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# Identifying Effective Approaches to Translate Knowledge of Health Equity to Health System Decision Makers, Policy Makers, and Policy Analysts

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## DISCLAIMER

Please note that the views expressed in this project are those of the author and do not reflect those of the Canadian Institute for Health Information or the Canadian Population Health Initiative.

## EXECUTIVE SUMMARY

### INTRODUCTION

The purpose of the project is to identify effective approaches of moving knowledge of health equity into action in order for the Canadian Population Health Initiative (CPHI) to strengthen their knowledge translation (KT) activities. The term KT is a term that is used to describe the movement of research (or other knowledge) to the appropriate end-users so that it can be applied in their respective work settings. It is a catchall term that is meant to encapsulate the various actions involved in the process of taking research or information and communicating it to relevant stakeholders. The process of KT is meant to facilitate the use of evidence and different types of knowledge in various health system contexts (policy making, clinical settings etc.). Activities related to KT are actions taken by an organization or branch to further expand the reach of their products to a greater number of stakeholders and increase the stakeholder's knowledge of how to apply the knowledge. For CPHI, these activities fall into three main categories: knowledge transfer (the creation of products and tools), knowledge exchange (collaborative initiatives), and knowledge uptake (impact evaluations).

The CPHI branch is a part of the organization the Canadian Institute for Health Information (CIHI). The CPHI branch produces resources to improve the ability of health system decision makers, policy makers, and policy analysts to act on population health and reduce health inequalities. Their mission is to “support Canadian policy makers and health system managers in their efforts to improve population health and reduce health inequalities through research and analysis, evidence synthesis and performance measurement” (CPHI [a], 2012, p.1). In their 2012-2017 strategic plan, the branch adopted a strategic goal of “stimulat[ing] policy responses and enhanc[ing] the capacity of decision makers to act on population health and health system outcomes” (CPHI[a], 2012, p.1).

The problem that has been identified by the client is that there are multiple barriers to the use of health equity information and research and there are challenges associated with moving knowledge of health equity into action. These issues are important to CPHI because their work relates to issues within the fields of population health and health equity. A barrier to the use of health equity that was identified by the client related to the capacity of some of their stakeholders to understand complex statistics, specifically the challenges of interpreting the statistical measures that are commonly used to measure health inequalities. These barriers to the use of health equity information and research and others are discussed in depth within the body of the report.

Some of the challenges associated with moving knowledge of health equity into action identified by CPHI relates to the varying needs and preferences of their stakeholders. More and more health regions across Canada are incorporating the objective of improving population health and health equity within their mission, vision and value statements (Neudorf, 2012, p.155; MacNeil, 2012, p.11). This presents a challenge for CPHI since there are varying levels of understanding among the health regions of health equity. Another challenge relates to the fact that CPHI has stakeholders from numerous professions including practitioners, researchers, policy makers, and decision makers. Different groups use different kinds of research and evidence (Bowen & Zwi, 2005, p.601; Grimshaw, 2012, p.3; Armstrong et al., 2007, p.258) and need information communicated in a different ways (Grimshaw, 2012, p.3). This means that different approaches are needed to translate knowledge to different groups.

## METHODOLOGY AND METHODS

A needs assessment methodological approach guided this research project. The conceptual model that was used to organize this research project was adapted from an existing needs assessment model and guide that was developed by the United States (US) Office of Migrant Education. The model developed by the US Office of Migrant Education contained three phases: identifying the current state and the desired future state; assessing the difference between the current state and the desired future state (i.e. the gap or the need to be addressed); and finally addressing the need that had been identified. The CPHI branch is seeking to improve the capacity of decision makers to act on population health. Therefore, their desired future state is a health system workforce that is knowledgeable and can act on health equity information. Additional research methods were used to understand the current state and to identify what factors were contributing to the problem identified by the client. A literature review was conducted to assess the current state of the existing health equity related-KT literature. An assessment of existing 2010 CPHI stakeholder interview findings were also used to help understand the current state.

A secondary methodology, an environmental scan, was used to develop a comprehensive understanding of the current state of health equity-related resources that are available for health system decision makers, policy makers, and policy analysts. Part of the CPHI branch's role is to support their stakeholders and help them be able to understand and act on population health and health equity. Therefore, it is important for CPHI to be aware of the current state of resources aimed at improving the ability of health system decision makers and policy makers to understand and act on population health and health equity. The methods used to collect data for the scan were: a review of Canadian government and public health organizations websites; a review of international health organization's websites; and monitoring a health equity-related email list service.

Once the gap between the current and future state was identified, that there is a need to build the capacity of health system decision makers and policy makers to use health equity data or information, the researcher of this project developed an online course. The course was developed as a first step in addressing the identified needs. Experts in the field of KT and health equity reviewed the content and their opinions were measured through a closed and open-ended question survey. Then an end-user pilot was conducted and their opinions were collected through a closed and open-ended question survey.

## FINDINGS

The findings from the literature revealed that the health equity-related KT literature is limited at this point in time. However, the concepts of KT are starting to expand out of clinical and medical settings into more complex decision making environments, such as public health (Armstrong et al., 2011, p.2). Despite the lack of health equity-related KT literature, there is a small amount of literature relating to KT in public health settings. However, the findings from the literature review revealed that there is very little evidence relating to effectiveness of KT strategies in these settings (Armstrong et al., 2011, p.2; Larocca et al., 2012, p.13; Dagenais et al., 2013, p.6). Lessons from the KT and public health literature are relevant since public health decisions take place in a complex decision making environment and often relate to issues surrounding population health and health equity. Despite the limited evidence, the KT public health literature yielded insights into the: common barriers and facilitators of KT; and how decision makers and policy makers prefer to

receive information. A small number of studies and a systematic review, (which included some of the studies), from the KT in public health literature examined strategies to move knowledge into action in a public health setting. Some of the main findings were: that standalone passive strategies were ineffective (LaRocca, 2012, p.11; Lavis et al., 2003, p.226); the importance of tailoring strategies for different end users (LaRocca et al., 2012, p.11); the importance of understanding the context of the end-users (Dobbins et al., 2009, p.12; LaRocca et al., 2012, p. 13 ); and there are no “one-size-fits-all” KT strategies (Mitton et al., 2007, p.756; Contandriopoulos et al., 2010, p.468). However, it is important to note that the transferability of the findings are limited due to the small number of studies and the small sample sizes.

It was identified through the literature review that there are barriers to the use of health equity information (Collins & Hayes, 2007, pp.339-341). These barriers can be broadly categorized as informational, interest-related, ideological and institutional (Collins & Hayes, 2007, pp.339-341). There also appears to be limited instructional resources available for health system decision and policy makers. The findings from the environmental scan revealed that while there are many resources available relating to the social determinants of health, only five readily accessible non-credit courses were identified that related to health equity.

An online course relating to health equity was developed for the client CPHI as a result of the findings from the needs assessment, the environmental scan as well as the literature review, and the assessment of the feedback from existing 2010 CPHI stakeholder interviews. An expert review and end-user pilot test of the course were conducted. The comments from the expert reviewers reinforced findings from the KT literature about the importance of tailoring the content of the information that is being translated and to make sure the information is accessible, actionable, and engaging. Feedback from the end-user pilot survey provided guidance on the usefulness and relevance of the course.

#### RECOMMENDATIONS

Based on the findings from this report, several recommendations have been presented to CPHI to help improve their future KT activities and achieve their mission. The recommendations are:

- Build capacity of decision makers and policy makers across Canada so they can better understand and use health equity and social determinants of health-related concepts, information, and data in their work;
- Pursue actively delivered KT strategies rather than passive KT strategies;
- Tailor KT strategies for different stakeholders;
- Attempt to develop a better understanding of the decision making context and organizational context of end-users;
- Continue to evaluate KT activities in order to improve understanding of the effectiveness of KT activities;
- Continue to monitor and evaluate the needs of stakeholders in order to keep producing relevant and timely products;
- When developing the messaging for products, translate findings to different stakeholder groups in order to increase the reach and accessibility of CPHI products.
- Develop resources for stakeholders with differing ability levels; and
- Ensure that the content of CPHI products is engaging, participatory and interactive.

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## ABBREVIATIONS

CIHI	Canadian Institute for Health Information
CIHR	Canadian Institute for Health Research
CPHA	Canadian Public Health Association
CPHI	Canadian Population Health Initiative
CRM	Client Relations Management
FPT-ACPH	Federal Provincial Territorial Commission on Population Health
IMI	International Monetary Institution
IMF	International Monetary Fund
KTA	Knowledge-to-Action
KT	Knowledge Translation
LHIN	Local Health Integration Network
MCHP	Manitoba Centre for Health Policy
MDG	Millennium Development Goals
NCCDH	National Collaborating Centre for Determinants of Health
NCCMT	National Collaborating Centre for Methods and Tools
PAHO	Pan-American Health Organization
PHAC	Public Health Agency of Canada
RHA	Regional Health Authority
UK	United Kingdom
UN	United Nations
US	United States
USSR	Union of Soviet Socialist Republics
UVIC HREB	University of Victoria Human Research Ethics Board
WB	World Bank
WHO	World Health Organization

## 1.0 INTRODUCTION

Knowledge translation (KT), the process of moving research or information to relevant health system end-users, is a growing field. While KT originated in clinical settings and was aimed at getting information to clinicians and medical professionals (Murphy, Fafard, O'Campo, 2012, p.876), KT has since begun to expand to complex decision making environments such as public health (Armstrong et al., 2011, p.2). The end-users in these complex environments, such as Canadian health system decision and policy makers, are often confronted with many different kinds of research and information. Therefore, it is increasingly important for researchers, research organizations or other groups producing information to understand how to effectively move knowledge and research being produced into action.

### 1.1 CLIENT, PROBLEM DEFINITION AND RATIONALE FOR PROJECT

#### 1.2.1 CLIENT

The Canadian Population Health Initiative (CPHI) is the client for this project and is part of the Canadian Institute for Health Information (CIHI) organization. The organization is a not for profit, private organization funded by the Canadian government and the provinces and territories. The mandate of CIHI is “to lead the development and maintenance of comprehensive and integrated health information that enables sound policy and effective health system management that improve health and health care” (CIHI[c], 2014, para.3). The organization is divided into a number of branches, each with a specific area of focus, such as data or research and analysis. For example, some branches maintain databases and others support health system workers to use CIHI data through research and analysis. The work and products produced by CPHI cover a range of topics such as population health and health system efficiency.

Within the larger organization, CPHI's mission is to “support Canadian policy makers and health system managers in their efforts to improve population health and reduce health inequalities through research and analysis, evidence synthesis and performance measurement” (CPHI [a], 2012, p.1). The CPHI branch has two specific strategic directions that are designed to enhance decision makers' and policy makers' knowledge surrounding population health and health inequalities; and improve their capacity to use said information in their health system decision making. Please refer to Section 1.3 Definitions of Main Terms for complete definitions of the term health inequalities, health inequity and health equity. The first strategic direction is: “build knowledge and understanding of factors that influence population health, health system outcomes and health inequalities” (CPHI[a], 2012, p.1). The second strategic direction is “stimulate policy responses and enhance the capacity of decision-makers and health system managers to act on population health and health system outcomes” (CPHI[a], 2012, p.1). Therefore, it is essential that CPHI be able to effectively translate the research and knowledge that it produces so that they can achieve their strategic directions and support health system decision makers and policy makers.

#### 1.2.2 PROBLEM DEFINITION AND RATIONALE FOR PROJECT

The problem that has been identified by the client is that there are barriers to the use of health equity-related information and research and there are challenges associated with moving knowledge on health equity into action. This issue is of particular interest to CPHI because one of the primary areas of focus for the branch relates to health inequalities (CPHI[a], 2012, p.1) and the

factors that influence these health inequalities. In order for CPHI to effectively continue to move knowledge into action, it will be important for the branch to develop a more detailed understanding of the barriers to the use of health equity information and the challenges that are associated with moving knowledge into action. It is important to note that different jurisdictions use different terms to capture the concept of differences in health. The main terms used are: health disparities, health inequalities, or health inequities. For complete definitions of these terms please refer to section 1.3 Definitions of Main Terms.

Barriers to the use of health equity information and research were identified by CPHI. The work developed by CPHI sometimes contains complex statistical measures. The statistical measures used to identify health inequalities are complicated and not intuitive for some people. A barrier to the use of their research and health equity information is the capacity, or lack of capacity, of some of their stakeholders to understand complex statistics, more specifically the challenges of interpreting the statistical measures that are commonly used to measure health inequalities. The CPHI branch identified this barrier through findings from their 2010 CPHI stakeholder interviews. The findings from the 2010 CPHI stakeholder interviews can be found in Appendix A.

The client, CPHI, also identified challenges associated with moving knowledge on health equity into action. These challenges relate to the varying knowledge needs and preferences of their stakeholders. The CPHI branch identified the challenge through: a research project conducted by a University of Victoria graduate student entitled *Exploring action on the social determinants of health in Canada's health regions* (MacNeil, 2012), and through current population health and social determinants of health research conducted by leading scholars and organizations in these fields. An increasing number of health regions have committed to addressing the social determinants of health and reducing inequalities or inequities in health (Neudorf, 2012, p.155; Kouri, 2013, p.15; MacNeil, 2012, p.11). A growing number of health regions are including the objective of improving population health and health equity within their mission, vision and value statements (Neudorf, 2012, p.155; MacNeil, 2012, p.11). Despite the fact that health inequities are being addressed in numerous health regions across Canada, the action on reducing health inequities is not happening evenly across Canada (Kouri, 2013, p.16). Therefore, some health regions have a comprehensive understanding of health equity concepts and other health regions have a limited understanding. The challenge for CPHI is determining how to effectively communicate their research to health regions with differing levels of knowledge on health equity. The CPHI branch also has a diverse group of stakeholders. These stakeholders range from practitioners to researchers, and also include policy makers and decision makers. Another challenge for CPHI is determining how to continue to effectively communicate information to these different groups.

The knowledge exchange and transfer team of CPHI, the part of CPHI that executes CPHI's KT activities, would like to continue to strengthen their KT activities by: continuing to improve their KT activities; and by developing products that are designed to help health system managers, policy makers and analysts consider health equity in the decision making process. A list of CPHI's current KT activities is outlined in detail in Appendix B. As noted above, one of CPHI's primary areas of focus is on health inequalities (CPHI[a], 2012, p.1) and so the branch is interested in knowing if effective strategies for moving knowledge on health equity into action have been identified.

Improving CPHI's KT activities could help the branch to better achieve their strategic goals of improving the ability of health system policy makers, policy analysts and decision makers at the

provincial and regional levels to consider health equity when making program and policy design decisions. This is important for several reasons. Health inequalities have multiple negative impacts on Canadian society because they reduce both the quality of life and life expectancy of thousands of Canadians each year (Butler-Jones, 2008, p.37; McIntosh et al., 2009, p.58; CIHI [b]. 2008, pp.16-17). Therefore, it is important that health system decision makers, policy makers, and policy analysts understand how to use information relating to health inequalities and to consider population health and health equity in their decision or policy making since it has the potential to help improve the quality of health of Canadians.

## 1.2 PROJECT PURPOSE AND RESEARCH QUESTIONS

### 1.2.1 OBJECTIVE

The objective of this research is to identify if there are effective approaches to moving knowledge on health equity into action for health system decision makers, policy makers, and policy analysts. This is important for CPHI because the research they produce relates to topics surrounding population health and health inequalities (CPHI[a], 2012, p.1).

