) was created by the national government but depended on local municipalities for implementation. The SNPHP focused on the health determinants and stressed that municipalities must work together to achieve objectives (Jansson et al., 2011). The SNPHP's focus on health promotion created long-term goals, which were clearly focused, making it easy for the municipalities to implement. However, municipal politicians were largely unaware of the SNPHP, and few had any in-depth knowledge of it. This lack of awareness highlighted the problem that when local governments were expected to implement policy but were not given clear guidelines, consistent policy implementation became difficult. Jansson et al. determined that policy implementation was hindered by lack of communication between the national and local policy levels. They also found that the strongest policy implementers were those committed community actors who were also policy leaders (Jansson et al., 2011). There is a similarity between the Swedish situation and AHS-EPH where local officials take a leadership role in policy implementation

Basically, the individual who is empowered by policy and responsible for street-level implementation is the nexus of a tension between policy goals and social reality. Street-level bureaucrats will make reluctant policy decisions, or devise strategies to protect themselves and their working conditions, and serve the client. The tension exists because the street-level bureaucrat has discretionary powers of implementation. He can, to some extent, tailor interventions to meet client needs, but is also responsible to stay within policy boundaries and organizational goals (Hudson, 1993).

Health inspectors used their knowledge of health promotion principles when they identify an opportunity for capacity-enabling action. One of the

facilitators of health promotion practice identified is health inspectors' discretionary policy implementation, which allows them to react to client needs in a more flexible manner than strict adherence to the enforcement-compliance approach. Since some health inspectors have health promotion training, and they value the capacity-enabling approach they take every opportunity to use health promotion principles. This opportunistic practice creates individual-level interventions instead of the more usual population- or community-level strategies. While working with a tenant, landlord, restaurant operator, customer, the health inspector identifies an opportunity to engage in capacity-enabling actions using health promotion principles. Implementation-level policy directs a health inspector's actions. If that policy has health promotion aspects that support health protection actions, it is not surprising that health inspectors also value and use health promotion principles.

Within the Blue Book the impact of health promotion principles is clearly evident. Analysis demonstrated that these principles were used to enhance the effectiveness of health protection actions. Health promotion is specifically mentioned in the Blue Book (CMEH, 2001, p. 10). The Blue Book gives permission for collaboration and partnerships with other agencies to deliver services where the need of the individual exceeds the jurisdiction and mandate of environmental health (CMEH, 2001). This is in contrast to the Government of British Columbia's (2005) stated position that the SDH are outside jurisdiction and mandate. Alberta has taken a different approach, one in which the individual's needs exceed the policy ability of the health inspector. Although not a high-level policy such as those created by AHW, this is one attempt to allow street-level employees flexibility when implementing policy, in order to meet the needs of social reality. This is an acknowledgement that social reality is often different from what is in policy, and it allows health inspectors the flexibility to meet those challenges. Similarly, a lack of high-level enabling policy and basing implementation on a referral process, does not fund a more comprehensive strategy for action on SDH, for example through health promotion. Referral is not

explicitly mandated in regulation, but health inspectors are usually familiar with other agencies and can help a client access services. This approach enables local flexibility and can be interpreted as one method of flexible policy implementation to meet changing social reality. It allows a more rapid, flexible response to client needs than a formal approval-networking process. As Milio (2001) noted when studying policy's ability to affect change a lack of funding is a significant barrier. The policy gap and the consequent lack of funding creates policy that can only have unintended and inconsistent health promotion benefits.

Watt et al. (2005) connected policy implementation to provider commitment. The data demonstrates that a complex relationship between policy, resources, and individuals responsible for implementation. The economics at the system-level affects resourcing health promotion practice, as noted by the participants, without specific policy direction from AHW there are no designated resources for health promotion. When comparing health protection and health promotion the well-articulated policy processes of the Public Health Act, Regulation, and DSOP, are explicitly funded, compared to the policy gap evident for health promotion. Key barriers to health promotion were identified as a lack of time, and money. Health inspectors took a leadership role and implemented health promotion practice, despite a lack of resources. This implies that health inspectors recognize the value of coordinated action and want to see this coordination from upper management levels. Applying health promotion principles relies on the individual health inspector's discretionary action. This emulates the actions of the street-level bureaucrat as described by Lipsky (1980). It also contributes to the incremental, opportunistic, and inconsistent nature of promotion practice.

5.2.1 FACILITATORS OF HEALTH PROMOTION PRACTICE

The qualitative evidence clearly demonstrates that health inspectors value health promotion principles. These principles allowed them to express empathy for the client. Health inspectors also wanted the client to understand the reasons behind regulatory policy beyond just directed enforcement-compliance actions.

They believed that a high-quality inspection was more valuable than simply the quantity-of-inspections-completed approach. This is supported by the quantitative evidence indicating that health inspectors value health promotion, use the principles, and identify health promotion strength in major inspection types.

One of the key identified facilitators is support from senior management, followed by personal capacity for health promotion, and a shared vision of health promotion. One of the facilitators of health promotion practice is the discretion afforded health inspectors, which allows them to react to client needs in a much more flexible manner than strict adherence to the enforcement-compliance approach. Since health inspectors have training and value the approach they take every opportunity to use health promotion principles. In this, a health inspector is very much the "street-level bureaucrat." These are intended uses of health promotion principles and they occur on a small scale. These small scale efforts have an incremental but inconsistent ability to affect public health positively. Over time they may have a population level effect, but this would be difficult to ascertain. The strategy laid out in the Public Health Act and subordinate policies chooses to have a population-level effect using only health protection tools, specifically enforcement-compliance.

There are some unintended capacity-enabling health promotion effects initiated through health protection policy. These include proactive housing inspections, and the Hunters Who Care section of the Food Regulation. Both of these initiatives go beyond the strict enforcement-compliance approach. They involve partnerships with other agencies to proactively, positively impact housing and food safety conditions for low socioeconomic status individuals.

5.2.2 Barriers to Health Promotion Practice

The influence of politics at the system level was identified as a barrier to both health protection and health promotion practice. The long policy process, while resulting in policy (such as Hunters Who Care) which has unintended health promotion benefits, did not create a very responsive regulatory approach to the

changing social reality. This is an example of the health protection policy gap between the requirements of regulatory policy and social reality.

The health promotion policy gap occurs between the high level regulatory policy expressed by the PHA in Sections 10 and 12 and the complete lack of any health promoting statements in the Housing and Food Regulations. This gap is also described by Table 12 demonstrating that participants are aware that health promotion is enabled by the PHA, but there are no implementation guidelines. Housing and Food regulations were chosen as the most likely to contain both health protection and health promotion effects. However, health promotion effects only occur as unintended effects of health protection policy. For example the Hunters Who Care policy was designed to meet the regulatory requirements for the social care organizations, and not specifically targeted to lower SES urban Aboriginal populations. The benefit that accrued to low SES urban Aboriginal populations able to obtain safe wild game meat was unintended. The Blue Book, while using health promotion language, citing the usefulness of health education, and quoting from the Lalonde Report (1974), does not articulate a health promotion strategy. This lack of articulation is another example of the gap between high-level and implementation-level policy that forms a barrier to the systematic use of health promotion principles. This same lack facilitates the current non-systematic, organic, use that is characterized by opportunism, incremental effect, unintended consequence, and inconsistency.

The capacity to use health promotion principles either at the individual level, or the organizational and system level depends on a number of factors. Smith et al. (2001) and O'Loughlin et al. (2001) describe the factors affecting capacity for health promotion practice and this study demonstrates an imbalance in those indicators creating a less capacity at the AHS-EPH level than at the health inspector level. Leadership, knowledge and skills, resources, guidance and values at the organizational-level are focused on regulatory enforcement. This approach, a series of risk-based, regulatory, ladder-of-enforcement stages from "education" to punishment is similar to the process outlined by Braithwaite et al.