### 1.2.2 RESEARCH QUESTION

The purpose of the project is to identify effective approaches of moving knowledge on health equity into action in order for CPHI to strengthen their KT activities and to achieve their strategic goals of improving the ability of health system policy makers, decision makers, and policy analysts at the provincial and regional levels to consider health equity when making program and policy design decisions.

The primary research question for the project is:

- What is an effective approach to translate knowledge on health equity to health system policy makers, decision makers, and policy analysts to help them incorporate evidence on health equity into their planning and decision-making?

Secondary research questions that support answering the main research question are:

- What does the KT evidence tell us about the best ways to deliver information on health equity to health system policy makers, policy analysts and decision makers?
- What tools are available for health system policy makers, analysts and decision makers to incorporate health equity into decision making?
- How can the concept of health equity be translated into action?

## 1.3. DEFINITIONS OF MAIN TERMS

The purpose of this section is to provide detailed definitions for words and concepts from the field of KT that are used throughout the report.

### KNOWLEDGE TRANSLATION

The term KT is a term that is used to describe the movement of knowledge to different knowledge users, so that said knowledge can be used by the end-users. The term encapsulates a number of

concepts, specifically the various actions that are involved in the process of taking knowledge, whether it is research or other information and communicating it to the desired stakeholders. One of the most well accepted definitions of KT is "... [KT is] a dynamic and iterative process that includes synthesis, dissemination, exchange and ethically-sound application of knowledge to improve the health of Canadians, provide more effective health services and products and strengthen the health care system"(CIHR [a], 2013, para.1). To summarize, KT is the process of taking research or other forms of knowledge, finding where it fits within the existing knowledge domain and converting it into a format that can be used by health system policy makers, decision makers, clinicians, practitioners, and managers etc. It is meant to facilitate the use of evidence and different types of knowledge in various health system contexts (policy making, clinical settings etc.).

#### CATEGORIES OF KNOWLEDGE TRANSLATION

There are two overarching categories of KT, integrated KT and end-of-grant KT. A KT strategy, defined in a subsequent paragraph, that has stakeholder engagement throughout the process is often referred to as integrated KT (CIHR [a], 2013). Engaging end-users in the KT process sometimes takes place throughout the entire knowledge-to-action (KTA) process, meaning that end-users are engaged in the KT strategy while the research or knowledge is being developed (CIHR [a], 2013). Alternatively, sometimes interaction with stakeholderst takes place at the end of the research process. This is often referred to as end-of grant KT (CIHR [a], 2013). Knowing the difference between these two approaches is useful since it may help to explain why some studies engage stakeholders throughout the process and why others do not. The level of interaction between the knowledge user and the researcher or knowledge provider will vary depending on many variables including: "...[the] nature of the research findings as well as the needs of the particular knowledge user"(CIHR [a], 2013, para.1).

#### KNOWLEDGE TRANSLATION STRATEGIES AND ACTIVITIES

A KT strategy is an approach used to support the movement of knowledge into action. Each KT strategy can have different objectives; some aim to improve decision maker's capacity to use information while others aim to move research to the relevant decision makers (Lavis, 2006, pp.40-41). As such, different types of KT strategies exist and have been categorized based on their general objective. A prominent scholar in the field of KT, Professor JN Lavis, developed three categories to simplify the classification of the different types of KT strategies: knowledge exchange strategies, push strategies and pull strategies (Lavis, 2006, pp. 40-41). Knowledge exchange driven strategies tend to involve researchers (or knowledge producers) and users to work together throughout the process to develop knowledge that meets the needs of both groups (Lavis, 2006, p.41). Push efforts tend to be driven by researchers or knowledge producers. These KT strategies tend to focus on increasing the uptake of research by decision or policy makers (Lavis, 2006, p.40). This type of KT strategy is sometimes referred to as researcher-focused interventions (Armstrong et al., 2013, p. 2). Pull efforts can be broken down into two categories "user pull" led by researchers and "user pull" led by decision or policy makers (Lavis, 2006, p.40). The "user pull" strategies led by researchers aim to improve end-users capacity to apply, use or simply better understand evidence and research (Lavis, 2006, p.40). Whereas end-user led "user-pull" strategies tend to be focused on end-users modifying their own institutional or decision making structures to facilitate the use of research and evidence into the decision or policy making process (Lavis, 2006, p. 40). These types of KT strategies are sometimes referred to as decision-maker-focused interventions (Armstrong et al., 2013, p.2).

A KT strategy can be: active, passive, have multiple components or simply one component. Types of KT activities sometimes referred to as interventions (LaRocca et al., 2012, p.3) can include, but are not limited to: workshops, knowledge brokers, tailored messaging, educational sessions, online resources, access to databases, and decision aids.

#### TYPES OF KNOWLEDGE USE BY DECISION MAKERS AND POLICY MAKERS

Categories have been developed to describe the different ways that decision makers and policy makers use knowledge. Knowledge can be applied directly, can be used to sway the opinions of others or can alter someone's worldview about a certain issue. One of the aims of KT is to transfer knowledge to health system decision makers, policy makers, and policy analysts in order to alter their behaviour. Therefore it is important for those transferring knowledge to understand the differences between how individuals use knowledge so they may gain insight into how KT influenced or altered the knowledge use of the stakeholders. The different types of knowledge use have been categorized as follows: instrumental, symbolic, and conceptual (Innvaer et al., 2002, p. 242). The instrumental use of knowledge simply refers to the direct application of knowledge (Innvaer et al., 2002, p. 242). The symbolic use of evidence refers to when knowledge is used strategically or to achieve a particular aim (Innvaer et al., 2002, p. 242). Finally, the conceptual use of knowledge refers to when knowledge alters an individual's way of thinking or how they perceive an issue or topic (Innvaer et al., 2002, p. 242). Changes in conceptual and symbolic use of knowledge are more difficult to measure and identify than the instrumental use of knowledge.

#### EVIDENCE-INFORMED DECISION/POLICY MAKING

Policy development is a complex process. Policy makers are confronted with competing interests and must weigh and consider multiple types of information. According to Bowen and Zwi, evidence-based refers to the use of a particular type of evidence, research evidence (Bowen & Zwi, 2005, p.601). Evidence-informed (or influenced) policy making is different. It covers a wider spectrum of evidence and information "...from a variety of sources, reflective of, and responsive to, the policy and practice context" (Bowen & Zwi, 2005, p. 601). In the context of this research paper, the latter definition is more appropriate since the CPHI stakeholders that this project will be targeting are health system policy makers, analysts, and decision makers at the health region level or provincial level.

#### INEQUALITIES IN HEALTH

Inequalities in health describe the differences in levels of health that can be seen across population groups (World Health Organization [a], 2014, para.3). The term inequalities in health can be interpreted in different ways and takes on different meanings in different jurisdictions. Three major understandings of the term have emerged: "health differences between individuals, health differences between population groups, [and] health differences between groups occupying unequal positions in society" (Graham, 2007, p. 4). The third definition is the term used most commonly internationally, especially European countries and is sometimes used interchangeably with the term inequity in health (Whitehead and Dahlgren, 2006, p.4). Inequalities in health can stem from a variety of interacting structural and intermediary determinants of health.

#### INEQUITY IN HEALTH

Inequity implies unfairness; therefore, *inequity in health* represents those inequalities that can be considered to be unfair. According to two of the leading experts in the field, inequities in health are

defined by three major characteristics “they are systematic, socially produced (and therefore modifiable) and unfair” (Whitehead & Dahlgren, 2006, p.2). Although the terms inequalities in health and inequities in health seem similar and are sometimes used interchangeably it is important to be able to distinguish one term from the other. Identifying health inequities involves making normative judgments based on societal perceptions of injustice (NCCDH, 2010, p.7; Whitehead & Dahlgren, 2006, p.3) and “...the meaning attributed by different people to the idea of unfair” (Whitehead & Dahlgren, 2006, p.3).

Please note that the client, CPHI, prefers the use of the term health inequalities. Therefore, throughout the report the researcher applied this term when referring to differences in health. Certain authors or reports that were cited in this report used the term health inequities or inequity in health. The researcher left the term health inequities or inequity in health when the original author used it in order to not alter the meaning of the term used by the cited authors.

#### HEALTH EQUITY

Health equity represents the absence of those unfair inequalities. Achieving health equity means that “...ideally everyone could attain their full health potential and that no one should be disadvantaged from achieving this potential because of their social position or other socially determined circumstances” (Whitehead & Dahlgren, 2006, p.4).

#### HEALTH EQUITY AGENDA

A health equity agenda refers to when an organization, institution, group or political party etc. actions’ or policies’ are motivated by the concept of working towards health equity and reducing health inequalities or health inequities.

### 1.4 ORGANIZATION OF REPORT

This section provides an overview of the organization of the report.

#### *Background*

This chapter is meant to provide readers with a better understanding of the concept of health equity and the importance of moving knowledge into action on the social determinants of health and health equity to health system decision makers, policy makers, and policy analysts. The purpose of this chapter is to provide a comprehensive understanding of the rationale for the pursuit of this research and the importance of this research.

#### *Conceptual Framework*

This chapter explains the needs assessment conceptual framework that was used to guide and organize this project. The concept of KTA is also explained in this chapter, in order to further the readers’ understanding of how KT processes are implemented in an organizational setting. The KTA framework described in this analysis was originally developed by Graham et al. (2006) and was then adapted by the Canadian Institute for Health Research (CIHR); it is the framework that CIHR currently use in their work.

### *Methodology and Methods*

The methodology and methods chapter provides an overview of the approach used to guide the research as well as the methods used to collect the data. The chapter contains descriptions of: the needs assessment methodology; how the literature review was designed and conducted; the decision to use an environmental scan as well as the methods used to collect data for the scan; the steps taken in the design of the online course; a description of the ethical review approval obtained; description of the selection process for the expert reviewers and the end-users for the pilot; a discussion of the survey methods used to collect data from the expert reviewers and the end-users for the pilot; and finally the limitations and delimitations of this research.

### *Literature Review*

This chapter provides an overview of the health equity-related KT literature. The chapter is divided into four sections based on the main themes that emerged from the literature review. The four main themes are: the evolution of the field of KT; what is known about effective approaches to translate knowledge on health equity to health system decision makers, policy makers, and policy analysts; the available literature on KT and health equity; and finally, the barriers that exist to translating knowledge and information on health equity.

### *Findings*

This chapter outlines the findings from the environmental scan, the expert review and the end-user pilot.

### *Addressing the Identified Need*

Following the identification of the current state and the future state, the next step in the needs assessment process involved identifying an appropriate approach to address the issue. This chapter outlines the decision to develop an online course as well as a brief description of the content of the online course that was developed for CPHI.

### *Discussion*

This chapter provides a discussion of the implications of the research findings for CPHI.

### *Recommendations*

This chapter provides CPHI with recommendations based on the findings from this research. The recommendations are meant to help CPHI strengthen their KT activities and achieve their strategic direction of making decision makers, and policy makers better able to use and apply health equity and population health-related information in decision-making.

### *Conclusion*

This chapter concludes the project by discussing how the client, CPHI, could strengthen their KT activities and achieve their strategic direction based on the findings from this project.

## 2.0 BACKGROUND

The purpose of this chapter is to further explain the rationale for this research and emphasize the importance of pursuing the research. This chapter provides a brief introduction to the historical development of policy attention to health equity both in the international health community but also in the Canadian context. It is meant to provide readers with an understanding of the importance of the concept of health equity and the evolution of the concept in the global and Canadian health communities.

This chapter also contains information regarding the role of health system decision makers and policy makers in addressing health equity in Canada. The content of this section of the chapter is meant to provide an understanding of why there is a need to effectively communicate knowledge on health equity to health system decision makers, policy makers, and policy analysts.

### 2.1 HISTORICAL DEVELOPMENT OF POLICY ATTENTION TO HEALTH EQUITY IN THE INTERNATIONAL HEALTH COMMUNITY

The conception of health as a state of overall wellness has been present within the international health community since the late 1940s. In one of the first public statements about health and wellness, in 1948 the World Health Organization (WHO), a specialized agency of the United Nations (UN) which is an international governmental organization, defined health as “...a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity” (Preamble to the Constitution of the World Health Organization, 1948, para.1). Societal factors have long been recognized as a major component of what influences an individual’s health. Despite the WHO and the international health communities’ awareness of the multifaceted and sometimes social nature of influences on health, global economic and political forces have often overwhelmed policy action on the social determinants of health and health equity.

Global political and economic forces influenced the direction of the international health agenda following the end of World War II (WWII). From the 1950s through the 1970s, the global climate “...of Cold War politics and decolonization” had a strong influence on the health strategies in the developing and developed world (Irwin & Scali, 2010, p.5). In the wake of WWII, the United States (US) and the Union of Soviet Socialist Republics (USSR) emerged as super-powers on the international stage. The US promoted capitalism whereas the USSR supported a communist worldview. Political and ideological tensions proliferated and the Cold War began as both super-powers started posturing to gain dominance internationally. The USSR removed themselves from the UN and all UN associated agencies in 1949 (Irwin & Scali, 2010, p. 6). As a result “... UN agencies, including the WHO, came more strongly under the influence of the United States [US] ... [and] US officials were at that time reluctant to emphasize a social model of health...” (Irwin & Scali, 2010, p.6). Simultaneously decolonization from European powers was taking place in numerous countries across Africa and Asia. In many instances the health care systems of newly independent countries would reflect “... the [acute care and technology focused] models that had existed under colonial rule” (Irwin & Scali, 2010, p.6). However, reports on concepts such as population health, health promotion, the social determinants of health and health equity continued to be developed both within countries and at the international level.

In Canada in the 1970s, a better understanding of the relationship between societal and environmental influences and their impact on health began to emerge. A seminal document relating to health and the factors influencing health was released in Canada in 1974 entitled *A New Perspective on the Health of Canadians* otherwise known as the Lalonde report. The report challenged traditional views wherein health care services by physicians and hospital care were viewed as the most important way to improve health (Lalonde, 1974, p.18). Instead the analysis indicated that "... there is little doubt that future improvements in the level of health of Canadians lie mainly in improving the environment, moderating self-imposed risks and adding to our knowledge of human biology" (Lalonde, 1974, p.18). One of the main messages from the report was the importance of pursuing an illness prevention and health promotion approach to health alongside an acute care approach (Lalonde, 1974, p. 37).

Similar ideas as those expressed in the Lalonde report began to be re-emphasized at the international level during the same time period. In 1978 the WHO released the Alma Ata Declaration. The main message of the declaration was that how health is addressed needed to shift to include a focus on primary health care as well as acute care (World Health Organization [WHO][b], 1978, pp.1-3). The Declaration is a seminal document for another reason; it was one of the first major international documents addressing unfair differences in health (WHO [b], 1978, p.1). The messages found in the WHO Alma-Ata Declaration and the Lalonde reports were echoed in the *Ottawa Charter for Health Promotion*, an international agreement that was signed by various WHO member states at the first International Conference on Health Promotion in 1986. The Ottawa Charter emphasized the importance of: health promotion, healthy public policy, intersectoral action, health as overall wellbeing, health equity, sustainable environments, and community involvement in health care decisions (World Health Organization [WHO], Health Canada [HC] & Public Health Agency of Canada [PHAC], 1986, pp.1-4).

The concepts surrounding prevention and health promotion continued to be discussed in Canada. In 1986, the Department of Health and Welfare of Canada (HWC) released a report entitled *Achieving Health for All: A Framework for Health Promotion* referred to as the Epp report. The Epp report supported a shift toward health promotion as a means to achieve positive health outcomes for all Canadian citizens (Health and Welfare Canada [HWC], 1986, para. 30). The ideas promoted in the report related to the concept of health as a right and that individuals needed to have access to the proper resources to be able to live healthy lives (HWC, 1986, para. 5). The content of the report helped to demonstrate: the existence of inequalities between different groups in Canada; that preventable illnesses were still affecting a large segment of the population; and that community and grassroots level health care was inadequate (HWC, 1986, para. 11-27).

Despite the increased awareness of the social determinants of health and health inequalities at the international health level, the political climate of the 1980s and 1990s stalled action on these issues. The international debt crisis of the 1980s, the dominance of the neoliberal political doctrine in the developed world and the influence of International Financial Institutions (IFI) played a strong role in shaping health strategies of countries around the globe (Irwin & Scali, 2010, p.14, p.15). The central tenants of the neoliberal model of politics and economics was the concept of free markets, more specifically minimal government involvement in both the economy, and social institutions (Irwin & Scali, 2010, p.14). Established following WWII, IFIs such as the World Bank (WB) and the International Monetary Fund (IMF) were created as a means to help regulate the global economy

and provide monetary support to member states. The WB provides loans to nations that are in need of financial support. In the 1980s and 1990s the WB had more resources than the WHO and had also developed a health policy model (Irwin & Scali, 2010, p.17). As a result of these factors “...de facto leadership in global health seemed to shift from the WHO to the World Bank” (Irwin & Scali, 2010, p.17). One of the IMF’s roles was to help countries with balance-of-payments (Barnett & Finnemore, 2004, p.48). The decision-making structure of the IMF was (and still is) based on a quota system, whereby a member countries voting power is related to it’s proportion of quota of funds (Kennedy, 2006, p.116). The quota of funds from member states is the main source of funding for the IMF and a member state’s quota is based on their “...relative position in the world economy” (International Monetary Fund, 2014). For a number of years, a small number of member states “...the United States [US], Japan, Germany, France and the United Kingdom [UK]...” maintained a large portion of the voting power and control of decisions that are made at the IMF (Barnett & Finnemore, 2004, p.49).

During the 1980s the US, Germany, and the UK were promoting neoliberal ideologies (Irwin & Scali, 2010, p.15). As noted above, neoliberalism centred on concepts surrounding economic liberalization such as free markets, privatization, and deregulation (Irwin & Scali, 2010, p.14; King & Wood, 1999, p.371). In order to qualify for loans from the IFIs, developing nations had to make reforms (Kennedy, 2006, p.134) and give up some of their decision-making authority to these institutions. As a result, it has been suggested that components of neoliberalism were “imposed” on developing countries through mechanisms such as “health sector reforms” and “structural adjustment programmes” that were implemented through IFIs (Irwin & Scali, 2010, pp.15). This resulted in cuts to government expenditures and decreased investment in social and health programs (Irwin & Scali, 2010, pp.15-16). However, major players in the international community such as the UN and the WHO continued to conduct research on issues relating to the social determinants of health and health inequalities.

During the 1990s and early 2000s the WHO and the UN released seminal works on topics such as the social determinants of health, health equity and development issues. Some of the work that emerged at that time included: a Task Force on Health Development from 1994-1997 and the *Health for All in the 21<sup>st</sup> Century* strategy (Irwin & Scali, 2010, p.18). The international community strengthened plans to improve the global development agenda in the year 2000 with the creation of the UN Millennium Development Goals (MDG). The UN’s MDGs were a global commitment to decrease poverty, increase development efforts and improve the lives of the world’s most impoverished populations by the year 2015 (United Nations Millennium Declaration, 2000, paras. 11-20). Another important document that emerged during that time was the 2005 *Bangkok Charter for Health Promotion in a Globalized World*. The Bangkok Charter reaffirmed the international community’s commitment to health promotion as had been outlined in previous documents including the 1986 Ottawa Charter (World Health Organization [WHO] [c], 2005, p.1). The concepts of health promotion and addressing the factors that influence health continued to be explored within the international community.

Work on the social determinants of health, health inequalities and health inequities have continued to grow in recent years. In 2008, the WHO released a report entitled *Closing the Gap in a Generation: Health Equity Through Action on the Social Determinants of Health*. This report emphasized how inequities in health persist across and within countries and outlined steps that

need to be taken to reduce health inequities (WHO CSDH, 2008, p.1). The most recent political commitment towards reducing inequities in health was the 2011 *Rio Political Declaration on Social Determinants of Health* (World Health Organization [WHO] [d] 2011). The members of the WHO committed to working towards reducing health inequities by taking action on the social determinants of health (WHO [d] 2011, p.1, para.1). Despite the vast literature on health promotion, the social determinants of health and health equity, inequalities in health persist in most nations around the globe (Marmot, 2005, p.1099). As discussed, barriers toward implementing a social determinants of health and health equity agenda stem in part from global socio-economic structures. However, barriers also emerge from structures within nations themselves.

## 2.2 POLICY ACTION ON THE SOCIAL DETERMINANTS OF HEALTH AND HEALTH EQUITY WITHIN THE CANADIAN CONTEXT

Factors beyond global economic and political forces have limited the adoption of a population health, health promotion, social determinants of health and health equity agenda in Canada. Some of the barriers that have limited the integration of some of these concepts into the health care system in Canada include: the health funding structure, federal and provincial jurisdictional tensions and the structure of the policy system (Collins & Hayes, 2007, pp. 338-339). The barriers that have been identified can be broadly categorized as ideological, institutional, interest-related and information-related barriers (Collins & Hayes, 2007, pp. 338-339). These barriers will be discussed at length in section 5.4 Barriers to the Implementation of the Social Determinants of Health and Health Equity Agenda. Despite the existence of these barriers, the concepts of population health, the social determinants of health and health equity are beginning to be integrated into the mission, vision, and values of numerous health regions across Canada. (Neudorf, 2012, p.155; MacNeil, 2012, p.11)

Canada has long been recognized as a leader in the fields of population health and health promotion (Neudorf, 2012, p.155; Mikkonen & Raphael, 2010, p.7). However, only in recent decades has there been a shift of focus in the health system towards the concepts of population health, health promotion and illness prevention, alongside an acute care approach (Neudorf, 2012, p.155). The health care system in Canada has been dominated by a focus on crisis management, health services and treatment of illness (Neudorf, 2012, p.155; Frankish et al., 2007, p.1, p.4). Despite awareness of a population health approach to health care, many decision makers have felt "...pressure to focus on clinical care" (Cohen et al., 2014, p.4, p.6). While treatment of illness will continue to be an important component of health care decision-making, a population health approach has the potential to improve the health of different groups but also has the potential to improve the sustainability of the Canadian health system (Neudorf, 2012, p.155). The reduction of health inequalities is a foundational element of a population health approach (Public Health Agency of Canada as cited in Neudorf, 2012, p.155).

The integration of the concepts of population health and health equity into the health system varies by jurisdiction (Neudorf, 2012, p.155; Kouri, 2013, p.15; MacNeil, 2012, p.11). In the Canadian federal system, provinces have jurisdiction over health care. Each province is responsible for managing their respective health care system. Most provinces delegate some of the responsibility

of health care to health regions. These are often referred to as Regional Health Authorities (RHAs) and in Ontario health regions are referred to as Local Health Integration Networks (LHINS). In this report, RHA and LHINS will be referred to as health regions. The provinces of Alberta and Prince Edward Island are not divided into regions (Kouri, 2013, p.1). It should be noted that the boundaries of health regions are subject to change. Health regions operate just below the provincial level and are responsible for making program and planning decisions as well as “administrative policy” decisions (Bowen, Erickson, Martens, Crockett, 2009, p.90). Their structure and levers of power provide them with the ability to act on the social determinants of health (Frankish et al., 2007, p.41). Across most regions (except Ontario) public and population health units are situated within the health region and these branches tend to be the champions for social determinants of health and health equity (Kouri, 2013, p.2).

The recognition of the impact of social determinants of health on health outcomes has increased at the health region level across Canada and several health regions have committed to addressing population health and health equity (Neudorf, 2012, p.155; MacNeil, 2012, p.11). A recent analysis of the vision and mission statements of health regions across Canada found that most of them mentioned population health (Neudorf, 2012, p. 155). However, the same study also noted that despite the prevalence of population health language in mission and value statements that “... [the population health] ideology has not translated into a wholesale system redesign thought necessary for large scale results” (Neudorf, 2012, p.155). Another recent analysis aimed at identifying action on the social determinants of health and health equity in Canada at the regional level found similar results, that health equity was identified as a priority by health regions but specific action on health equity was limited (MacNeil, 2012, p.11). The author made note that the limitation of the research was that the information found from the publicly available sources may not fully reflect the range of equity-related activities that were taking place within health regions at that time (MacNeil, 2012, p.11).

The findings from the two above-mentioned analyses highlight that the concepts of population health and health equity are beginning to be incorporated into the larger strategic plans and programs of some health regions. The Wellesley Institute, a Canadian “...non-profit and non-partisan research and policy institute...”(Wellesley Institute, 2014), recently released a report entitled *Learning From Others, Health Equity Strategies And Initiatives From Canadian Regional Health Authorities*. The 2013 Wellesley Institute report helped to confirm that an increasing number of regions are taking policy and program action on health disparities (another term used to describe differences in health or health inequalities) (Kouri, 2013, p.13-17). The Wellesley paper scanned the activities of health regions across Canada and the findings showed that although action on health equity is still largely concentrated in public and population health departments, in some cases these concepts are being integrated into the planning of the larger health regions (Kouri, 2013, p.13). The study also confirmed “...work [being done on health inequalities] is uneven across the country” (Kouri, 2013, p.16). Some health regions have taken an active role in addressing health equity whereas others have seemingly not acted on these issues or have taken very little policy or program action, again the author noted that not all health regions make information about their programs publicly available so there may be some programs that were not identified through the scan (Kouri, 2013, p. 16). Health regions have the potential to make important contributions to the reduction of inequalities across Canada if they commit and take action on these issues (Kouri, 2013, p.1).

## 2.3 ROLE OF HEALTH SYSTEM DECISION/POLICY MAKERS IN ADDRESSING HEALTH EQUITY IN CANADA

There is little research available that evaluates the specific role of health system decision makers, policy analysts, and policy makers in addressing health equity. However, it has been widely recognized that in order for a health equity agenda to flourish, leaders from across both the health and other sectors will need to act as champions (WHO & CSDH, 2008, p.194; Butler-Jones, 2008, p.68). It has been suggested that it will be important to raise awareness of issues relating to the social determinants of health and health equity and communicating it to decision and policy makers (WHO & CSDH, 2008, p.190). However, it will be even more important for health system policy makers, decision makers, and policy analysts to consider health equity when making decisions (WHO & CSDH, 2008, p.190). As highlighted above, health system decision and policy makers have a crucial role to play in moving the health equity agenda forward. In order for them to be aware of these issues and consider these issues in their decision-making it will be important for the organizations creating and brokering knowledge in this area to be able to effectively communicate their research and knowledge to the relevant decision and policy makers.

At a more general level there have been papers and reports on potential roles of the health care sector in addressing the social determinants of health and health inequalities. There has been some recent work on the role of the health sector with regards to the Canadian context. A Canadian Federal, Provincial and Territorial task group on Health Disparities identified four activities that the health sector could engage in to help reduce health disparities. The recommendations of the task group for the health sector included: an emphasis on intersectoral work; “make health disparities reduction a health sector priority”; “integrate disparities reduction into health programs and services”; and “strengthen knowledge development and exchange activities” (Health Disparities Task Group of the Federal/Provincial/Territorial Advisory Committee on Population Health and Health Security [FPT PHHS], 2004, pp. 7-9). Similar suggestions regarding the potential role of the health care sector in addressing the social determinants of health have been presented at the international level.

Roles that the health sector might take to reduce health inequalities have also been discussed at the global level. The WHO 2011 report entitled *Closing the Gap: Policy into Practice on Social Determinants of Health* discussed the role and some actions that the health sector could take to advance the global health agenda on health equity (World Health Organization [e], 2011, p.24). The report identified potential roles and actions for the health sector including: taking a leadership role by promoting the importance of a social determinants of health approach; facilitating dialogue with other sectors and levels of government; developing an understanding of the goals and objectives of other sectors to find areas of alignment and help other sectors achieve goals that relate to health; evaluate intersectoral activities and the impacts of policy interventions; “building the knowledge and evidence base of policy options and strategies”; and “... building capacity through better mechanisms, resources, agency support, and skilled and dedicated staff” (WHO [e], 2011, p.24). Both the 2011 WHO *Closing the Gap* report and the Canadian task group emphasize the importance of the health sector: taking a leadership role and making health disparities (another term for differences in health or health inequalities) and health inequities a priority; as well as engaging in intersectoral action and capacity building as a means of addressing inequalities in health.

More recently, the Wellesley Institute developed a health equity roadmap outlining potential actions that could be taken by actors in the health care sector to better integrate health equity into the health care system. The seven actions were as follows (Gardner, 2012, pp.2-4):

- Incorporate health equity values into different facets of the health system such as planning and delivery of services;
- “[A]ligning equity with system drivers and priorities”;
- Search for the most effective ways to reduce health inequities;
- Build equity into the performance management and deliverables of health system provider organizations;
- Diversify the use of resources to develop programs targeted at populations experiencing high levels of health disparities (inequalities) or to address barriers these populations experience when attempting to access the health care system;
- Facilitate the development of “equity focused innovation”;
- Shift focus of health care to a more upstream approach, to encourage a focus on health promotion and address the structural and intermediary determinants of health.

Similar themes as those identified by the 2011 WHO *Closing the Gap* report and the Canadian task group are echoed the actions that are discussed in the Wellesley Institute equity roadmap.

In the Canadian public health sector and the international health community; the concept of health equity and its impacts on the population are generally well understood. The rising number of health regions in Canada that are taking action on social determinants of health and health inequalities indicates that these concepts have begun to spread and be adopted by health system actors outside of public health. However, if significant action on the social determinants of health and health equity is to take place, these concepts need to be understood by a larger proportion of actors in the health system outside of public health. Key members of the international health community have emphasized the importance of moving knowledge into action and of communicating the information so that it can be understood (WHO & CSDH, 2008, p.190). Therefore, it will be important for those producing research on issues relating to the social determinants of health and health equity to effectively communicate to different stakeholders and to understand the barriers confronting the health equity agenda so that health system decision makers and policy makers can become aware of these issues and consider them in their decision and policy making processes.

### 3.0 CONCEPTUAL FRAMEWORK

This chapter outlines the conceptual framework used to organize this research and explains the concept of KTA.

#### 3.1 NEEDS ASSESSMENT MODEL

The research for this project was structured as a needs assessment. The needs assessment model that was used to organize this research project was adapted from a needs assessment model and guide that was developed by the US Office of Migrant Education. A needs assessment is structured according to three distinct phases: the identification of the current state; the difference between the desired end state and the current state; and finally identifying what approaches would help to address the gap between the current state and the future state, as outlined in Figure 1 (US Department of Education, Office of Migrant Education, 2001, p. 8, p.13, p. 17).