(2007). It is not capacity-building; it emphasizes the weakness of the subject and the inability to comply with regulation. The detailed high- and mid-level policy available to AHS-EPH does not overtly provide alternatives to this approach, the goal of which is that increasingly severe of punishment will initiate greater compliance via negative reinforcement. This method presupposes that the health inspector is negotiating with a "virtuous actor", a "rational" actor, or an "irrational" actor and that the ladder of enforcement is effective (Baldwin & Black, 2007). Health inspectors desire health promotion guidance from the Director-level and senior AHS management.

However, the evidence demonstrates weakness in organizational capacity, child safety, health promotion educational opportunities, and current health promotion practice. Support for health inspectors to use health promotion principles, requires leadership, shared vision; support and guidance from management, resources, time, and policy, all of which the participants also assessed as weak. Health protection leadership was facilitated by well-defined policy and a clear goal, neither of which are articulated for health promotion by AHW, or AHS-EPH. Despite these barriers health inspectors continue to use health promotion principles in a capacity-enabling approach.

These factors do not enable the type of population-wide behavioral and environmental changes to improve health status as described by Awofeso (2004). This is exemplified by the SDOH as itemized by Mikkonen and Rapahel (2010). The data regarding the SDOH revealed new perspectives on health promotion within traditional health protection practice. The quantitative data supported the choice of the Housing and Food Regulations as regulatory examples. The practice-based evidence explicated that health inspectors considered housing and food as the common point of contact between health promotion and health protection to be housing, and food. The fact that they also placed a high priority on early life, Aboriginal status, employment, and education further supports the high value placed on capacity-enabling interventions associated with health promotion and enforcement-based health protection working together. The data

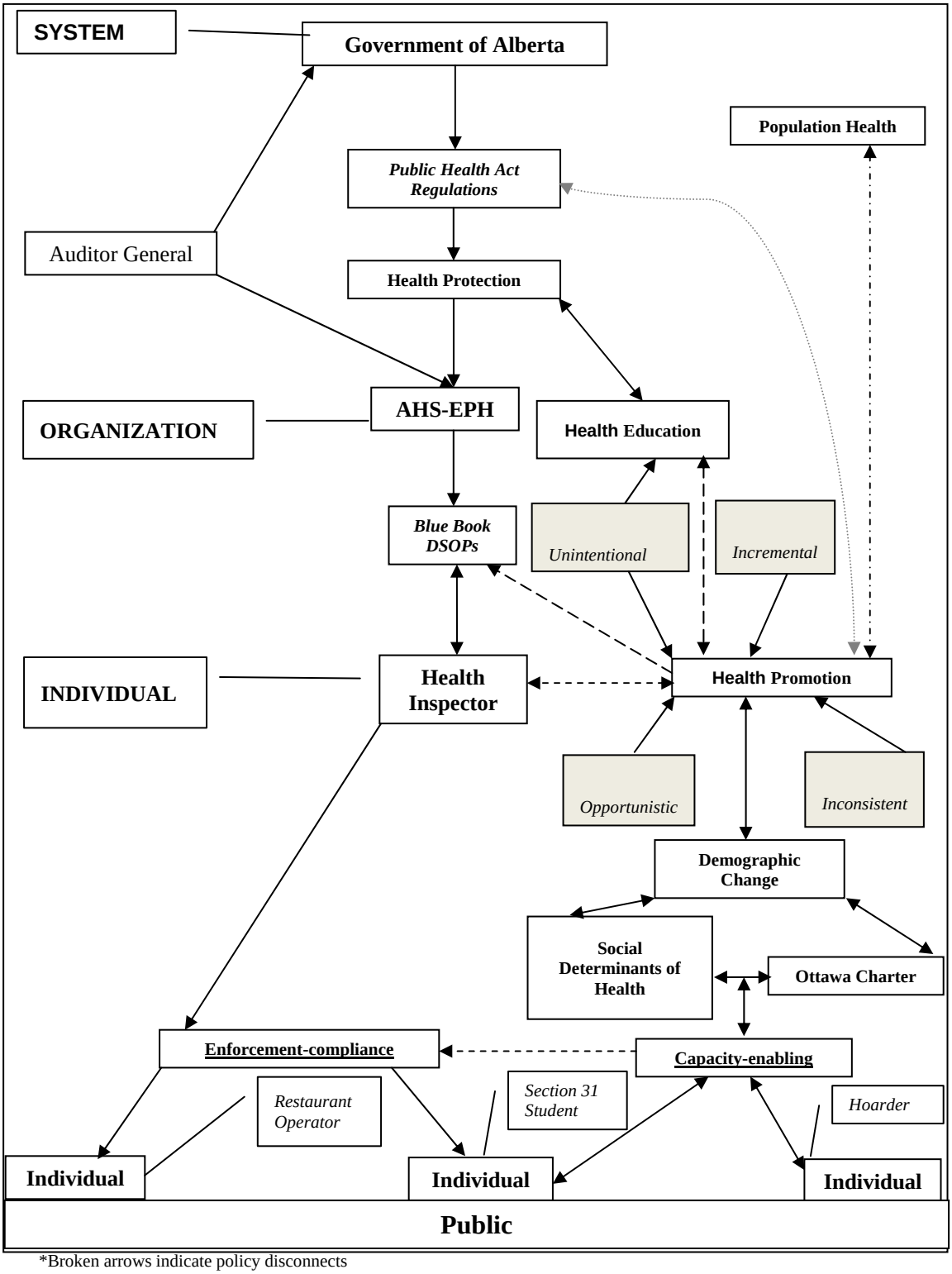
are consistent with Raphael and Bryant's (2006) assertion that Canadian public health is not focusing on the SDOH. The SDOH impacts found in the study are as an unintended byproduct of health protection functions. However, even this unintended effect supports Voytecky's (1986) position that health protection and health promotion both benefit public health.

Health promotion effects are unintended consequences of public health policy, first because there is no articulated health promotion strategy, and second because individual health inspectors are attempting to cover gaps between policy and social reality where the only articulated policy option is referral. The trans-fat initiative is a good example of what occurs when policy is designed to create social change at a local level without a strategy, or high-level enabling policy. This initiative attempted to force a relationship between health protection and health promotion without regulatory policy change. It focused on one municipality and, was based on an ad hoc, cherry-picking approach to health promotion, coupled with regulatory enforcement. The project had a short public implementation lifespan, but as the evidence indicates a lasting organizational effect. An attempt to move from unintended health promotion policy to intended health promotion bypassed the policy-change step and attempted to force-fit current policy into a health promotion mold. It did not meet the criteria outlined by McLeroy et al. (1988), of having a government or organization with the capacity to create and support policy. In this case the regional health authority at the time, Calgary Health Region – Environmental Public Health, had the desire to implement health promotion policy, but not the ability to create or fund a new policy. These factors formed a barrier to the policy and curtailed its effectiveness and longevity. The policy gap, lack of a comprehensive strategy, lack of funding, and local focus of the project created an inconsistent application of health promotion principles.

5.3 POLICY FRAMEWORK: SYNTHESIS

The method for this study was based on the policy framework adapted from O'Louglin et al. (2001), Smith et al. (2001), Bowen and Zwi (2005), and Vogel et al. (2007). With the evidence generated from the study the following framework (Figure 4) diagrams the enforcement-compliance and the capacity-enabling approach to public health policy implementation within AHS-EPH.