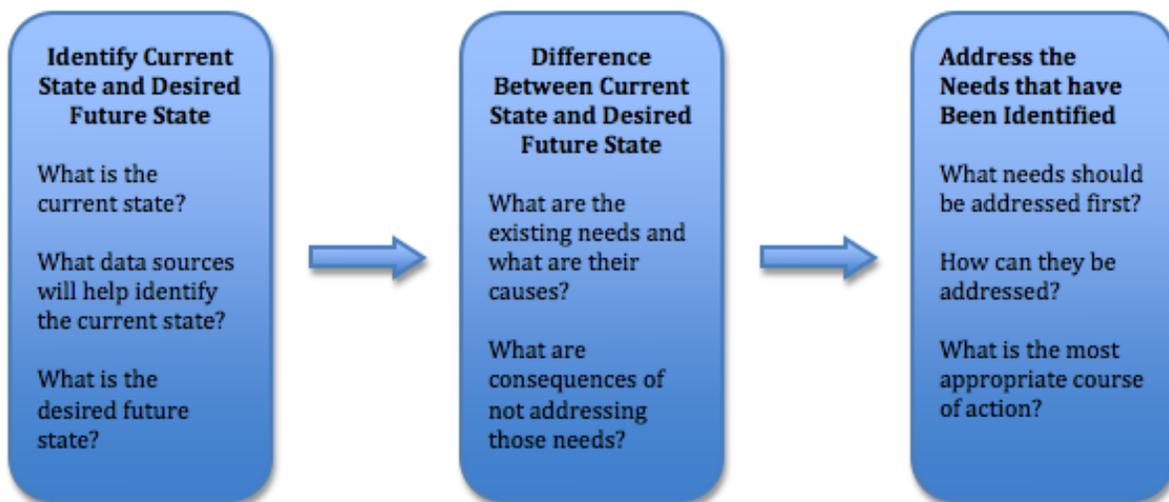


Figure 1. Needs Assessment Phases. Adapted from the *US Office of Migrant Education’s Comprehensive Needs Assessment Guide*, 2001.

The first stage of this analysis involved identifying the problem or the current state. As noted in section 1.2 Project Purpose and Research Question, the purpose of this research project is to identify if there are effective approaches of moving knowledge on health equity into action for health system decision makers, policy makers, and policy analysts. The reason is twofold, to help CPHI strengthen their KT activities; and to achieve their strategic goals of improving the ability of health system policy makers, policy analysts, and decision makers at the provincial and regional levels to consider health equity when making program and policy design decisions. Therefore, the desired state for CPHI is to have a workforce knowledgeable on health equity.

The current state was identified through a literature review, an assessment of existing CPHI 2010 stakeholder interview findings (conducted by CPHI staff members) and through an environmental scan methodology. Through the literature review, it was identified that the literature on health

equity-related KT is limited and that little is known about the effectiveness of health equity-related KT strategies. The literature review also revealed that barriers exist to the pursuit of KT and separate barriers to working toward a health equity agenda also exist.

The literature review helped to reveal that four major barriers have limited the advancement of a health equity agenda: institutional, ideological, interest-related and informational. These barriers are outlined in detail in section 5.4. Barriers to the Implementation of a Social Determinants of Health and Health Equity Agenda. The institutional, ideological and interest-related barriers will take time and concerted effort to change. The informational barriers to the health equity agenda are more actionable than the others and provide a good stepping-stone for action to move the health equity agenda forward. For example, a barrier to KT and the movement of knowledge into action that was identified through the literature review was the lack of capacity of some decision makers and policy makers to use and understand research in general (Lavis, 2006, p.41; Mitton et al., 2007, p.737). Building capacity to understand and use research and information could lead to evidence-informed decision-making (Bowen et al., 2009, p.96; Orton et al., 2011, p.8, p.9). This is relevant since evidence-informed decision-making has been identified as important for moving the health equity agenda forward (Measurement and Evidence Knowledge Network [MEKN], 2007, p.16). The CIHI organization, and by proxy, CPHI, is mandated to be neutral and as such cannot pursue any political activities or make any recommendations that might be perceived as political in nature. Therefore CPHI can address some of the informational barriers (i.e. these are consistent with CPHI's mission).

The environmental scan alongside the findings from 2010 CPHI stakeholder interviews helped to highlight how there is a lack of instructional resources for decision makers and policy makers relating to health equity. A summary of the analysis of the findings of the 2010 CPHI stakeholder interviews can be found in Appendix A. The findings from the environmental scan are outlined in detail in section 7.1 Findings from the Environmental Scan. The CPHI end-users that were interviewed included health system decision makers, and policy makers such as: public health practitioners, consultants, coordinators, and policy analysts. The analysis of the findings from the stakeholder interviews revealed that the end-users would like CPHI to develop more tools and products to help them understand population health tools for planning and evaluation, inequalities in health, and population health definitions and statistics. These findings led to the identification of the current state, the desired future state and the need that could be addressed to help reduce the gap between the current state and the future state, which have been outlined in Figure 2.

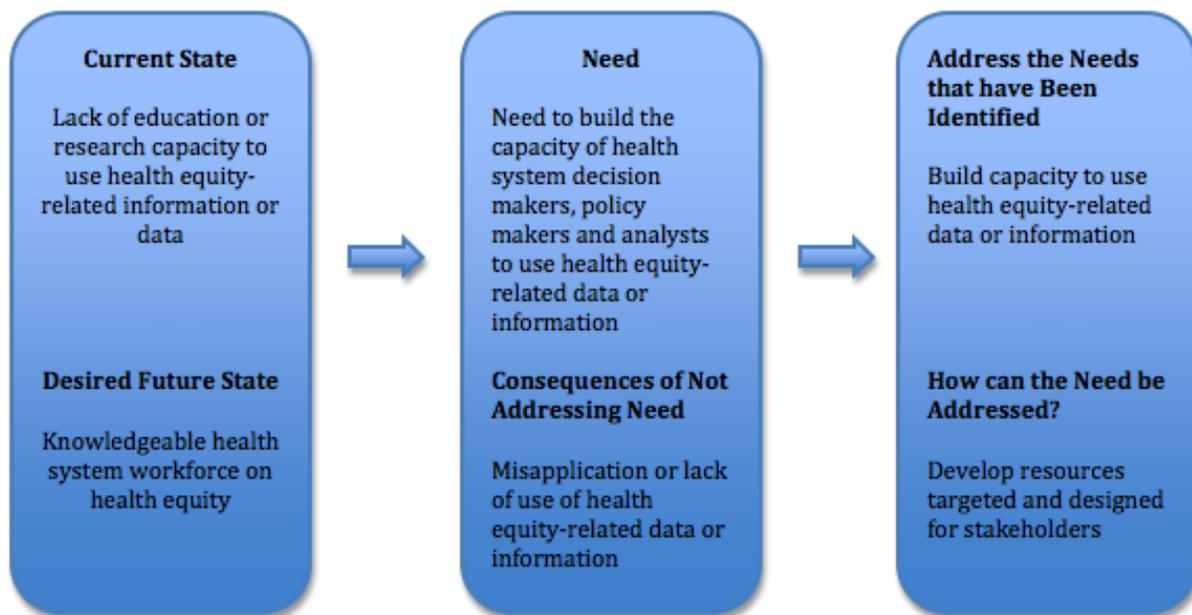


Figure 2 . Needs Assessment Model.

The next step in the process involved identifying how to address the need. The need that was identified was the need to improve the capacity of health system decision makers, policy makers and, policy analysts to use health equity-related data or information. The decision to address the need to build the capacity of health system decision makers, policy makers, and policy analysts with an online learning course was based on: the environmental scan, the findings from the 2010 CPHI stakeholder interviews, and the literature. As noted above, the environmental scan helped to identify the lack of instructional resources aimed at helping decision makers, policy makers, and analysts relating specifically to health equity, and more specifically health equity-related data.

In 2010, CPHI conducted 14 key stakeholder interviews with the aim of improving their understanding of what CPHI stakeholders needed from CPHI in terms of products or education courses. One of the objectives of the interviews was “to identify specific topics and content options for inclusion in new CPHI education products” (CPHI [b], 2010, p.1). The interviews were not focused solely on determining health equity-related educational needs but all potential education content. With regards to use of data, literature and indicators, stakeholders identified the following training needs relating to data:

“...learning methods to better understand and use disparities data (to understand how to achieve health equity within their particular health area)... and incorporating external promising practices that might work in users’ respective settings” (CPHI[b], 2010, p.3).

Findings from the literature suggest that KT strategies did not have to be complex to be effective and that understanding end-user context and end-user characteristics were important for successful KT (LaRocca et al., 2012, p. 11). A KT strategy is more likely to be effective if it has been tailored to a specific group (LaRocca et al., 2012, p. 11). Passive, stand-alone KT strategies were

identified as being ineffective, whereas those that are tailored and actively delivered to end-users were identified as being effective (LaRocca et al., 2012, p. 11). It has been suggested that KT strategies should be selected based on the strategies that are known to be effective for whichever stakeholder group is being targeted by the organization (CIHR (a), 2013, para 12; LaRocca et al., 2012, p. 11). It has also been suggested that when translating or communicating information to knowledge users, who are not within the research community, the KT strategies should:

“...emphasize non-academic modes of communication: the language of publications should be adapted to the target audience (e.g. lay language) and can be presented in popular formats, such as websites or creative media... Sharing of knowledge may be done face to face in a meeting/workshop setting by a knowledge broker...or via emerging online technologies...” (CIHR (e), 2014, para 2).

There is limited evidence as to whether or not online learning is an effective KT activity. A need still exists to investigate whether it leads to long-term changes in practice, however, there has been some indication that online learning can be beneficial (LaRocca et al., 2012, p.11). The findings that there is a gap in instructional resources, a demand from CPHI stakeholders for online learning content relating to health equity-related data and limited evidence that online learning can be useful helped to justify the development of the online course. An expert review of the content as well as a pilot test of the course was used to improve the usability and relevance of the course. The findings from the expert review and the end-user pilot can be found in section 7.2 Summary of Findings from the Expert Review and section 7.3 Summary of Findings from the End-User Pilot Survey.

### 3.2 KNOWLEDGE-TO-ACTION

The concept of moving knowledge into action has evolved over recent years and a multitude of frameworks and models have been developed and adapted for different sectors. It is important to understand this concept since it is complex and outlines the various steps that are needed to translate knowledge to end-users, whether they are decision makers, policy makers, or practitioners.

Numerous KTA models exist, however, one that has been used in Canadian health research is the Graham et al. (2006) model; it outlines the major components required in translating knowledge into action and is used by the Canadian Institutes for Health Research (CIHR) (CIHR [a], 2013). The CIHR is an independent government agency; whose mission “...is to create new scientific knowledge and to enable its translation into improved health, more effective services and products, and a strengthened health care system” (Canadian Institutes for Health Research [CIHR] [b], 2014, para.3). The Graham et al. (2006) model provides a “...conceptualiz[ation] [of] the relationship between knowledge creation and action...” (CIHR [a], 2013, para.14). Figure 3 is an illustration of the KTA process and has two major components: the knowledge creation “funnel” (which is the downward pointing triangle in the centre) and the “Action Cycle” the arrows and boxes circling the knowledge creation “funnel” (Graham et al., 2006, pp. 19-20; CIHR [a], 2013). Graham et al. (2006) noted that they divided the process into two concepts for “conceptual and illustrative purposes” and to keep in mind that the process is complex and “...the boundaries between these two concepts and their

ideals are fluid and permeable” (Graham et al., 2006, p.18). This means that the process is not linear and different steps can be taken at different times.

Prior to moving knowledge to a specific stakeholder group, it is important that the knowledge being created is relevant to the targeted stakeholders. The knowledge creation portion of the process involves three major steps. The notion behind the funnel is that knowledge needs to be tailored to the relevant stakeholders “...before it is ready for application”(CIHR[a], 2013, para.14). The “Action Cycle” contains multiple components that are needed in order to effectively move knowledge into action. Meaning, “the action part of the process can be thought of as a cycle leading to the implementation or application of knowledge” (CIHR[a], 2013, para.14). The model can be understood as a complete process or “... the model can also accommodate different phases being accomplished by different stakeholders and groups (working independently of each other) at different points in time. For example, researchers can simply focus on knowledge creation activities, leaving the uptake of knowledge to others to promote and facilitate” (Graham et al., 2006, p.18). This model may not be appropriate for all settings but clearly outlines the different processes and steps involved in moving research or knowledge into action.

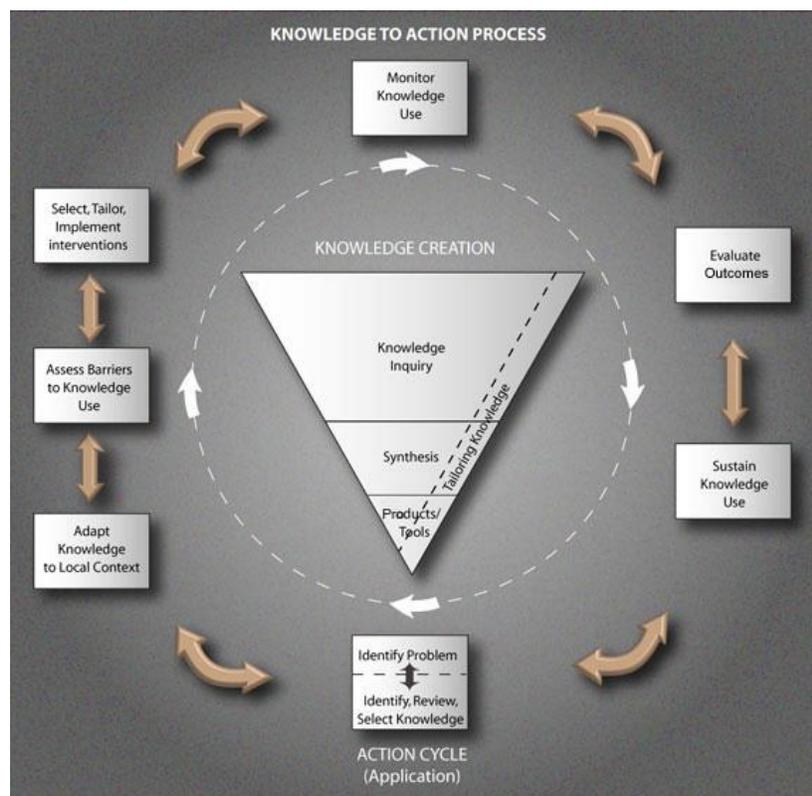


Figure 3. The Knowledge-to-Action Process. Retrieved from the Canadian Institutes for Health Research Website. (CIHR [a], 2013).

Late in the literature review process of this project, a newly released report from the National Collaborating Centre for the Determinants of Health (NCCDH) assessing existing KTA models and frameworks and their relevance and applicability with regards to translating knowledge on health equity and health equity interventions was identified (Davison & the National Collaborating Centre

for Determinants of Health, 2013, p.1). The NCCDH's main audience is public health researchers and practitioners. The NCCDH resource was assessing which KTA frameworks would be best to support action on health equity at a public health level (Davison et al., 2013, p.1). The use of the CIHR framework for this analysis was meant to provide an understanding of the basic components of moving knowledge into action. Therefore, the decision was made by the researcher to keep the CIHR model in the report and not change it after discovering the NCCDH report.

## 4.0 METHODOLOGY AND METHODS

This chapter provides an overview of the methodology used for this research. It contains a discussion of: the needs assessment methodology; how the literature review was designed and conducted; a discussion of the environmental scan as well as the methods that were applied to collect data for the scan; the steps taken in the design of the online course; a description of the ethical review approval obtained; the selection process for the expert reviewers and the end-users for the pilot; an overview of the survey methods that were used to collect data from the expert reviewers and the pilot end-users; and finally the limitations and delimitations of this research.

### 4.1 NEEDS ASSESSMENT

The research for this project was guided by a needs assessment methodology. The first phase of the project involved identifying the current state of the health equity-related KT literature. The current state was identified through the use of: a literature review process; an environmental scan; and an analysis of the findings from existing 2010 CPHI stakeholder interviews (these interviews were not conducted by the researcher but had been conducted by CPHI staff). The current state (as discussed in the Conceptual Framework, chapter 3.0) was a lack of education or lack of capacity to use health equity-related information or data. The second phase involved identifying the gap between the current state and CPHI's desired future state, which is having a health system workforce knowledgeable about health equity information. The final phase involved identifying what approaches would be able to address the gap between the identified current state and the desired future state.

Findings from the literature review process and from the environmental scan helped to identify an approach that could begin to address the gap. This was the development of resources to help build the capacity of health system decision makers, policy makers, and policy analysts to use health equity-related information and data. This need is important to address since, as identified in the literature review, having the ability to understand and use research is an important component of moving knowledge into action. There is a need for stakeholders to be able to use and apply information that has been transferred to them from organizations such as CIHI.

### 4.2 LITERATURE REVIEW

A literature review was conducted using the CIHI OVID eJournal Database which includes the following resources (*the keyword searches have been outlined below*):

- Books@Ovid;
- CIHI Journals;
- Search Journal Abstracts and Table of Contents;
- Econolit;
- Ovid MEDLINE (R) In-Process & Other Non-Indexed Citations and Ovid MEDLINE (R) -1946 to present
- Ovid MEDLINE (R) - 1946 to April Week 2 2013
- Ovid MEDLINE (R) without Revisions - 1996 to April Week 2 2013
- Ovid MEDLINE (R)

- Ovid MEDLINE (R) In-Process & Other Non-Indexed Citations
- Ovid MEDLINE (R) Daily Update – April 23 2013
- PsycINFO – 2002 to April Week 3
- PsycINFO – 1806 to April Week 3

Some of the searches were also run using the University of Victoria library database in order to verify that no important resources were missed. The keywords used in the search were: knowledge translation, knowledge-to-action, moving knowledge into action, knowledge exchange, knowledge transfer, knowledge utilization, health equity, health inequities, health inequalities; evidence-informed decision making, evidence-based decision making, health system decision maker, health system policy maker, population health. Once a list of relevant references had been identified, the abstract, keywords and authors were assessed and cuts were made based on exclusion and inclusion criteria. The inclusion and exclusion criteria are outlined in a subsequent paragraph.

The literature was classified in order to simplify the writing of the literature review section. The KT literature was classified as implementation or non-implementation literature based on the article by Mitton et al. (2007) which was a review and synthesis of KT/KE literature (Mitton et al., 2007, pp.730-734). Implementation literature is comprised of primary research on the actual implementation of a KT strategy in a real-world setting (Mitton et al., 2007, pp.730-734). The non-implementation literature had a few categories, for example: one was literature that “discuss[es] organizing frameworks for applying KT”; a second was the barriers/ facilitators to KT; and another was “ [the] perspectives from different stakeholders as to what works and doesn’t for KT and methods and issues for measuring the impact of research studies” (Mitton et al., 2007, pp.730-734). A snowballing technique was then used to identify other potentially relevant resources.

Once the relevant literature had been selected from the original search and after snowballing, there were still gaps in the literature. The main gap was a lack of literature discussing the effectiveness of KT strategies for policy makers and decision makers. In an attempt to fill those gaps, a grey literature scan was undertaken. The following methods were used:

- Search websites of key organizations, such as the National Collaborating Centre for Methods and Tools (NCCMT), and the NCCDH;
- Keyword searches on Google scholar (using the same keywords and search strategies used in the literature review); and
- Google searches, a search for evaluations of KT strategies for decision makers and policy makers.

#### 4.2.1 Inclusion Criteria

This section outlines the inclusion criteria that were applied to the literature. The inclusion criteria were:

- The KT literature is complex and terms are used interchangeably (Graham et al., 2006, p.14-18) so literature referring to: KT, knowledge transfer, knowledge utilization, knowledge exchange, KTA, moving knowledge into action could be included.
- Relates to health equity, health inequities, health inequalities or social determinants of health.

- Depending on the jurisdiction the term meaning of the health equity, health inequities or health inequalities differs. Some countries (for example many European countries) use the term health inequalities to mean health inequities (systematic differences in health). Therefore, both terms were searched. For definitions of these terms please refer to Section 1.3 entitled Definitions of Main Terms..
- The KT literature aimed at the target stakeholder group was included:
  - Health system policy makers;
  - Health system decision makers; and/or
  - Health system policy analysts.
- Public health KT literature was included because the public health field has been at the forefront of the KT movement in Canada:
  - The underlying principles and strategies can be applied in various complex decision making contexts (i.e.: for regional/provincial level health system decision makers, policy makers, and policy analysts).
- Some of the literature refers to clinicians or nurses or physicians and should be excluded because they are not the targeted stakeholder group:
  - However, an article or research study could be included if it mentions clinicians or nurses or physicians but provides more of an overarching discussion of KT or KTA. The reason is because some of the underlying principles could be relevant or may include a discussion relating to KT in other decision-making environments.
- The preferred jurisdictions include:
  - Canada,
  - Australia, or
  - US.
- Case studies of KT strategies that relate to an intervention that addresses health equity or the social determinants of health.
  - Because case studies of KT strategies could provide insight into how knowledge has been translated to health system decision makers, policy makers, or policy analysts.

#### 4.2.2 Exclusion Criteria

This section outlines the exclusion criteria that were applied to the literature. The exclusion criteria were:

- If an article that was found related specifically to KT strategies for clinicians, nurses or physicians the literature was excluded because they are not the desired audience for this research.
- Since the context is too different from the Canadian context KT or KTA literature aimed at developing or low-income countries was excluded.
- KT or KTA that was disease-specific or acute-care-intervention focused and not focused on health equity or SDOH interventions was excluded.

### 4.3 ENVIRONMENTAL SCAN

An environmental scan was conducted to assess the online resources, tools and education courses (with a focus on health equity and how to apply it to decision making) that are currently available to health system policy makers, decision makers, and policy analysts. The aim of the scan was to locate resources that would be relevant for health system decision makers and policy makers in the Canadian context. However other relevant resources from other jurisdictions were included. The criteria for assessing the courses were: accessibility, relevance to target audience and comprehensiveness. The scan was limited to publicly available resources. Credit courses offered by universities were excluded due to accessibility issues (such as cost) as well as time constraints of the targeted stakeholder group. Titles and descriptions of the resources and non-credit courses were scanned for specific keywords including: health equity, health inequities, health inequalities, and health disparities.

The criteria for assessing the non-credit courses were: accessibility, relevance to target audience and comprehensiveness. The scan was limited to courses in the English language. An excel spreadsheet was populated and the resources that were identified were categorized based on type of resource, jurisdiction and accessibility (was it easy to locate?/ is it easy to register?/is it limited to a certain group? Etc.).

The methods used to collect data for the scan were:

- A review of Canadian public health organization websites, such as Canadian Public Health Association (CPHA), Public Health Agency of Canada (PHAC), the NCCDH etc. ;
- A review of international public health organization websites, such as the World Health Organization (WHO), and Pan-American Health Organization (PAHO);
- Use of CIHI library resources and databases to scan for potential resources; and
- Monitoring of the Equity listserv (Equity, Health & Human Development [EQUIDAD@LISTSERV.PAHO.ORG](mailto:EQUIDAD@LISTSERV.PAHO.ORG)) for potentially relevant resources.

Findings from the environmental scan conducted for this project (alongside the findings from the literature review and the analyses of the findings from 2010 CPHI conducted stakeholder interviews) helped to identify that limited resources are available to support health system policy makers, policy analysts, and decision makers in their efforts to apply information on health equity to evidence-based decision-making. By working to address the gap in health equity resources identified in this report, CPHI could advance its strategic direction and help build the capacity of health system policy makers. The findings from the environmental scan are outlined in detail in section 7.1 entitled Findings from Environmental Scan.

### 4.4 ANALYSIS OF FINDINGS FROM 2010 CPHI INTERVIEWS

In 2010 CPHI conducted stakeholder interviews in order to better understand: what types of resources their stakeholders were interested in seeing developed in the future; what topics they were most interested in; and what type of information was considered most useful to help them make decisions. The results of the interviews were analyzed and summarized by CPHI analysts in 2010. The findings from these interviews were meant to help guide future CPHI work and shed light

on the topics that were of interest to their stakeholders as well as their preferred learning methods. The findings from those 2010 CPHI stakeholder interviews were relevant for this project since they provided insight into the topics that stakeholders were interested in learning about as well as the preferred learning methods of this stakeholder group. A summary of the findings from these interviews can be found in Appendix A.

The 2010 CPHI stakeholder consultation provided CPHI with insight into the type of content and the preferred learning methods of this group of stakeholders. The researcher for this project analyzed the stakeholder feedback from the 2010 CPHI stakeholder interviews in order to gain insight into the needs and preferences of CPHI stakeholders. The CPHI branch did not feel that new interviews were necessary because the 2010 interviews were fairly recent and they did not want to overburden their stakeholders by asking them to participate in another interview on the same topic.

#### 4.5 DEVELOPMENT OF EDUCATION COURSE

The decision to develop an online course as a component of this project was made so that CPHI could contribute to its strategic directions, which is to build the capacity of its stakeholders to be better able “...to act on population health and health system outcomes” (CPHI, 2012, p.1). A bonus related to developing the online course was the ability to gain feedback for future products from the expert reviewers and the end-user pilot participants. The content developed for the course was informed by the environmental scan of online resources, the findings from the literature review, as well as the 2010 CPHI stakeholder interviews. The analysis of the findings from the 2010 CPHI interviews helped to inform the structure and content of the education product.

The researcher for this project developed a module of the education product. Experts in the field of KT and health equity then reviewed the content of the education product. The experts’ comments were recorded through the use of a survey. The survey given to the expert reviewers can be found in Appendix C. The content that had been reviewed by the experts was then revised and edited by the researcher based on expert feedback. An online learning platform was then developed for the course by the CIHI education branch. The revised content was then incorporated into the learning platform.

Once the course content of the online health equity course was complete a small sample of 35 CPHI stakeholders (identified through the CIHI client management database) were contacted via email and asked to participate in a pilot of the course. A sample group of seven stakeholders responded to the email and agreed to participate in the pilot of the course. Only four stakeholders completed the pilot, of the seven stakeholders that originally agreed to participate, resulting in a response rate of 11%. The survey findings from the sample of stakeholders were collected to gain feedback on the usability, accessibility of the module and how it could be improved for future products. The survey given to the end-users of the pilot can be found in Appendix D.

#### 4.6 SELECTION PROCESS – EXPERT REVIEWERS

The purpose of the project is to identify effective approaches of moving knowledge on health equity into action to help CPHI strengthen their KT activities and help them to build the capacity of health system decision makers, policy makers, and analysts to use health equity-related information and

data. The deliverable of the project is an education product relating to health equity so it was important to learn from experts: how best to deliver the information; and whether or not the content of the course was appropriate, useful and relevant for the targeted stakeholder group. Expert reviewers were needed who could verify the appropriateness of the content and other experts were needed to provide guidance on how to present said information in effective ways. It was decided that there would be an end-user pilot following the expert review. Prior to selecting the expert reviewers or end-users, the project had to receive ethics approval from the University of Victoria Human Research Ethics Board (UVIC HREB). The ethics approval was received and the ethics approval number for this project is 13-100. The first page of the form and the annual renewal can be found in Appendix E. The UVIC HREB reviewed and approved the letters of implied consent and the open and closed ended surveys that were developed for the expert reviewers and the end users. Please note that separate versions of the letters of implied consent and the surveys were developed for the expert reviewers and the end-user pilot participants. The surveys for the expert reviewers can be found in Appendix C and the survey for the end-user pilot participants in Appendix D.

The characteristics that were considered when selecting the expert reviewers were based on four criteria: organization, field, experience, and sex & gender.

- *Organization:* Participants could work for a range of organizations including but not limited to: academic institutions, health regions, national collaborating centres and non-governmental organizations. All participants needed for the pilot were required to be external to the project client, CPHI, a branch within CIHI.
- *Field:* Participants needed to be involved in the fields (or fields related to) KT or health equity.
- *Experience:* Potential participants needed to have high levels of knowledge and/or experience in the field of KT or health equity. These characteristics were needed in the reviewers so that they could help to provide insight into the most effective ways to present information to stakeholders. Individuals with expertise in health equity could identify information gaps in the content, if the level of detail was too high or too low, and if salient content was missing.

A list of potential expert reviewers was drafted and then reviewed by the project client. Five expert reviewers were contacted. The experts were selected from the fields of KT and health equity: three experts from the field of health equity (one of whom never replied to the initial recruitment email), one expert from the field of KT and one expert that bridged both fields and had some experience with KT and health equity (who agreed and mentioned a colleague who would also be interested in participating in the review. The reviewer's colleague was added and the five experts remaining agreed to be reviewers. Once the content was finalized, it was sent to the reviewers alongside an email that explained the terms of their participation and informed them of their rights and explained their involvement in the process. For reasons unknown, one of the reviewers never completed the review and did not make further contact. In the end, one health equity expert, one KT expert and two experts that bridged both fields reviewed the content, four of the six who had been approached. The letters of recruitment, emails and the survey provided to the expert reviewers can be found in Appendix F entitled Correspondence to Expert Reviewers.

#### 4.7 SELECTION PROCESS – END-USERS

A list of decision makers and analysts from the regional health level (RHAs or LHINs) in Canada were generated from CIHI's Client Relationship Management (CRM) database, which contains contact information of CIHI's clientele. A list of 507 individuals was generated from the CRM database and put into an excel document. These 507 individuals were the sampling frame for the potential survey participants. A set of criteria was established to ensure that the appropriate individuals were selected. The job titles of these individuals were reviewed; those that were deemed inappropriate (i.e. not the appropriate target audience) were removed from the list. The inclusion criteria that the participants were sorted by included:

- Individuals working in various fields including but not limited to: mental health, health promotion, early childhood development, population health, community health, and home care.
- A range of positions and their titles vary depending on their field, region and province. A scan of positions and titles from the regional health level across Canada was conducted in order to develop a list of positions or titles that potential participants may hold. The positions that were identified and considered for inclusion were: program manager, project manager, team manager, regional director, program coordinator, policy analyst, project analyst, data analyst, and program lead.

The exclusion criteria were:

- Clients with the following positions and titles were excluded at the request of the project client: program consultant, project consultant, vice-presidents, director, and regional director as potential participants.
- In the ethics application, data analysts were originally identified as potential participants but were later excluded because they were not identified as potential end-users for the education course.

After applying the exclusion criteria from the list, 35 individuals were randomly selected and became the final sample. The random number generation excel function [=Rand()] was applied in a column next to the list of names. The random numbers that were generated were then sorted using the sort excel function. The numbers were sorted from lowest to highest. The first 35 individuals (starting from the lowest randomly generated number) were selected as the final sample for the pilot test. If any of the individuals that were randomly selected by the random function fit the exclusion criteria, the next people on the list were considered. This process continued until 35 individuals had been selected. A recruitment email was sent out to potential participants and they were given a week to respond. A total of seven individuals responded agreeing to participate. One of the individuals (not in the original 35) had been forwarded the invitation by a colleague and was interested in participating and so was included. The participants were then asked to test the course and provide their feedback. The survey questions developed for the end-users who tested the pilot can be found in Appendix D.