*FIGURE 4. STUDY SUMMARY**



*Broken arrows indicate policy disconnects

The study policy implementation framework models the practice-based-evidence-informed process. This represents how the health inspectors perceive health protection and health promotion processes within their work context. The policy context at the top of Figure 4 is supported by evidence presented in section 4.4.2 and in Table 5. The presence of the AG changes how the policy formation process occurs according the participants about the effect of the Report on Food Safety (Auditor General, 2006). The AG holds the system, and the organization to account for goals set in the regulatory, and implementation policy documents. Since individual health inspectors are often in direct contact with the public, as street-level bureaucrats, they have some flexibility to choose policy implementation approaches. The meta-themes of unintentional, incremental, opportunistic and inconsistent health promotion practice were developed from analysis of the qualitative evidence, specifically the interviews. The hoarding, trans-fat, Hunters Who Care, and Section 31 Food Safety Education illustrative examples support the bottom of Figure 4. Depending on what situation the health inspector faces, they can choose an enforcement-compliance path or capacity-enabling one. The one direction, solid arrows indicate the nature of the enforcement-compliance approach where there is very little feedback. This approach is demonstrably well-documented in policy, supported by funding, articulated through procedure, and guided through organizational leadership. The bi-directional, broken arrows indicate feedback along the capacity-enabling approach. The capacity-enabling approach is not well-documented; it is unfunded, not articulated, and lacks organizational leadership. The broken arrow connecting population health and health promotion reflects the relationship of these concepts as reported by the health inspectors. The social reality reflected in the policy documents is not necessarily the reality encountered by the health inspector when using the enforcement-compliance approach. This is supported by the influence of demographic change on health protection practice from Table 11. The policy - social reality tension encountered by the health inspector may be more effectively

mediated through a capacity-enabling approach. The capacity-enabling approach enhances the efficacy of the enforcement-compliance approach, for example when providing courses in food safety, or working with tenants and landlords regarding pest infestation of rental accommodation. Figure 4 is an example of a practice-informed, evidence-based policy framework as described by Green (2006) and Austin (2011).

5.4 RESEARCH FINDINGS: HEALTH PROTECTION CONTEXT

Comparing this study of Alberta health inspectors to the work of Bourne (2008), and Campbell et al. (2012) there is a marked difference in rationale, methodology, and results. Both Bourne (2008) and Campbell et al. (2012) focused their research on the recipient of the intervention, and the work of the health inspectors as agents of health promotion. This research, because of the mixed-method design identified and characterized the influence of health promotion principles at all levels of public health protection policy implementation. For example, the practice-based evidence indicated that health inspectors are not ignoring the SDOH, although key policy documents such as the Public Health Act, and the Blue Book are silent on SDOH. The Government of British Columbia (2005) has delimited in its Core Functions Framework that it does not have the mandate to affect SDH.

The data have illustrated that many health inspectors believe that health promotion is a facet of environmental health practice. The Lalonde Report (1974) through the Health Field concept and the Ottawa Charter (WHO, 1986), described a theory of health that went beyond the biomedical model to encompass social factors. This became the foundation for health promotion practice. Voytecky (1986) had proposed that health promotion and health protection should work together to achieve national health objectives. The evidence from this study reveals that AHS-EPH has not given overt permission - or resources - to use health promotion principles; however, the principles do exist within the system level and organizational-level policy documents within the Public Health Act, and

as a basic justification of the Blue Book. The health inspectors understand that even though they are normally in a coercive position, an individual cannot be coerced into health behaviour change, but must make that choice for him or herself.

Austin (2011) developed a Health Protection/Health Promotion model for recreational therapists (RT). One of his main principles when designing and updating his model was that conceptual models inform practice and vice versa. This two-part model focused first on protecting individual health and enabling a return to a steady health state. Health promotion is the second part and enables individuals to enjoy higher or peak levels of health (Austin, 2011). Clients move along the spectrum from health protection to health promotion with the aid of the RT. Clients move along a continuum from health protection to health promotion and gain control over their health through three layers of interventions. Health protection interventions are prescriptive and the RT has more control and the client less. With recreational activities, the clients have more control and the RT less. With leisure activities the client has full control and the RT's intervention is no longer needed. This model is focused on a strengths-based approach that emphasizes the client's ability to achieve better health rather than poor health. Austin (2011) makes the important point that a well-conceptualized practice adds legitimacy to recreation therapy as an independent health profession. This study demonstrates that integrating health protection and health promotion to benefit the client is possible.

Health promotion's role is changing; a change that evidence suggests is being driven by demographics as demonstrated in Table 11, which could be facilitated by health promotion. This implies that capacity-enabling health promotion principles become more, not less valuable to health protection, and follows from what McLeroy et al. (1988) contends in the ecological perspective that response to changing community demands requires public health interventions. The bidirectional nature of the change explicated by McLeroy et al. (1988) is evident in the changing role of health promotion practice within

environmental health. Health behaviour change is the primary goal of environmental health, using health protection and health promotion principles, this change should protect and promote the health of Albertans.

5.5 HEALTH PROTECTION AND HEALTH PROMOTION: AN INTEGRATED STRATEGY

How can an articulated health promotion strategy work with health protection to maintain and enhance the health of Albertans? This question can be answered based on Table 8 and Figure 3. Key health promotion principles, the SDH and the Ottawa Charter, can create effective capacity-enabling action provided that they are coordinated through the health inspector's knowledge and experience in health protection, and reflect observed demographic change. The framework indicators described by Smith et al. (2001), Bowen and Zwi (2005), and Vogel et al. (2007) were useful to format the methods, specifically the questions in the interview and survey. These indicators are similar to the ones identified by Rutten, Roger, Abu-Omar, and Frahsa (2009) as key determinants of successful programs. The resulting evidence supported the indicators as valid, creating a practice-based description of health promotion in this regulatory health protection context.

Health inspectors are the closest point of contact with the public; therefore, the health inspector is in the best position to create immediate interventions. The evidence demonstrates that health inspectors are seizing opportunities to use health promotion principles, despite the enforcement-compliance policy dominance regarding health protection at the organizational and system level. These two approaches attempt to cause individual health behavior change. Health protection's risk based, enforcement-compliance approach is based on negative reinforcement: comply or be punished. Health promotion is designed to create capacity-enabling interventions, based on positive reinforcement, enabling a healthier lifestyle.

5.6 SUMMARY: DISCUSSION

The quantitative, qualitative, and documentary evidence reveals that Alberta health inspectors are currently practicing health promotion. This practice has elements of opportunism where knowledgeable health inspectors seize moments to use health promotion principles. Health promotion practice is incremental on an individual health inspector and client basis rather than on a community or population level. It is also unintended where policy which has been formulated for an intended health protection purpose creates an unintended health promotion benefit. At the health inspector level there is greater capacity, exemplified by leadership, knowledge, and practice, than is articulated or intended at the AHS-EPH level. This imbalance in capacity has created inconsistent health promotion practice.

6. CONCLUSIONS

The study explored how public health policy was implemented within the Alberta Health Services-Environmental Public Health (AHS-EPH) organizational context. Health promotion was chosen as the case study, to focus in on one aspect of public health policy implementation by a relatively small group of public health practitioners; health inspectors. The policy context was described using a literature-derived framework incorporating various facets of system, organizational, and individual capacity. This framework formed the basis for a three-part research method consisting of interviews, survey, and policy document analysis. This mixed-methods research approach focused on qualitative data with triangulation and validity supported by quantitative and documentary evidence. The research has demonstrated that health inspectors practice health promotion to complement and enhance health protection policy implementation.

6.1 RESEARCH QUESTIONS AND FINDINGS

The interviews, surveys, and document analysis developed data that revealed health promotion effects at all levels of environmental health policy. This evidence addressed the research questions: 1) the current status of health promotion practice within AHS-EPH; 2) the facilitators and barriers that affect capacity for health promotion practice by the organization and the health inspector; 3) the effect of health promotion capacity on the ability of AHS-EPH and the individual health inspector to use health promotion principles.

Answering question one, the study determined, that current health promotion practice of AHS-EPH falls into two categories; actions and effects. Incremental activities, on an individual not population level, are associated with unique opportunities. These opportunities occur during health protection practice, which are inspections to enforce public health policy. Although not written from a health promotion perspective, public health policy may create unintended health

promotion effects. Taken together the opportunistic, incremental, and unintended application of health promotion in the Alberta health protection context is inconsistent. The non-systematic impact on the Social Determinants of Health (SDOH), demonstrated in the policy evidence, is one clear example of the inconsistent application of health promotion principles. Various factors within the three policy levels affected the capacity to practice health promotion.

Answering question two; evidence demonstrated that health promotion capacity was facilitated at the health inspector individual-level, increasing capacity for practice. The barriers that affected health promotion capacity were at the system, and organization levels, diminishing the capacity for practice. The facilitators and barriers created this dichotomous capacity to use health promotion principles. This unbalanced capacity has lead to the inconsistent health promotion practice of Alberta health inspectors.

Answering question three, the effect of the facilitators and barriers revealed that the lack of health promotion policy articulation at the system-level created the imbalance in capacity between the organizational- and individual-levels. Unarticulated health promotion policy contributed to the inconsistent health promotion practice.

6.2 STUDY STRENGTHS AND WEAKNESSES

There were strengths and weaknesses associated with implementation of the three-part method used in this study. The strengths were the emphasis on practice-based evidence demonstrating the perspective of the policy implementer, the health inspector, on the use of health promotion principles. Using a mixed-methods approach provided a balanced reductionist and holistic perspective on current health promotion practice. The key health promotion tools; the SDOH and the Ottawa Charter Action Areas, coordinated by the health inspector's perspective were a critical strength of the study. Weaknesses were associated with the limited scope of the study both from a policy and a response rate perspective. For example, there are 18 regulations associated with the Public Health Act

(PHA), because of limited time and resources, the study only reviewed two. Fifty-one of a possible 235 health inspectors responded to the survey, a response rate of 22 %. A larger sample size always supports generalizations better than a smaller one. However, time and financial constraints did not allow the survey to be open longer, nor other avenues of recruitment explored. Since an "n" greater than 30 individuals was obtained the Central Limit Theorem supports the statistical validity of the data. Interview data demonstrated theme saturation that was supported by the quantitative data, providing both triangulation and validation of both sets of evidence. Since the researcher is a health inspector working for AHS-EPH choosing key policy documents, key informants and designing the survey were aided by an experienced "insider" perspective. Ethical concerns, specifically conflict of interest and recruitment procedures were cleared through the University of Alberta Human Research Ethics Board.

6.3 RESEARCH IMPLICATIONS

The organization's mandate and incentives reward enforcement-based health protection, and there is no overt acknowledgement of health promotion. There is currently little or no articulated organizational support for broader health protection approaches that could use health promotion principles to enhance regulatory compliance. The evidence has demonstrated that the organization is not isolated from the effect of politics and public intervention. Another approach is needed, in large part because of policy pressures initiated by changing demographics, and a fairly static articulated regulatory health protection policy environment. Lack of defining policy and resources at the system (AHW), level affected organizational, AHS-EPH capacity. However, individual health inspector health promotion capacity and the semi-autonomous nature of health inspection, allows for the discretionary application of capacity-enabling principles.

The gap between the client's needs and regulatory public health policy implemented via the enforcement-compliance approach can be filled practicing health promotion in a capacity-enabling approach. The changing demographic

composition of Alberta effects environmental health creating a valid opportunity for use of health promoting principles to engage in capacity-enabling interventions. Health protection using health promotion principles offers a flexible method of adapting policy implementation to social change.

Research following on from the study's findings could be focused on the factors that facilitated health promotion practice and those requiring further development. The evidence supported the assertion that without a clear policy and guidance health promotion practice will be inconsistent and uncoordinated. Following the practice-based model, in order to implement a consistent health promoting protection approach AHS-EPH will need to build organizational capacity. AHS-EPH has recognized that it does not exist in a vacuum and must be more proactive, and the evidence suggests that the organization will have to broaden its response, especially to complex public health situations. The organization, AHS-EPH can increase health promotion capacity by building on the existing health promotion training and creating further educational opportunities for health inspectors. These educational opportunities targeted toward health promotion practice can increase personal and organizational capacity. Increased capacity can be linked with policy development to create and communicate a consistent vision and coordinated action across the province.

The current situation of unapproved health promotion within a health protection context creates a health-promoting protection approach, where health protection is the primary, articulated, acknowledged policy approach, and health promotion the unacknowledged, unarticulated secondary approach. Ensuring that these two perspectives (that is, of coercive enforcement-compliance and non-coercive capacity-enabling) work together to consistently protect and promote the health of Albertans is an important regulatory, policy, and program-service delivery re-orientation. Accomplishing the task in an efficient and effective manner means understanding current practice and identifying facilitators and barriers, then moving to enhance the facilitation and overcome the barriers. Creating awareness of underlying assumptions of the facilitators and barriers is an

important first step. This study will work to contribute to the process. Contributing to the process enables the health promoting strategies to merge with the established enforcement-based health protection program to benefit in maintaining, and ideally improving, the health of Albertans.

6.4 PRACTICE AND POLICY IMPLICATIONS

Currently, health promotion practice by AHS-EPH health inspectors is inconsistent. Creating a more consistent, population-wide strategy for health promotion within the AHS-EPH context requires change at the health inspector, AHS-EPH, and AHW level. A systematic review of current regulatory and implementation policy is necessary before initiating policy implementation change. This study provides the basis for such a review.

The ad hoc use of health promotion principles benefits the organization, but does not increase the efficacy of the capacity-enabling approach. Since the organization is responsible for policy implementation, creating a capacity-enabling approach is possible. The SDH and the Ottawa Charter can create an appropriate, consistent, targeted approach that enhances the efficacy of health protection. One of the driving forces behind the 2008 creation of AHS was too increase healthcare consistency province-wide. The inconsistent use of health promotion concepts is not congruent with this principle.

Policymakers at AHW are designing public health policy based on health protection principles. The PHA enables health promotion capacity and this study has demonstrated that health protection and health promotion are not mutually exclusive approaches. If AHW added a definition of health promotion to the PHA, acknowledged the ability to have a positive effect on the SDOH, and used the tools provided in the Ottawa Charter this would create a consistent capacity-enabling approach. Leadership from AHW, specifically in the form of providing an articulated policy would have a significant impact on the organization and the health inspector. Reviewing the existing regulatory policy for health promotion effects is a good place to start.

A health promotion strategy for environmental health involves interpreting policy and implementation using a comprehensive approach. Existing policy is being interpreted to accomplish health promotion actions in an ad hoc manner based on each health inspector's discretion. Using the SDOH as a focus for interpretation a strategy and implementation plan can be developed. The Ottawa Charter Action Areas (WHO, 1986) enables a more responsive regulatory approach to health protection with definite goals and objectives.

Interpretation, however, is only half the strategy. Implementation is the other half and can only occur if there is capacity within environmental health. Capacity encompasses such items as; vision and leadership recognition about the value of a broader set of regulatory tools, especially those that contribute to capacity and reduce longer term costs. Interpretation and implementation of a health-promoting protection strategy would have compliance-based regulatory enforcement and capacity-enabling intervention work together explicitly; as such a policy already does implicitly. The two are not mutually exclusive; this study has demonstrated that Alberta health inspectors are already using both approaches.

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APPENDIX A: “ENFORCEMENT AND YOU”

Implications

A successful outcome lies squarely with the permit holder. Proposals to rectify conditions must be thorough and time frames for correction must be reasonable. Written proposals may take significant time to put together. Costs may be incurred if legal counsel is consulted or asked to attend. Charges are filed against owners that fail to convince the department that problems will be rectified over the long term.