## 4.8 SURVEY METHODS FOR EXPERT REVIEW AND END-USER PILOT

Survey methods were used to collect information from the expert reviewers and the end-users. Two separate surveys were developed, one for each group. Each survey consisted of both open-ended and closed-ended questions. The responses for the closed-ended questions were measured through the use of a Likert scale, however, there was also a space for comments beneath the question in case participants wanted to clarify their response or provide reasoning for their response. The survey that was designed for the expert reviewers is available in Appendix C and the survey that was designed for the end-users of the pilot is available in Appendix D.

## 4.9 LIMITATIONS/DELIMITATIONS

### LIMITATIONS

Several limitations for the project have been identified. They have been organized by their link to the primary or secondary research question and have been outlined below.

The following limitations were identified when conducting the literature review and attempting to identify effective approaches for moving knowledge into action on health equity for health system policy makers, decision makers, and policy analysts to help them move knowledge into action.

- A small scan was conducted for this proposal in an attempt to identify literature with an explicit focus on the role of health system managers, policy makers and analysts in addressing health equity and the social determinants of health. There was very little mention or outright description of their role in addressing health equity. There was more available on the potential roles of the health care sector;
- Another challenge relates to the language of the KT literature. There are a variety of understandings of some of the key terms. In order to address this, the concepts and their meanings/interpretations are outlined and specific keywords relating to health and health equity are used to limit the scope of the literature used in the report;
- Some of the previous CPHI research on the use of equity in health regions programs that provides some of the background for the course was based on publicly available information and was only updated as of 2011. The content has not been updated recently and may not be a completely accurate reflection of the current environment.
- Due to the snowballing process applied during the literature review component of the project, the search process is not replicable; and
- Another limitation of this report was the small sample size of the end-user survey; and the fact that the participants were self-selected; the findings may not fully capture stakeholder's opinions regarding the online course that was developed.

With regards to identifying which tools were available for health system policy makers, decision makers, and analysts to incorporate health equity into decision making, in 2010, CPHI conducted interviews with 14 stakeholders to gain an understanding of the type of products that they would like to see developed by CPHI. Maintaining positive relations with stakeholders is important for both CPHI and CIHI as a whole. Interviews on a similar subject only a few years after the initial interview, for a smaller project, may be an imposition on some of the stakeholders. The limitation is

that the information from the 2010 interviews may not be the most up to date reflection on the current tools and resources that stakeholders would like to see developed by CPHI.

One of the challenges of this report was how to develop content for the course without explicit, recent guidance from stakeholders. However, as mentioned above the pilot project of the course helped to identify what elements may need to be altered in order to be more useful to this stakeholder group. The pilot project component of this project and the feedback from that process provided detail on the content of the modules that were developed.

#### DELIMITATIONS

This project has been carefully scoped and the parameters for various components of the project have been carefully considered. CIHI has three tiers of stakeholders. This product will be aimed at certain groups within the first two tiers (Canadian Institute for Health Information [CIHI] & HarrisDecima, 2012, p.6):

- “Tier 1: funders, policy makers and health services delivery managers” and
- “ Tier 2: providers, analysts, policy-related researchers and influencers.”

The target stakeholder group for this report and the deliverables are Canadian health system policy makers, policy analysts, and decision makers.

The scanning and research for the report took place in the late winter of 2012 and spring of 2013. The KT and KTA literature was reviewed. Despite the fact that KT is a relatively new field (Mitton et al., 2007, p. 259) there is a diverse range of literature. Therefore, the focus of the literature review for this project was on literature related to: knowledge used by health system decision makers, policy makers, and analysts; how best to translate and communicate knowledge to this group, and what approaches and KT strategies are most effective.

The topic of health equity is extensive; but the material discussed in the first module of the online course is limited. Only the first module of the course discussing the concepts of health equity and how it has been applied in Canadian health regions was developed for this project, thus limiting the amount of material that needed to be reviewed for that particular section. The scope of the material was shaped as the project evolved. The expert review and pilot test took place in fall and early winter 2013. A select group of stakeholders were asked to review the pilot course for a full description of the criteria for selection, please refer to section 4.7 entitled Selection Process- End-Users. The pilot test took place in late winter and early spring of 2014. The pilot was sent to existing CIHI stakeholders who were within the CIHI management system, the CRM, and was limited to the specific stakeholder groups that had been identified in the end-user selection process, thus limiting the size of the scan. The research is qualitative. The primary methods for this analysis were: an environmental scan, literature review, a pilot study, and questionnaires.

## 5.0 LITERATURE REVIEW

The purpose of this chapter is to provide a comprehensive review of the health equity-related knowledge translation literature. The chapter was broken down into four main sections based on the overarching themes identified through the literature search. An overview of the expansion of the application of the concepts of KT and KTA into more complex decision making environments such as public health is outlined in section 5.1 The Evolution of the Field of Knowledge Translation. Initially, the concepts of KT were aimed at evidence-based medicine and clinical decision-making settings. However, these concepts are increasingly being applied to more complex decision-making settings such as public health. Section 5.1 explores how this transition took place and why it is important to tailor KT and KTA concepts for more complex decision making environments. The terms KT and KTA have been outlined in section 1.3 Definitions of Main Terms and section 3.2 Knowledge-to-Action.

The next section 5.2 Effectiveness of Knowledge Translation Strategies to move Knowledge on the Social Determinants of Health and Health Equity to Health System Decision Makers, Policy Makers and, Policy Analysts contains a discussion of the recent KT literature. The literature on the effectiveness of KT strategies to move knowledge on the social determinants of health and health inequalities to health system decision makers, policy makers, and policy analysts is very limited at this point in time. The KT literature relating to how to move health equity knowledge to health system decision makers is starting to emerge, however, it is still very much in its infancy. Despite the lack of literature on health equity and KT, there has been an expansion of the application of the concepts of KT into public health more generally. The literature on KT in public health settings is also limited, however, it provides useful insights on the application of KT in complex decision-making environments. This section outlines what has been identified as effective or ineffective for moving knowledge into action in complex decision making settings and some of the barriers and facilitators to KT efforts between decision makers, policy makers, and researchers or information developers.

The literature surrounding the application of KT concepts and health equity is just starting to emerge. Section 5.3 Available Literature on Knowledge Translation and Health Equity includes a discussion of some of the promising new research in this area. For example, recently there has been an analysis of KTA frameworks and how they compare against health equity criteria. The authors go on to discuss the KTA frameworks that could potentially be applied or adapted to be used for KT and health equity at a public health level. There has also been a recent utilization-focused evaluation and case study of the Manitoba Centre for Health Policy (MCHP) and their *Need to Know Team*. The utilization-focused evaluation does not have a specific health equity focus but provides useful insight into an integrated-KT strategy aimed at health region level decision makers and policy makers. The findings from the evaluation highlight some of the barriers or limitations to KT and also which elements were important for the decision makers and policy makers. The case study of the MCHP's *Need to Know Team* is not a formal evaluation. However, it includes a discussion of the barriers to the use of KT (from previous evaluations) and links those findings with a discussion on how researchers might better communicate health-equity related statistical information to decision makers and policy makers. The lack of literature on KT and KTA for health equity presents a challenge to those looking to move the health equity and social determinants of health forward. However other barriers to the health equity and the social determinants of health agenda exist and

include ideological barriers, institutional barriers, interest-related barriers and informational barriers. A discussion of these barriers is outlined in section 5.4 Barriers to the Implementation of the Social Determinants of Health and Health Equity Agenda.

## 5.1 THE EVOLUTION OF THE FIELD OF KNOWLEDGE TRANSLATION

The increased demand for evidence-based decision making combined with the slow movement of research knowledge into practice led to an increased interest in understanding how to effectively move knowledge into action (Graham et al., 2006, p.14). Calls for more evidence into practice began at the physician level with evidence-based medicine (Oxman AD, Fretheim A, Schuneman HJ, 1993; and Evidence-Based Medicine Working Group, 1992; as cited in Oxman, A.D., Lavis, J.N., Lewin, S, &Fretheim, A., 2009, p. 5). Initially, the KT literature focused on evidence-based medicine, the movement of scientific research knowledge into clinical and medical practice (Murphy et al., 2012, p.876). However, the challenges of applying evidence into health system decision-making and practice is a common issue and not unique to one group of practitioners, health system decision or policy makers (Straus, Tetroe & Graham, 2009, p.165). Calls for the use of evidence in health system decision-making has expanded beyond simply clinicians and medical practitioners to include health system policy makers, health system managers and public health practitioners (Oxman et al., 2009, p. 5; Armstrong et al., 2011, p.2).

Although the terms evidence-based and evidence-informed decision making are synonymous, the use of the term evidence-informed decision making or policy making has been used to highlight that research evidence is a component, and not the sole factor considered during the development of health system policy and program decisions (Chalmers, 2005 as cited in Oxman et al., 2009, p.5; Clarence, 2004 as cited in Oxman et al., 2009, p.5; Hayward S, Ciliska D, DiCenso A, Thomas H, Underwood EJ et al., 1996 as cited in Bowen & Zwi, 2005, p.3; Nutbeam, 1996 as cited in Bowen & Zwi, 2005, p.3; Scakett DL, Rosenberg WM, Gray JA, Haynes RB; 1996 as cited in Bowen & Zwi, 2005, p.3). In recent years, the application of KT concepts has started to expand to complex health system decision-making environments such as public health (Armstrong et al., 2011, p.2).

It has been suggested that the growth of interest in public health related KT has been a result of "...an ever-increasing research evidence base, demands on managers and policy makers to use this research evidence, and the challenges associated with using this evidence to inform decisions" (Armstrong et al., 2011, p.2). The decision making environment of health system policy makers and decision makers differs from that of clinicians, it is not linear and contains numerous competing types of evidence (Bowen & Zwi, 2005, p. 601 ; Lavis et al., 2002 as cited in Lavis et al. 2003, p. 224-225; Lomas, 2000, p.142). Studies on the perspectives of public health decision and policy makers confirmed that the types of evidence required for health system decision and policy making are not limited to scientific research evidence but can also include: analysis of cost-effectiveness, evaluations of interventions, program evaluations, and best practices (Dobbins et al., 2007, p.158; Petticrew et al., 2004, p. 813). Types of evidence that influence health system decision and policy making include: individual or organizational values, interests, public opinion, government or international reports, historical evidence, research studies, policy experiences from other relevant jurisdictions, as well as political and economic considerations such as cost-benefit analysis (Bowen et al., 2009, p.90; Bowen & Zwi, 2005, p. 601; Dobbins et al, 2007, p. 158; Lomas, 2000, p.142; Whitehead et al., 2004, pp.818-819). The movement of knowledge on health equity to the

appropriate stakeholders is especially important since evidence-informed decision making has also been highlighted as an essential mechanism for addressing health inequities that arise as a consequence of the social determinants of health (MEKN, 2007, p16). Therefore, it will be important for those seeking to move knowledge on health equity to be aware of how to effectively communicate knowledge to these stakeholders.

One of the overall goals of decision-maker-focused KT is to change the knowledge levels and ultimately the research-use related behaviour of the targeted stakeholder group (Armstrong et al., 2013, p.2). Different stakeholders require KT strategies that are targeted to their specific information needs and that take their decision-making context into consideration (Lavis et al., 2003, p.224). Numerous KT interventions designed to help decision makers use research have been applied in clinical and health service settings, and there is "...[a] substantial evidence base on the effectiveness of knowledge translation strategies targeting healthcare professionals and consumers..." (Grimshaw et al., 2012, p.13). However, the clinical decision making context is vastly different from that of health system decision makers and policy makers, in that it is more linear, making it easier to identify if the KT influenced the actions being taken by clinicians (Armstrong et al., 2013, p.4). A seminal systematic review of the KT and knowledge exchange (KE) literature by Mitton et al. (2007) found that these traditional concepts of KT, those applied in clinical practice settings "... [do] not fit with the underlying politics of health policymaking" meaning it does not account for the complex nature of the health system policy making processes and suggested that KT needed to be adapted and evaluated differently (Mitton et al., 2007, p. 757). Therefore, KT strategies being used in an attempt to transfer information or evidence regarding the social determinants of health or health equity to health system decision makers need to consider the intricacies of complex decision-making environments and the barriers to the health equity agenda.

## 5.2 EFFECTIVENESS OF KNOWLEDGE TRANSLATION STRATEGIES TO MOVE KNOWLEDGE ON THE SOCIAL DETERMINANTS OF HEALTH AND HEALTH EQUITY TO HEALTH SYSTEM DECISION MAKERS, POLICY MAKERS, AND POLICY ANALYSTS

The KT literature relating to the effectiveness of strategies to translate knowledge into action on health equity is very limited at this point in time. However, the literature revealed that concepts of KT are increasingly being adapted to fit complex health system decision-making environments, such as public health, health policy and to encourage evidence-informed decision-making (Armstrong et al., 2011, p.2). Despite the expansion of KT concepts and theory into areas such as public health, there is little primary research evidence aimed at evaluating the effectiveness of KT strategies within these contexts (Armstrong et al., 2011, p.2; Larocca et al., 2012, p.13; Dagenais et al., 2013, p.6). In fact, the evidence base for the effectiveness of KT strategies for health system decision makers and policy makers, no matter what the knowledge being transferred, is limited (Grimshaw et al., 2012, p.13). For the definition of types of KT and specific KT strategies please refer to section 1.3 Definitions of Main Terms. The lack of investment in the evaluation of KTA frameworks, KT strategies and KT interventions has resulted in a gap in the literature regarding the effectiveness of KT strategies and interventions for health system policy and decision making (Lavis, 2006, p.43; Mitton et al., 2007, p.759; Armstrong et al., 2006, p.386) this includes the field of public health (Armstrong, 2011, p.2). It has been well established within the literature that evaluations of KT strategies and KT interventions for health system decision and policy makers are needed (Grimshaw et al., 2012, p.14), as well as identifying what works or does not work in different health system

decision and policy making contexts (Lavis, 2006, p.43; Mitton et al., 2007, p.759). It has also been identified that more evaluations of KT strategies in public health are needed (LaRocca et al., 2012, p.13). The importance of the topic of how to effectively move evidence into practice in public health is highlighted by the fact that a Cochrane Collaboration systematic review is currently being conducted on this topic, in order to establish what is known about the effectiveness of KT strategies that move research evidence into practice for public health managers and policy makers (Armstrong et al., 2011, p.2).

Despite the limited amount of literature on KT and the effectiveness of KT strategies in public health settings, the findings from this literature may help guide future work on KT strategies to move knowledge on health equity to health system decision and policy makers since health equity and social determinants of health-related decision making also happens in a complex decision-making environment. However, caution must be exercised when interpreting the transferability of the findings related to those KT strategies to other areas due to the limited availability of empirical evidence and the influence of context on the effectiveness of a KT strategy (LaRocca et al., 2012, p.13). The influence of context on the effectiveness of a KT strategy will be discussed in a subsequent paragraph of this section.