Charges

You may be charged for each breach of the Public Health Act, Food Regulation. The current legislation allows for maximum penalties of $2000.00 per count on a first offence, and $5000.00 per count thereafter. Failing to correct violations outlined on an Executive Officer's Order can result in fines of up to $100.00 per day for each day the violation exists. Failure to pay fines set by the court upon conviction can result in default jail time.

Charges may be initiated:

- as a last resort when all other measures have failed to achieve lasting improvement at a food establishment
- for non-compliance with times or conditions set in an Executive Officer's Order
- if a facility fails to close when ordered to do so

Implications

Charges are very serious. A summons for you and/or your representative will be issued to appear in court. This summons will be served by a police officer and failure to appear on the court date set may cause the judge to issue a warrant for your arrest. Please note that significant costs can be expected in the form of court fines, lawyers fees, and loss of income during court appearance dates and there is almost always media involvement, which may further damage future patronage. Also, evidence presented in court becomes public, meaning the media and general public have full access to all inspection reports, photos, and complaint details (excluding complainant names).

For more information, please contact your nearest Environmental Public Health office.

Edmonton Main Office	*780-735-1800*
Calgary Main Office	*403-943-2295*
Lethbridge Main Office	*403-388-6689*
Grande Prairie Main Office	*780-513-7517*
Red Deer Main Office	*403-356-6366*

www.albertahealthservices.ca/eph.asp

Alberta Health Services

Health Link Alberta
Call toll free:
1-866-408-LINK (5465)
Edmonton: 780-408-LINK
Calgary: 403-943-LINK

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Alberta Health Services

Enforcement and You - What Permit Holders Need to Know

Introduction

As a holder of a food handling permit, you are required to abide by laws and regulations that apply to the food service industry. In Alberta, these include the Public Health Act, Food Regulation (AR 31/2006) and the Nuisance and General Sanitation Regulation (243/2003).

Every year you will receive one or more inspections by an Environmental Health Officer (EHO) with Alberta Health Services. Their job is to ensure your facility meets or exceeds the minimum standard outlined in the regulations. When departures from these minimum standards are found, they are recorded as violations. An EHO will inform you of any problems, and set time frames for correction. It is expected that these time frames are met. It is also expected that the same problems do not recur on an on-going basis.

When problems do persist, enforcement action may be initiated by the district EHO. It is important that as a holder of a permit, you (and your staff) are aware of the process and implications of enforcement actions that may be taken. These are described in detail in the following sections.

Executive Officer's Orders

An Executive Officer's Order (EOO) is a legal document that an EHO may issue to food establishments in response to violations being found. They are not the same as an inspection report.
Time frames for correction are enforceable (failing to meet set deadlines may result in closure, suspension, or charges). Orders can be subsisting, meaning that violations must be corrected in the short term, and maintained over the long term. While the Public Health Act does not require EOOs to be posted on-site at the restaurant, they are public documents: they are released to the media, can be viewed on the Alberta Health Services website, and are posted in our regional offices.

Implications

Owners may receive calls from the media and the public. If media outlets run stories about the conditions outlined on the order, patronage may decline. There will be increased pressure placed on owners and restaurant staff to maintain the food establishment in accordance with minimum standards to prevent further action by Alberta Health Services.

Closure Orders and Permit Suspensions

A closure order / suspension may be issued:

- For conditions that, in the opinion of the EHO,
  - pose an imminent risk to staff or the public
  - prohibit staff from safely processing, preparing or serving food
    - in response to a facility that is operating illegally (without a valid food permit)

Implications

Closure orders take effect immediately. Closure orders are not rescinded (removed) until such time that all violations listed on the closure order are corrected. A record of closure orders are maintained and made available for public viewing at an Environmental Public Health office. These orders may be posted on-line or released to the media. Closure orders are posted in a visible location at the food establishment for the duration of the closure. Removing any posting (order) is a criminal offense, punishable by a $2000.00 fine.

Administrative Hearings

When applicable, administrative hearings are conducted in advance of charges (at the discretion of the EHO) as a last ditch effort to resolve ongoing issues. Charges are drafted in advance of the hearing. Legal counsel and interpreters (if needed) are encouraged to attend. The purpose of an administrative hearing is to give the owner one last opportunity to provide verbal and written plans as to how she or he plans to prevent risks over the long term. The district EHO provides a summary of events and the owner is given time to discuss how they intend to resolve each problem. Hearings follow a set format and are chaired by a senior EHO. Minutes are taken and provided to both parties. The outcome of the hearing is provided at its conclusion.

APPENDIX B: LITERATURE-DERIVED DEFINITIONS

Health education: According to the WHO (2013, para. 1)) this is any form of learning experience aimed at individuals and communities to increase their knowledge and change attitudes to improve their health.

Health inspector: a person who is certified by the Board of Certification of the Canadian Institute of Public Health Inspectors, and designated as a Certified Public Health Inspector (Canada) CPHI(C). All inspectors working for AHS-EPH are CPHI(C), and are also Executive Officers of the Public Health Act under Section 9, to carry out the provisions of the Act and Regulations (Government of Alberta, 2010).

Health promotion: "…a process of enabling people to increase control over, and to improve, their health…a positive concept emphasizing social and personal resources…" (WHO, 1986, p. 1).

Health protection: Based on the work of Hall (1964) and the Government of Scotland (2011) this is an attempt to identify public health risk factors, protect the public from exposure, and to limit any impact where exposure cannot be avoided.

Health policy: a consensus on health issues, goals, and objectives, which are prioritized and resourced (WHO, 1999, p. 1).

Individual capacity: health inspectors' ability to use health promotion principles to complement, supplement, or as a precursor to, their regulatory health protection role.

Inspector: as used in this study refers to health inspector and Executive Officer.

Medical Officer of Health (MOH): a physician designated by the regional health authority as an Executive Officer under Section 16 of the Public Health Act (Government of Alberta, 2010).

Organizational capacity: is the ability of an organization to develop, implement, and evaluate health promotion activities (Jackson et al., 1994).
Policy action group: field inspectors/operational staff, responsible for policy action; delivery of the designated service to the public,
Policy analysis: a general term encompassing techniques and tools used to study existing policies, their creation, and their consequences (Collins, 2005).
Policy communication group: supervisors of the field staff, responsible for policy communication to field staff, and feedback from the health inspector to upper management. Also, responsible that policy targets are completed.
Policy content: the institutions, ideology, and procedures of governmental activity (Gordon et al., 1977).
Policy context: this is the setting where policy is being developed and implemented, and includes the resource and health services legacy (Bowen and Zwi, 2005).
Policy implementation: process of translating decisions into actions (Minogue, 1983).
Policy implementation planning group: Managers and the Director are responsible for policy implementation planning; taking strategic policy goals and creating an implementation framework and then communicating that framework to the supervisors and field staff.
Population health: an approach whose goal is to improve the health of the whole population, including subgroups. It targets a number of factors that influence health (Public Health Agency of Canada, 2012, para. 3).

APPENDIX C: INTERVIEW GUIDE

Date:

Location:

Time:

Interview number:

Section 1. Demographic Questions

1. What is your current position within AHS-EPH, that is management, supervisory or field staff?

2. How long have you been a certified public health inspector?

3. Where did you take your environmental health training?

4. Did you take any supplementary education after certification?

5. Did you take Health Promotion training either as a course or part of a course?

6. Where do you work in Alberta; an urban site, rural, or remote?

Section 2. In-Depth Questions

1. What is your definition of health promotion?
    a. Prompt: Health promotion is a process for enabling people to take control over and improve their health.

2. What do you see is the relationship between health protection and health promotion?

3. Would AHS-EPH benefit from health promotion actions, how would health promotion affect the health protection functions?

4. How would you distinguish between health education and health promotion?

5. Would you distinguish between Health promotion and population health?
    a. Prompt: A population health promotion approach states that action must be taken on the full range of health determinants

6. If you had to label yourself, as something other than a health inspector, what would you be?
    a. Health protection advocate
    b. Health promotion advisor
    c. Health promotion advocate
    d. Some combination of both?

7. If you had to label how you worked what would your label be?
    a. Public Health protection
    b. Public Health promotion
    c. some combination of both

8. What would you consider a health protection activity within AHS-EPH distinct from a health promotion role?

9. What are the organizational tools that allow you to do health protection?

10. What are barriers to health protection?

11. What would enable health promotion within AHS-EPH?

12. What are the barriers to conducting health promotion activities for health inspectors during their normal work?

13. From the following list please choose the Social Determinants of Health that you can most impact as a health inspector, for the individual not as a group:
    a. Prompt: The term determinant of health refers to “the range of personal, social, economic, and environmental factors which determine the health status of individuals”.
    b. Aboriginal status (someone who identifies themselves as First Nation, Métis, Inuit
    c. disability (a person has some form of disability which can be more than just physical)
    d. early life (fetus, infant, toddler, children)
    e. education (greater the individual’s level of education the better their overall health status)
    f. employment and working conditions (job site/work site)
    g. food insecurity (certainty of obtaining adequate, nutritious food)
    h. health services (access to health care and cost to patient)
    i. gender (women experience more adverse SDOH than men)
    j. housing (unsafe, insecure or unaffordable housing increases risk of ill health)
    k. income and income distribution (socio-economic status, the more money the healthier the person is),
    l. race (racial groups are affected by many SDOH)
    m. social exclusion (the inability of certain groups to participate productively in society)
    n. social safety net (created by society to provide a web of services and programs and other supports to assist people during life changes that affect their health)
    o. Unemployment and job security (ability of a person to find meaningful long-term employment).

14. Encouragement and guidance for health promotion is/not provided by AHS-EPH? Yes or No?

a. Within your job requirements is there space/time to incorporate health promotion activities?
b. Is there a shared vision of health promotion within AHS-EPH?
c. Are there disincentives for conducting health promotion activities within AHS-EPH?

15. What would you consider a health promotion activity that is distinct from a health protection activity within AHS-EPH?

16. Are you currently incorporating any health promotion activities in your health protection role? Y or N?
    a. How could it benefit or add value to AHS-EPH role?
    b. Does the cost of health promotion activities outweigh the perceived benefit?
    c. Is the health protection role sufficient to fulfill all of AHS-EPH's mandate?
    d. What is the optimum blend of health protection and health promotion?

17. Do you think there has been a change in the perception of health promotion over the course of your career;
    a. Has the perception of health promotion changed from when you started to now?
    b. If you think it's changed, why?
    c. Within your area of responsibility have you seen demographic changes?
    d. If yes, what are the changes you've observed?
    e. Are these demographic changes affecting your health protection role?
    f. If yes, would health promotion activities help you deal with the demographic changes?

18. Would the public benefit from health promotion activities like they do from the health protection functions of AHS-EPH?

19. When you work with other agencies, such as RCMP, social workers, community health nurses, are you in a health protection role and/or a health promotion role?
    a. Are there other agencies it would be beneficial for AHS-EPH to work with to implement health promotion initiatives?

20. Do you think you have an impact on the policy process?
    a. If yes, what is your role in the policy process?

21. What is the role of the Director, Associate Director and Zone Managers in the policy process?

22. What is the role of the Supervisors in the policy process?

23. What is the role of the EHO 3, 2, 1/field inspectors in the policy process?

24. Can any of these positions affect health promotion within AHS-EPH?
    a. Is there a specific document or section of a document that enables health promotion?

    b. If there isn't what is the impact on health promotion activities within the organization?

25. Which Blue Book Program Areas would most benefit from health promotion activities?

APPENDIX D: ONLINE SURVEY

Background

Health protection and health promotion have two similar but different roles: one to protect the public's health, the other to enable individuals to maximize their health potential, respectively. Both roles work together to protect and promote the health of Albertans. It is important to identify barriers and facilitators to health promotion activities within Alberta Health Services Environmental Public Health (AHS-EPH). The proposed project will interview and survey health inspectors to discover how they integrate health promotion into their current practice. Findings will enable policy makers to overcome barriers and maximize facilitators to incorporating health promotion within EPH.

The purpose of this survey is to understand the organizational and personal capacity for health promotion activities within Alberta Health Services Environmental Public Health. Organizational capacity in this case is defined as the ability of Alberta Health Services Environmental Public Health (AHS-EPH) to develop, implement and evaluate health promotion activities. Personal capacity for health promotion activities is defined as the ability of the individual inspector to do these activities over and above their regulatory health protection role. Capacity will include such things as leadership, knowledge and skills, resources and guidance for health promotion. Capacity will be assessed by understanding the current practice of health promotion and any barriers and facilitators to health promotion activities by health inspectors.

1. How long have you been a certified public health inspector?
    - o less than 1 year
    - o 1 to 5 years

- 6 to 10 years
- 11 or more years

2. Where did you take your environmental health training?
    - British Columbia Institute of Technology
    - Cape Breton University
    - Concordia University College of Alberta
    - First Nation University of Canada
    - Ryerson Polytechnic
    - Outside Canada

3. Have you taken any supplementary education after Certification;
    - undergraduate,
    - graduate
    - post-graduate
    - doctoral
    - other_____
      _____
      _____
      _____

4. Did you take any Health Promotion training during your environmental health training or after? Y or N
    - Under graduate
    - Graduate
    - Post-graduate
    - Doctoral
    - other_____
      _____
      _____
      _____

5. In your current position with AHS-EPH are you responsible for (check all that apply)
    - policy implementation (management and above)

- policy communication (supervisory and coordinating)
- policy action (inspections)

6. Where do you work in Alberta
    - urban
    - rural
    - remote
    - combination
    - Provincial

7. How do you define Health Protection and give example(s)?

_____

_____

_____

_____

8. Given the definition that health promotion within environmental health was encouraging healthy lifestyle and behaviour change through non-Regulatory communication of health information using targeted programs to encourage individuals? Would you;
    - strongly disagree
    - disagree
    - somewhat disagree
    - somewhat agree
    - agree
    - strongly agree
9. How would you distinguish between health education and health promotion?

_____

_____

_____

_____

10. Given the definition of health promotion is a tool of population health that allows it to focus on the individual. Population health more generally, examines the complete population using the determinants of health as assessment criteria. Would you;
    - strongly disagree
    - disagree
    - somewhat disagree
    - somewhat agree
    - agree
    - strongly agree
11. Over the course of your career have you found that the role of the health inspector has changed regarding health promotion? Y or N
    - If Yes, how;

      _____
      _____
      _____
      _____

    - Over the course of your career have you incorporated health promotion concepts in your work? Y or N
    - If Yes, how;

      _____
      _____
      _____
      _____

12. Are health promotion concepts (ideas) useful to environmental health? Y or N
    - if Yes, how;

      _____
      _____
      _____
      _____

    - if No, why not;

      _____
      _____

_____
_____

13. Over the time you have spent as an inspector in one jurisdiction, greater than 2 years, have you noticed demographic changes, such as (check all that apply)
    - o Cultural changes
    - o Increase in low socioeconomic population, indicated by such things as increase use of food banks and subsidized housing;
    - o Urban/rural population change
    - o Increase in overall population
    - o Other changes;

      _____
      _____
      _____
      _____

    - o If you have noticed other changes what are they?