A systematic review assessing the effectiveness of KT strategies in the public health sector was recently conducted (Larocca et al., 2012). The targeted stakeholder group for the systematic review was public health practitioners, this included administrators, decision makers, and policy makers (with a focus on preventative care) (LaRocca et al., 2012, p.3). Despite identifying numerous studies through the literature review, only five fit the inclusion criteria defined by the researchers. Each of the five primary studies was designed to improve the capacity of stakeholders to use research evidence in decision-making within a public health setting, in other words strategies that aimed to change decision making behaviour (LaRocca et al., 2012, p.3, p.5). These strategies were all end-of grant KT, meaning they took place after the research had already been developed as opposed to integrated KT (having the end-users involved throughout the research process). For the full definition of end-of grant KT and integrated KT please refer to section 1.3 Definitions of Main Terms. Each study contained different KT strategies and activities.

The studies that were assessed in the LaRocca et al. (2012) systematic review each contained a variety of KT strategies and activities. The activities that were applied in the studies included: educational sessions (Barwick et al, 2009; Hanbury et al. 2009 as cited in LaRocca et al., 2012, p.5); workshops (Forsetland et al., 2003 as cited in LaRocca et al., 2012, p.5); "...dissemination channels including print, CD-ROM, and internet..." (Di Noia et al., 2003 as cited in LaRocca et al., 2012, p.5) "technical support and staff training from consultants with varying levels of interaction and supervision..." (Dobbins et al., 2009, and Forsetland et al., 2003 as cited in LaRocca et al., 2012, p.5); and access to web-based services "...such as databases, information services and discussion list and registries of pre-processed research evidence or online tailored and targeted messaging" (Dobbins et al., 2009, as cited in LaRocca et al., 2012, p.5). The five primary studies differed markedly with regards to: their data collection methods (LaRocca et al., 2012, p.5) as well as "the characteristics of the users, providers, the [KT] intervention and the organization where the intervention may have been implemented" (LaRocca et al., 2012, p.13). The studies assessed within the systematic review were limited to those between the years 2000 to 2010, this was done to ensure that the studies

took place in a contemporary public health decision making context and because KT only began being applied to public health settings around that time (LaRocca et al., 2012, p.2).

The major findings from the LaRocca et al. (2012) systematic review related to KT design. Based on their findings the authors found that stand alone, passive KT strategies were an ineffective method of attempting to alter end-user behaviours (LaRocca, 2012, p.11). This is consistent with findings from other authors who have found that passive strategies are ineffective for most end-users (Lavis et al., 2003, p.226). The systematic review also revealed that the complex strategies with multiple components (or KT activities) that were reviewed in this study were no more effective than simple strategies that included an active component (LaRocca, 2012, p.11). The review also highlighted that KT strategies that are tailored to the needs of end-users and that are accessible or actively delivered to end-users have yielded positive results (LaRocca et al., 2012, p.11). Tailoring KT to the relevant end-users and their environments has been identified as an important step for moving knowledge into action (Graham et al., 2006, p.20; Lavis et al., 2003, p. 225). The systematic review reinforces conclusions that have been well-established in the KT literature there is a need for more evaluation of the effectiveness of interventions in order to determine which strategies are most effective for moving knowledge into action in different decision-making contexts (LaRocca et al. 2012, p.13; Lavis, 2006, p.43; Mitton et al., 2007, pp.756, 759; Armstrong, 2011, p.2).

One of the main conclusions from the LaRocca et al. (2012) systematic review was that the context and characteristics of the end-users and the organizations have a strong impact on whether a strategy was successful and that those looking to apply a seemingly effective strategy must assess contextual factors that may have influenced the success of the strategy where it was studied (LaRocca et al., 2012, p.13). This conclusion aligns with findings from the KT literature that suggests that a 'one-size fits all' KT strategy that is effective within all contexts does not exist (Mitton et al., 2007, p.756; Contandriopoulos et al., 2010, p.468). The LaRocca et al. (2012) systematic review highlighted that a major limitation of the systematic review related to the fact that the limited number of primary studies as well as the variability between the characteristics of the studies made it unclear "...whether the KT strategy itself was effective or whether it was in fact the context in which it was delivered [that made the strategy a success]" (LaRocca et al., 2012, p.13). Others have suggested that attempting to identify "context-independent evidence" of specific KT interventions may not be possible due to the complexities and differences inherent in knowledge exchange and use in different settings (Contandriopoulos et al., 2010, p.468). The evidence from the literature suggests that those designing KT strategies will need to be aware of the context of the stakeholders they are targeting with their strategy and will also need to exercise caution (and evaluate the success of their strategy) when adapting KT strategies from other settings.

The importance of understanding the specific decision-making context as well as the characteristics of decision makers when designing a KT strategy has long been touted as a key step in the process of developing KT strategies (Dobbins et al., 2004, p.127; Lavis et al., 2003, p.225). This is especially true for policy makers due to the complicated nature of the policy making process (Kouri, 2009, p.79) and the multiple factors that must be considered when making a policy decision (Bowen & Zwi, 2005, p. 601). Therefore prior to adapting a KT strategy to another setting, understanding how various factors influenced the success of that particular strategy will be important. Factors include: the organizational culture of end-users and the knowledge needs and capabilities of end-users (Dobbins et al., 2009, p.12; LaRocca et al., 2012, p.13 ). The effectiveness of KT strategies in the

public sector may be contingent on these factors due to the variability of decision making settings and decision-making roles.

The findings from one of the studies assessed in the LaRocca (2012) systematic review, conducted by Dobbins et al. (2009), highlighted the importance of taking the decision making context into consideration when developing a KT strategy and the importance of tailoring KT strategies. The Dobbins et al. (2009) study was a randomized control trial of KT strategies within the Canadian public health context. One of the most important findings from the Dobbins et al. (2009) study was the importance of understanding both the characteristics and research culture of an organization whilst developing a KT strategy since each organization or group of individuals will have different knowledge needs and skills (Dobbins et al., 2009, p.12). In the Dobbins et al. (2009) study, organizations with less of a research culture were found to benefit from having a knowledge broker, an individual independent of the organization who is tasked with helping end-users understand and use research information, whereas those with an established research culture were less likely to use the knowledge broker resource (Dobbins et al., 2009, p.10-12). The authors noted that the knowledge brokers may have helped to build the capacity of organizations with low research culture to use information, which they identified as a potentially important condition of successful evidence-informed decision making (Dobbins et al., 2009, p.12). The findings from the Dobbins et al. (2009) study provides useful insight into the various elements that need to be considered when developing a KT strategy in a complex decision making environment.

More recent KT work has built on the findings from the Dobbins et al. (2009) study. A cluster randomized control trial of KT strategies in public health was implemented in Australia between 2009-2011, but the findings have not yet been published (Waters et al., 2011). It is known as the Knowledge Translation for Local Government (KT4LG) study (Armstrong et al., 2013, p.2). A discussion paper was recently released and it outlined the process behind the development of the intervention design and the intervention plan used in the KT4LG study (Armstrong et al., 2013). The KT strategy design was informed by: a literature review, a systematic review, a state-wide survey and a qualitative study which was meant to highlight the decision-making context and the evidence-informed decision making processes used in local Australian governments (Armstrong et al., 2013, p. 6). The Dobbins et al. (2009) study, which was identified in the systematic review, helped to inform the KT4LG KT strategy (Armstrong et al., 2013, p. 6). The KT4LG study pursued a multi-component KT strategy as a result of the work done by Dobbins et al. (2009) and a couple of other studies that related to workforce development (Armstrong et al., 2013, p.6).

The KT4LG KT strategy had three main components: “tailored organizational support”, “group training”, and “targeted communication and evidence summaries” (Armstrong et al., 2013, p.7). The KT4LG strategy was once again aimed at improving the capacity of decision makers to use research information “to support EIDM [evidence-informed decision making] in public health” (Armstrong et al., 2013, p. 3). However, it was noted by the authors that instead of focusing solely on individual behaviour change which has been commonplace in much of the KT literature, this study attempted to assess two different intervention outcomes: the change in behaviour of the decision makers, and the changes in organizational culture relating to evidence-informed decision making (Armstrong et al., 2013, pp. 7). This approach was taken because the authors identified (through the KT literature) that barriers to KT go beyond the individual level (Bowen et al., 2009 as cited in Armstrong et al., 2013, pp.2, 7). The Bowen et al. (2009) study focused on the preliminary results from a research

project entitled *From Evidence to Action*, which evolved from another research project entitled the *Need to Know* project from the Manitoba Centre for Health Policy (MCHP) (Bowen et al., 2009, p. 89). A utilization-focused evaluation of the *Need to Know Project* took place (Bowen & Martens, 2005) and will be discussed in detail in section 5.3. Available Literature on Knowledge Translation and Health Equity. The findings from the 2009 Bowen et al. study explored the perspective of regional health authority decision makers and the use of evidence, and identified that while addressing individual level barriers such as individual capacity is important they cannot be addressed in isolation “...they are unlikely to be successful unless barriers identified as more important, and the interacting nature of many barriers are addressed” (Bowen et al., 2009, p. 97). Barriers identified included issues relating to: organizational structure, “crisis management culture”, political influences and lack of time and resources (Bowen et al., 2009, p. 100). Factors such as “power and budget struggles” as well as “political instability” have also been highlighted as barriers to the use of research in decision and policy making (Innavaer et al., 2002, p.241).

Future research of KT strategies should focus on the effectiveness of the intervention but also on understanding the role of how the context and characteristics of the organization impacted the success of the strategy as these characteristics will most likely influence whether to apply a simple or more complex KT strategy (Dobbins et al., 2009, p.12; LaRocca et al., 2012, p. 13). As noted earlier, the lack of evaluations of KT strategies has left a gap in knowledge about the effectiveness of KT in different contexts (Mitton et al., 2007, p. 756;). Even if there is no one specific KT strategy that works in all contexts, understanding how certain characteristics or contexts impacted the success of a KT strategy could help those designing KT strategies to design their strategies accordingly. Dobbins et al. (2009) suggested that “...global evidence-informed decision-making...” may not be the most appropriate outcome measure for assessing evidence-informed decision-making among public health decision makers (Dobbins et al., 2009, p.12). The authors of the Dobbins et al. (2009) study argued that other outcome measures might better reflect evidence-informed decision making “...such as public health policies and programs that are tied to more specific behaviours and/or programs...” (Dobbins et al., 2009, p.12). The authors cautioned that there were also significant challenges to using those outcome measures (Dobbins et al., 2009, p.12). This is an area where more research is needed.

Tailoring KT strategies and understanding the importance of context have been established within the KT literature and is highlighted earlier in this section. However, there are other factors that can act as barriers to the movement of knowledge into action. Some have suggested that building the capacity of policy makers and decision makers to understand and use research information is one of several methods needed to facilitate the process of evidence-informed decision making (Bowen et al., 2009, p.96, p.99; Orton et al., 2011, p.8, p.9). It has been argued that evidence-informed decision making offers the most effective way to move the health equity agenda forward (MEKN, 2007, p. 16). Numerous barriers exist with regards to moving information on the social determinants of health and health equity information into action. These barriers will be discussed at length in section 5.4 Barriers to the Implementation of the Social Determinants of Health and Health Equity Agenda. One of the information related barriers that has been identified is that decision makers and policy makers lack the capacity to understand or use research evidence (Bowen et al., 2009, pp.97-98; Lavis, 2006, p.41; Mitton et al., 2007, p.737; Oliver et al., 2014, p.6). A need to improve “...skills in the critical appraisal of evidence, and to judge how to achieve the best ‘fit’ between available evidence, current political priorities and practical actions to achieve desired

outcomes” has also been identified to help get evidence into policy and practice (Nutbeam, 2004, p.139). A lack of capacity to use research information is not the sole barrier to evidence-informed decision-making (Mitton et al., 2007, p.737; Bowen et al., 2009, p.100). However, it will be important to assess the capacity of decision makers and policy makers to use information relating to the social determinants of health and health equity prior to implementing a KT strategy aimed at moving knowledge on the social determinants of health or health equity into action because the statistical measures used to capture health disparities (inequalities) are not necessarily intuitive for those that are not familiar with how to interpret the measures (Martens, 2012, p.931). It has also been suggested that it will be important for researchers to communicate health equity-related data and research in ways that are more appropriate for decision and policy makers (Martens, 2012, p. 935). The information needs of researchers differ from those of decision makers and policy makers.

Researchers and policy or decision makers also have differing timelines, language and culture and these differences have the potential to stifle the movement of knowledge into action (Choi et al., 2005, p.633; Goldberg & the Canadian Population Health Initiative [CPHI], 2004, p. 1; Innvaer et al., 2002, p.241; Lavis, 2006, p.38-39; Oliver et al., 2014, p.6; Orton et al., 2011, p.8). An oft-cited barrier to KT is that research often does not have actionable messages that policy or decision makers can apply (Mitton et al., 2007, p.737) and lack of “timely” relevant research has been noted as another barrier to the use of research in policy or decision making (Innvaer et al., 2002, p.241; Choi et al., 2005, p. 634; Oliver et al., 2014, p.6). Research timelines can vary and research cannot necessarily be completed in a short window of time. Researchers’ time frames are not necessarily as defined as those of decision makers or policy makers (Choi et al., 2005, p.634). They may also not be comfortable with providing decision makers with recommendations or may not know what to recommend or may not be able to communicate their findings in a way that decision makers or policy makers can comprehend (Choi et al., 2005, p.633). Moving forward, it will be important for those seeking to communicate their research or other forms of knowledge to decision makers and policy makers to understand how they prefer to receive information and what information is relevant to their work.

Both researchers as well as policy and decision makers need to adapt their behaviour in order to facilitate the transfer of information. Decision makers and policy makers are under pressure from multiple stakeholders and are often overloaded with different types of information (Choi et al., 2005, p. 634; Mitton et al., 2007, p.737). Decision and policy makers prefer concise, direct, actionable recommendations about what to do for a specific scenario (Choi et al., 2005, p. 634; Mitton et al., 2007, p.737; Innvaer et al., 2002, p. 241). It will be important for researchers to: be more aware of the policy cycle, present information in a way that translates to decision makers’ needs, and frame issues in a more actionable way (Dobbins et al., 2007, p.161; Martens, 2012, p.935; Orton et al., 2011, p.8; Petticrew et al., 2004, p. 812). Improved availability and access to research findings has also been highlighted as an important facilitator of research use in policy making (Oliver et al., 2014, p.6). The communication issues between researchers and policy and decision makers’ are not only a barrier for KT in general but also presents a potential barrier to the advancement of the health equity agenda (Martens, 2012, p.935). The content of section 5.4 of this report entitled Barriers to the Implementation of the Social Determinants of Health and Health Equity Agenda elaborates on how the communication issues between researchers and policy makers presents a barriers to the adoption of a health equity and social determinants of health agenda.

The two communities often lack trust for one another, which can make the transfer of knowledge a challenge (Choi et al., 2005, p. 633; Mitton et al., 2007, p.738). Building relationships and trust between the two groups (Martens & Roos, 2005, p. 83; Oliver et al., 2014, p.4) as well as the importance of the credibility, clarity, reliability, quality, relevance and customizability of the research have been identified as relevant to encourage research use by decision makers to help move knowledge into action (Dobbins et al., 2004, pp. 123-125; Oliver et al., 2014, p.6, p.9). Personal contact between the two groups has also been established in the literature as an important facilitator of KT (Innvaer et al., 2002, p.241; Martens & Roos, 2005, p. 81; Oliver et al., 2014, p.8). The level of interaction will depend on the type of KT being pursued. Interaction between researchers and decision or policy makers throughout the entire KT process is necessary for integrated KT, however, this is not required for end-of-grant KT (CIHR [a], 2013). Establishing connections and a better understanding of the other community has the potential to facilitate the movement of knowledge into action.