    _____
    _____
    _____
    _____

14. These changes have had an affect on environmental health.
    - o strongly disagree
    - o disagree
    - o somewhat disagree
    - o somewhat agree
    - o agree
    - o strongly agree

15. Health promotion would help environmental health deal with these changes.
    - o strongly disagree
    - o disagree

- somewhat disagree
- somewhat agree
- agree
- strongly agree

16. Factors that enable you to do health protection activities are; (check all that you think apply);
    - Time
    - Money and other resources
    - A shared vision of what health protection is and seeks to accomplish
    - Detailed written policy, guidelines and standards
    - Encouragement from senior management
    - Others;_____
      _____
      _____
      _____
      _____

17. Factors hindering you from doing health promotion activities are; (check all that you think apply);
    - Time
    - Money and other resources
    - Written policy, guidelines and standards
    - Outcome measures
    - Personal capacity
    - Others;_____
      _____
      _____
      _____
      _____

18. Is there a specific guideline or standard that details the health promotion activities that health inspectors can perform? Y N

- If you answered “Yes” what is that document?

_____
_____
_____
_____

- If you answered “No”, do you perform health promotion activities regardless? Y or N
    i. If Yes, what are they?

_____
_____
_____
_____

19. The leadership for health promotion within AHS-EPH is;
    - very weak
    - weak
    - somewhat weak
    - somewhat strong
    - strong
    - very strong

20. Guidance for health promotion should come from what level of AHS?
    - local office (Supervisor)
    - Zone Manager
    - Director and above

21. There is a shared vision of what health promotion is within Environmental Health?
    - strongly disagree
    - disagree
    - somewhat disagree
    - somewhat agree
    - agree

- strongly agree

22. Current resources are sufficient to enable health promotion activities?
    - strongly disagree
    - disagree
    - somewhat disagree
    - somewhat agree
    - agree
    - strongly agree

23. Educational opportunities are available to increase knowledge regarding health promotion?
    - strongly disagree
    - disagree
    - somewhat disagree
    - somewhat agree
    - agree
    - strongly agree

24. How strong is the focus of your local EPH program to a safe environment for children?
    - very weak
    - weak
    - somewhat weak
    - somewhat strong
    - strong
    - very strong

25. Please choose whether you believe the Social Determinants of Health can be impacted by the health inspector for an individual, over and above what you would do for any member of the public. These are presented in alphabetical order only;

    (The term determinants of health refer to “the range of personal, social, economic, and environmental factors which determine the health status of individuals.)

- Aboriginal status (someone who identifies themselves as First Nation, Métis, Inuit)
  - strongly disagree
  - disagree
  - somewhat disagree
  - somewhat agree
  - agree
  - strongly agree

- Disability (a person has some form of disability which can be more than just physical)
  - strongly disagree
  - disagree
  - somewhat disagree
  - somewhat agree
  - agree
  - strongly agree

- Early life (fetus, infant, toddler, children)
  - strongly disagree
  - disagree
  - somewhat disagree
  - somewhat agree
  - agree
  - strongly agree

- Education (greater the individual's level of education the better their overall health status)
  - strongly disagree
  - disagree
  - somewhat disagree
  - somewhat agree
  - agree

    - strongly agree

- Employment and working conditions (job site/work site)
    - strongly disagree
    - disagree
    - somewhat disagree
    - somewhat agree
    - agree
    - strongly agree

- Food insecurity (certainty of obtaining adequate, nutritious food)
    - strongly disagree
    - disagree
    - somewhat disagree
    - somewhat agree
    - agree
    - strongly agree

- Health services (access to health care and cost to patient)
    - strongly disagree
    - disagree
    - somewhat disagree
    - somewhat agree
    - agree
    - strongly agree

- Gender (women experience more adverse SDOH than men)
    - strongly disagree
    - disagree
    - somewhat disagree
    - somewhat agree
    - agree
    - strongly agree

- Housing (unsafe, insecure or unaffordable housing increases risk of ill health)
  - strongly disagree
  - disagree
  - somewhat disagree
  - somewhat agree
  - agree
  - strongly agree

- Income and income distribution (socio-economic status, the more money the healthier the person is),
  - strongly disagree
  - disagree
  - somewhat disagree
  - somewhat agree
  - agree
  - strongly agree

- Race (racial groups are affected by many SDOH)
  - strongly disagree
  - disagree
  - somewhat disagree
  - somewhat agree
  - agree
  - strongly agree

- Social exclusion (the inability of certain groups to participate productively in society)
  - strongly disagree
  - disagree
  - somewhat disagree
  - somewhat agree
  - agree

- strongly agree

- Social safety net (created by society to provide a web of services and programs and other supports to assist people during life changes that affect their health)
  - strongly disagree
  - disagree
  - somewhat disagree
  - somewhat agree
  - agree
  - strongly agree

- Unemployment and job security (ability of a person to find meaningful long-term employment).
  - strongly disagree
  - disagree
  - somewhat disagree
  - somewhat agree
  - agree
  - strongly agree

The next set of questions asks specifically about health promotion concepts in the context of Environmental Health.

26. How strong is the health promotion component of the following inspections;

- Routine Monitoring Food inspection
  - very weak
  - weak
  - somewhat weak
  - somewhat strong
  - strong

    - very strong

- Land Development Approval Inspection
    - very weak
    - weak
    - somewhat weak
    - somewhat strong
    - strong
    - very strong

- Work Camp Inspection
    - very weak
    - weak
    - somewhat weak
    - somewhat strong
    - strong
    - very strong

- Complaint-based Food Inspection
    - very weak
    - weak
    - somewhat weak
    - somewhat strong
    - strong
    - very strong

- Childcare inspection
    - very weak
    - weak
    - somewhat weak
    - somewhat strong
    - strong
    - very strong

- Complaint-based Housing inspection
    - very weak
    - weak
    - somewhat weak
    - somewhat strong
    - strong
    - very strong

- Multiple-Agency Proactive Housing inspection (a Housing inspection that is part of a routine monitoring of listed premises, usually performed as part of a team with municipal agencies)
    - very weak
    - weak
    - somewhat weak
    - somewhat strong
    - strong
    - very strong

- Personal Services Facility Inspection
    - very weak
    - weak
    - somewhat weak
    - somewhat strong
    - strong
    - very strong

- Zoonotics Related Investigations (as part of a “dog bite” or other animal exposure that may cause rabies, tetanus or other animal-vectored disease)
    - very weak
    - weak
    - somewhat weak
    - somewhat strong
    - strong

    - very strong

- Notifiable Disease Inspection (an investigation undertaken at the request of the Medical Officer of Health because of a reported Notifiable Disease under the Communicable Diseases Regulation)
    - very weak
    - weak
    - somewhat weak
    - somewhat strong
    - strong
    - very strong

- Recreational Water Inspection
    - very weak
    - weak
    - somewhat weak
    - somewhat strong
    - strong
    - very strong

- Air Quality Inspection (Indoor or Outdoor)
    - very weak
    - weak
    - somewhat weak
    - somewhat strong
    - strong
    - very strong

- Drinking Water Inspection
    - very weak
    - weak
    - somewhat weak
    - somewhat strong
    - strong

- very strong

27. What is your knowledge and skill level with health promotion;
    - very weak
    - weak
    - somewhat weak
    - somewhat strong
    - Strong
    - Very strong

28. In your judgment what is the organizational capacity of AHS-EPH to do health promotion activities, which is the ability of the program to do health promotion activities in addition to the regular health protection tasks?
    - very weak
    - weak
    - somewhat weak
    - somewhat strong
    - strong
    - very strong

29. What is the capacity of the Public Health Act and Regulations, that is does the legislation enable health promotion by Executive Officers?
    - very weak
    - weak
    - somewhat weak
    - somewhat strong
    - strong
    - very strong

30. What agencies outside of AHS-EPH do you work with (check all that apply)? Other AHS departments
    - local/municipal government departments
    - Provincial government departments

- Federal government departments
- Non-governmental organization

APPENDIX E: POLICY ANALYSIS TEMPLATE

Enabling Policy text analysis: Public Health Act of Alberta

System-level Documents

- Public Health Act ; Revised Statues of Alberta 2000, Chapter P-37. Revised 2010

Document Analysis

The definitions are very clear on health protection terms.

No definition for education or health promotion.

Section 1(ee) definition of a "nuisance", this is a key term, the Nuisance and General Sanitation Regulation is based on it and it is a key linchpin of jurisdiction.

Section 1 (hh, ii) define public place and private place which sets the boundaries of the Act and when those areas are subject to the provisions of the Act.

Section 10: Provision of services by RHA; shall provide..health promotional, preventive…services, supplies, equipment and care that the regulations require it to provide.

Section 12: Provision of services by Minister (of Health and Wellness); (he) may provide…health promotional, preventive…services, supplies, equipment and care…prescribed in the regulations.

Part 4; Inspections: Health protection, inspections are the implementation tool of protection via enforcement action. Nuisance is the general criteria, whether in a public or private place.

Section 66(1(y)) the Lieutenant Governor in Council ***may*** make regulations…respecting the kinds and basic standards of health promotional, preventive….care that must be provided by regional health authorities.

Section 66(1(dd)) the Lieutenant Governor in Council may regulations respecting the services…that may be provided by the Minister for the purposes of Section 12.

Under Section 66(1) there are 38 subsections that detail the subject areas of possible Regulations, Standards and Guidelines. These 38 areas most are covered under at least one Regulation, some are covered in both the Act and Regulation, some are covered in a Regulation and a Standard/Guideline. Health promotion is not covered explicitly in a Regulation, Standard or Guideline.

The door is open for a more detailed health promotion strategy if the Government of Alberta would like to do it. However, there is nothing in the legislation that says they ***have*** to do it.

Written from a medical perspective, for example vaccines (Section66(1(g)), great deal of communicable disease directives; including pandemic influenza, sexually transmitted infections, quarantine, isolation, public health emergencies**..**

Social Determinant of Health

Aboriginal Status

Section 1(dd) includes Métis Settlements under the definition of municipality, which implies jurisdiction. SDOH: Aboriginal Status; normally Reserves are solely the jurisdiction of the Federal Government, the Métis Settlement Act (Revised Statues of Alberta, Chapter M-14) created the Settlement's between the Government of Alberta and the Métis Settlements Grand Council on November 1 1990., Section 65, Notice of Health Hazard on Métis patented land, demonstrating how the Act reaches onto the Settlement land of the Métis. There is no question of multijurisdictional roles as would happen on First Nation Reserves.

Disability

Nothing specific for disabilities, protected just like any other vulnerable population as part of the umbrella protection provided by the Act.

Early Life

Some specific protections based on vaccines and immunization.

Education

No definition for education or health promotion. There is no requirement for education.

Employment and Working Conditions

Section 52.91. Termination of Employment prohibited for employers when their employee is absent from work for public health reasons detailed in the Act. This is SDOH: Employment and Income, because of public health reasons a person cannot be fired. The Act is safeguarding a person's livelihood.

Food Security

Other than the Government of Alberta can make regulations regarding food protection in Section 66(1) nothing regarding food security.

Health Services

Provision of health services are detailed for the RHA in Section 10 and the Minister of Health and Wellness in Section 12. Section 66(1) enables the government to enact regulations regarding Section's 10 and 12.

Gender

No mention of gender roles or inequality or special measures relating to those services.

Housing

Some mention of housing specifically targeted towards the definitions of public place and private place and detailing the jurisdiction to each.

Income and Income Distribution

No mention of this directly, may have some overtones in protecting employment if person subject to certain provisions in the Act.

Race

No mention of race or any allowance for cultural influences.

Social Exclusion

No mention of social exclusion as impacting health or any allowance for that in the Act.

Social Safety Net

No mention of social safety net as impacting health or any allowance for that in the Act.

Unemployment and Job Security

No mention of unemployment and job security impacting health or any allowance for that in the Act. Other than using it as a coercive tool to generate compliance; that is a Section 62 Order to close a food establishment or rental accommodation which is loss of income for the owners and employees of that business. While a fine is not assessed overtly as would happen at Court of Queen's Bench it is assessed covertly by closing the operation.

APPENDIX F: QUALITATIVE ANALYSIS EXAMPLE

QUALITATIVE ANALYSIS EXAMPLE: POLICY ACTION PARTICIPANT 002

Codes were developed from content analysis of other interviews and open-ended comments of the surveys.

CODING: LEADERSHIP:

"Not a great deal of leadership indicated by this participant. Lack of health promotion leadership by policymakers and policy implementers was a key comment by this participant."

CODING: HEALTH EDUCATION:

"This the umbrella term that encompasses health promotion, when talking to operators about various parts of the Public Health Act and Regulations, as long as you're not citing a violation or writing an Order then that is health education which is how we do health promotion."

CODING: HEALTH PROTECTION:

"This is reactive, quantitative approach to public health. It is measurable as number of inspections conducted, violations cited, or Orders issued."

CODING: POPULATION HEALTH:

"Broadest sense is that population health deals with things like asthma and BMI."

CODING: PARTNERSHIPS:

"When working with other agencies we are doing both health protection and health promotion."

CODING: HEALTH PROMOTION PRACTICE:

"Health promotion is a means of delivering compliance-necessary information to the individual. This is the "health education" perspective of health promotion."

CODING: SOCIAL DETERMINANTS OF HEALTH:

AHS-EPH HAS A DIRECT IMPACT ON THESE SDOH:

- Early Life: "through risk communication"
- Education: "through courses on food safety, resources such as pamphlets, safe drinking water, and childcare manuals"
- Food Security: "through ensuring that the food they obtain from charitable sources is wholesome and fit for human consumption"
- Housing: "ensuring that all people regardless of socioeconomic status have a safe place to live."

SDOH: INDIRECT IMPACT:

- Employment/Working conditions: "by offering education courses that could impact their jobs by helping them gain employment or improve their salary within their current job"
- Race: "treat everyone equally but do provide education material in some other languages and some of the inspectors speak other languages which is helpful"

- Social Safety Net: “not directly impact other than trying to maintain a basic standard of public health for everyone.”

SDOH: NOT IMPACTED:

- Health Services: “we don’t have anything to do with that other than our (AHS-EPH) services are free of charge”
- Gender: “we treat all genders equally and don’t have any gender-specific programs”
- Income: “outside of the role of AHS-EPH”
- Unemployment: “other than our actions under the Public Health Act may make food facilities close not something we can do much about”

CODING: ACCOUNTABILITY

“Can't make our own rules…if go outside policy has to be done by committee…when dealing with changes to legislation. Silent on the issue but it is a valid concern that must be dealt with in a consistent manner.”

CODING: HEALTH PROTECTION-PROMOTION RELATIONSHIP

“These two approaches are complementary and work together in AHS-EPH.”

COMMUNICATION

No comment

CODING: BARRIERS AND FACILITATORS

“At the organizational level can take into account some policy costs. For example, whether and how much to charge individuals or organizations for particular services. For example studying various methods of cooking food to understand how regulatory framework can be adapted to cultural practices and vice versa.”

CODING: POLICY

"Policymakers who are not "in the field" are a barrier to health protection. Their interpretation of existing policy or changes to it based on political pressure may have negative impacts to public health."

CODING: GAP ANALYSIS

"Policy gap occurs between the "field" and policymakers. The health inspectors are more aware of what is happening in the public sphere. Policymakers are isolated except for "political pressure"."

CODING: GENERAL COMMENTS

There is a link between the definition of "nuisance" in the Nuisance and General Sanitation Regulation, and the Ontario Housing study. Broad based definition "could drive a truck through" but it's used for so much "catch all" developing public health concerns where regulatory change is lagging behind.

CODING: INTERPRETATION

Where there is organizational will policy can be changed, see Hunters Who Care, at the system level. This does take a long time which makes its ability to react to quickly changing social dynamics difficult. How does the health inspector then react or deal with the public situation when policy has not provided the "right" tools. They must adapt policy implementation to fit the situation.