A recent longitudinal study's findings help to demonstrate the need to build strong relationships between the two groups. The Wathen et al. (2011) study's purpose was to evaluate an integrated KT strategy in the public health research area of screening for violence against women (Wathen et al., 2011, p.2). Some of the key findings from this longitudinal study related to the interactions between the researchers and the public health professionals. The public health professionals involved in the study noted that the interaction and engagement between themselves and the researchers was "...crucial to developing both credibility, and, over time, trust in the research team and its products" and that it was very useful for them when research findings were tailored in a way that was useable and designed for their needs (Wathen et al., 2011, p.11). Involving policy makers in the KT process has been argued to be important as their involvement may result in: their increased understanding of the information being developed; more investment in the research; and an increase in the information's usefulness and relevance for the policy makers (Kouri, 2009, p.77; Martens & Roos, 2005, p. 74-77). While the success and failures of the Wathen et al. (2011) study may not be transferable to other settings due to its small scale, this study's findings further emphasize: the importance of encouraging research and policy making communities to better understand one another; and the importance of tailoring information for end-users. Building high quality and sustainable relationships between researchers and policy or decision makers may take time but is essential for successful KT (Martens & Roos, 2005, pp.74-77; Mitton et al., 2007, p.736; Oliver et al., 2014, p.4). While engaging throughout the entire research process is not necessary for end-of-grant KT, establishing good relationships between the two communities will be important no matter which type of KT is being pursued.

The development of a KT strategy to help health system decision and policy makers use and apply information and research will need to be based on the available theoretical and conceptual knowledge surrounding KT and KTA in order to better understand "...the context and understand its impact on knowledge use and the design of exchange interventions" (Contandriopoulos et al., 2010, p.468). There is a need to align KT strategies with the needs of the intended knowledge user as well as the type of information being transferred (Lavis et al., 2003, p.224; Gagnon et al., 2011, p.26). In this instance it will be important to build on what is known surrounding KT for more complex decision-making environments such as public health and in fields relating to health equity. However, there are challenges regarding the availability of KT evidence. There is a lack of primary research evidence on: the effectiveness of KTA frameworks, and KT strategies for health system

decision and policy makers (Mitton et al., 2007, p.756; LaRocca et al., 2012, p.13; Grimshaw et al., 2012, p.13); especially KT strategies for public health, the social determinants of health or health equity. It has been suggested that continuing to conduct research on KT strategies and activities relating to the social determinants of health and health equity-related knowledge and research could be important for reducing health inequalities in Canada (Collin & Hayes, 2007, p.341). The use of KT has the potential to be a useful tool for advancing the health equity agenda in Canada.

### 5.3 AVAILABLE LITERATURE ON KNOWLEDGE TRANSLATION AND HEALTH EQUITY

Despite the expansion of the KT concepts into more complex decision making environments and the extensive amounts of KT literature, no primary research studies on KT for health equity were identified in the literature review; however, research in this area has started to emerge. Some of the more conceptual work has taken existing KTA frameworks from areas both within and outside the field of health and compared them against health equity criteria in an effort to identify where the frameworks are limited with regards to concepts of health equity and how they might better incorporate these concepts to facilitate KTA in a public health (practitioner level) setting. There were no evaluated KT strategies relating specifically to the concepts of KT and health equity for health system decision makers, policy makers, and policy analysts. However, an evaluation and case study of the MCHP's *Need to Know Team* and their integrated KT strategy aimed at decision makers and policy makers, provides valuable lessons about the barriers and facilitators of pursuing KT for health system decision makers and policy makers. The available research yields important insights into the next steps and potential areas for future research for the field of KT for health equity at different decision making levels.

A recently released National Collaborating Centre for the Determinants of Health (NCCDH) report assessed existing KTA frameworks and models from various sectors against six health-equity-related criteria as a means of assessing their relevance and usefulness for “promoting or supporting health equity in Canada” (Davison et al., 2013, p.3). The NCCDH’s main audience is public health researchers and practitioners. This report was developed to assess which KTA frameworks would be best to support public health action on health equity and the social determinants of health (Davison et al., 2013, p.1), with the goal of the movement of knowledge on the social determinants of health, health equity and interventions that aim to address health inequities at a grassroots level (Davison et al., 2013, p.ii). The KTA frameworks were compared against six criteria from Davison et al. (2013, p.4):

- 1) “a specific focus, mention or consideration of equity, equality, justice, disadvantage or vulnerable groups”;
- 2) “an inclusive conceptualization of knowledge that ensures that different types of knowledge and/or ways of knowing might be considered in the evidence-base”;
- 3) “community members are represented and/or community participation is an explicit part of the model or framework”;
- 4) “interactions are supported across disciplines or sectors” otherwise known as intersectoral action; and
- 5) “there is specific referral to the social, physical, political, and/or economic context of knowledge generation and use”; and/or
- 6) “there is an applied, proactive or problem-solving focus.”

Each framework was given a total score from zero to twelve based on how well it met the criteria. The scale for scoring was: zero points if it did not contain the criteria; one point if the criteria was partially mentioned or included; and two points if it had the characteristic (Davison et al., 2013, p.4). The scoring system used within the report provided valuable insight into the strengths and limitations of current KT and KTA models with regards to the complex subject of health equity. None of the frameworks earned a full score; the top six frameworks scored from eight to ten points each. The strengths of the frameworks related to the fact that each of the top six frameworks supported an inclusive conception of knowledge and made reference to context (Davison et al., 2013, p.6-8). The majority of the frameworks encouraged stakeholder engagement and had a problem solving focus and four out of six of the models had an explicit equity focus (Davison et al., 2013, p.6-8). The major limitation of the frameworks related to the criteria of encouraging intersectoral action as only one of the six models scored full points on this point though it was mentioned in three others (Davison et al., 2013, p.6-8). Health inequalities stem from multiple interacting structural and intermediary determinants, meaning that health inequalities are shaped by factors that lay both outside and within the health care system (Solar et al., 2010, p.5-6). Therefore, intersectoral action is an important component to consider when designing KT strategies for health equity since actors from multiple sectors and levels of government will need to be engaged and interacting with one another in order to allow the social determinants of health to be addressed (FPT CPH, 1999, p.5).

Therefore, one of the main takeaway messages from the report was that existing KTA frameworks or future KTA frameworks developed or adapted for health equity need to incorporate concepts of intersectoral action (National Collaborating Centre for Determinants of Health, 2013, slide 38). The report concluded that although the top six frameworks could be used to pursue health equity-related KT at a public health level they could be modified and would be strengthened through the incorporation of the health equity criteria on which they were lacking (Davison et al., 2013, p.13). Since none of the top six KTA frameworks contained all of the necessary health equity criteria this report could be used as a catalyst for either the adaptation of existing KTA frameworks to be more appropriate for health equity-related KT, or the development of a new health equity KTA framework (Davison et al., 2013, p.13). The Davison report will be a useful reference document for those looking to develop new research in the field of health equity-related KT.

Although this report achieves its purpose of critically evaluating KTA frameworks against health equity criteria and it identifies those most useful for health equity-related KT, one of the limitations of the report was that “the assessment relied on the model descriptions which were only briefly included in the literature ... and does not always take into account how effectively a model can be applied in practice”(Davison et al., 2013, p.12). It was not always clear whether some of the models had ever been applied in practice or if they could be applied in practice (Davison et al., 2013, p.12). The target audience of this report was public health professionals and so the lack of discussion of the applicability of the models would be a barrier to the use of this report.

Despite the emergence of some literature on KTA and health equity, no evaluated health equity-specific KT strategies were identified through the literature review. However, an evaluation by Bowen & Martens (2005) and a case study by Martens (2012) discussed the lessons learned from the *Need to Know Team*, a subset of the MCHP. The *Need to Know Team* is a group of researchers, graduate students, decision makers, and planners from all of the Manitoba health regions who work

together to create information that can be used by the health regions (Martens, 2012, p.927). Both formative and utilization-focused evaluations of the *Need to Know Team* have taken place (Bowen & Martens, 2005, p.204). The utilization-focused evaluation by Bowen & Martens (2005) is useful because, despite not having a specific focus on KT and health equity-related information, it presents a real example of integrated KT with decision makers at the regional health level in Canada. The Martens (2012) case study complements the findings from the evaluation and speaks to some of the findings from the evaluations of the *Need to Know Team* and how they relate to the challenges of communicating health equity-related information or statistics. The evaluation of the *Need to Know Team* Bowen & Martens (2005) and the Martens (2012) discussion paper of the lessons learned through the KT processes of the *Need to Know Team*, are valuable since they help to highlight the contextual factors that may be necessary in order to have continued successful engagement between health service researchers and policy or decision makers at the regional level in Canada.

Findings from the Bowen & Martens (2005) paper echo some of the main findings from the KT literature, mainly the importance of building a good relationship with stakeholders especially when pursuing KT (Bowen & Martens, 2005, p.205; Martens & Roos, 2005, p.74-77; Mitton et al., 2007, p.736; Oliver et al., 2014, p.4). The evaluation of the *Need to Know Team* also emphasized the importance of “...the need for multidirectional information exchange and an ongoing forum for sharing, and the creation of research relevant to users” (Bowen & Martens 2005, p.205). One of the most relevant findings from the utilization-focused evaluation, which focused on the MCHP’s community partners and their use of the research results, was the community partners’ thoughts on capacity building. Through the evaluation findings it was revealed that the community partners felt that researchers should support community partners and help build their capacity to use research (Bowen & Martens, 2005, p.208). More importantly the community partners made note of “...the importance of addressing organizational barriers to the use of research in planning and decision-making, and facilitating capacity-building within research organizations” (Bowen & Martens, 2005, p.209). These findings were echoed a few years later in the Bowen et al. (2009) study of the *From Evidence to Action* project, a project that explored the perspectives of “Regional Health Authority (RHA) planners and decision-makers...” relating to evidence, evidence use and evidence-informed decision making (Bowen and Erikson, 2007 as cited in Bowen et al., (2009), p.89). The Bowen et al. (2009) was discussed in an earlier section of this chapter.

The Martens (2012) case study helped to highlight that relationship building between researchers and decision-makers is extremely important but takes time (Martens, 2012, p.928). Martens (2012) also noted that in order to sustain a collaborative research environment there needs to be: “...in-person ongoing contact, as well as a shared vocabulary and understandings of the research and its application” (Martens, 2012, p.928). A more detailed discussion of the importance of relationship building for KT can be found in section 5.2 Effectiveness of Knowledge Translation Strategies to Move Knowledge on the Social Determinants of Health and Health Equity to Health System Decision Makers, Policy Makers, and Policy Analysts.

The contents of the Martens (2012) paper explored the topic of how to communicate health-equity-related data to decision and policy makers. It examines common information barriers that decision makers and policy makers experience when trying to interpret health-equity-related data and statistics. This study provides insights into how to present health-equity-related data to health

system decision and policy makers so that they might better understand how to interpret or use the research (Martens, 2012, p.930-931). This will be discussed at length in the following section 5.4. entitled Barriers to the Implementation of the Social Determinants of Health and Health Equity Agenda. The evaluation (Bowen & Martens, 2005) and the case study (Martens, 2012) of the MCHP's *Need to Know Team* provide insights into how to potentially manage interactions between the decision-making and research or information-producing communities. The evaluation does not have a health equity focus, however, the Martens (2012) case study explores how to more effectively communicate health equity-related data and statistics to decision makers, and policy makers which could help those who may pursue health-equity-related KT in the future (Martens, 2012, p.930-931). More research is needed on how to effectively communicate health equity-related information to health system decision makers, policy makers, and policy analysts.

The potential for future research in the field of KT for health equity is vast. The concepts of KT are increasingly being incorporated or adapted for complex decision-making environment such as public health. For information on this topic please refer to section 5.2 Effectiveness of Knowledge Translation Strategies to move Knowledge on the Social Determinants of Health and Health Equity to Health System Decision Makers, Policy Makers, and Policy Analysts. The findings from the primary studies of KT for public health alongside the evaluation (Bowen and Martens, 2005) and case study (Martens, 2012) of the MCHP's *Need to Know Team*, as well as the NCCDH (Davidson et al., 2013) assessment of KTA frameworks on health equity criteria, provides a solid foundation for the field of health equity-related KT. As expressed in the KT literature more research is needed on how to effectively move knowledge into action to health system decision makers and planners in different decision-making contexts (Lavis, 2006, p.43; Mitton et al., 2007, p.759). This is especially true in complex fields that focus on the concepts of the social determinants of health and health equity.

#### 5.4 BARRIERS TO THE IMPLEMENTATION OF THE SOCIAL DETERMINANTS OF HEALTH AND HEALTH EQUITY AGENDA

The limited availability of evaluated KT strategies for health system decision and policy makers and the lack of KTA frameworks that are appropriate for the movement of knowledge on the social determinants of health and health equity into action present a barrier for those wishing to move the health equity agenda forward at a public health and regional health level. However, well-entrenched institutional, ideological, interest-related and informational barriers also stifle the advancement of the population health, social determinants of health and a health equity agenda in Canada (Collins & Hayes, 2007, p.339-341). Those wishing to move knowledge on health equity into action are therefore confronted by challenges related to KT and barriers related to the pursuit of a health equity agenda. A couple of the informational related barriers were the most actionable for CPHI to address. The institutional, ideological and interest related barriers are out of scope for CPHI to address as since they will not change quickly, or without a larger call to action. Consequently the institutional, ideological and interest related barriers will not be discussed in this report.

Information-related barriers have stunted the advancement of the social determinants of health and health equity agenda, alongside the institutional, interest-related and ideological barriers. Support for evidence-informed policy making is now prevalent within the fields that focus on the social determinants of health (such as health promotion, population health and public health) and it

has been argued that the use of evidence will likely be the most effective way of addressing inequities in health (MEKN, 2007, p.16). Therefore, it will be important to address the informational-related barriers in order to facilitate evidence-informed decision-making relating to the social determinants of health and health equity. The informational-related barriers to the social determinants of health and health equity agenda and can be categorized as follows:

- Complexity of health promotion, population health and social determinants of health evidence (Collin & Hayes, 2007, p.339);
- Policy makers' and decision makers' research capacity (Bowen & Martens, 2005, p. 208; Bowen et al. 2009, p.97; Orton et al., 2011, p.8, p.9);
- Researchers' presentation of research information and data (Martens, 2012, p. 930-931; Dobbins et al., 2007, p.161); and
- Lack of evidence or evaluations relating to health equity or social determinants of health-related interventions and strategies (MEKN, 2007, p.38; Bambra, Gibson, Sowden, Wright, Whitehead, Petticrew, 2009, p.289).

Evidence and information relating to the existence of the social determinants of health and health inequalities (or health inequities) are well established both within Canada (Butler-Jones, 2008; McIntosh et al., 2009; CIHI [b]. 2008) and internationally (WHO CSDH, 2008; MEKN, 2007, p.38). The research evidence relating to population health, health promotion and the social determinants of health is multifaceted and this complexity can be considered a barrier to action on the social determinants of health and health inequities (Collin & Hayes, 2007, p.339). Decision makers and policy makers better understand information, research or evidence in the form of "ideas" or stories (Lavis et al., 2003, p. 223-224; Petticrew et al., 2004, p.812). Research that lacks a coherent message or a clear policy direction can make it difficult for decision or policy makers to incorporate the findings into a policy or decision making setting since they often do not have the time or capability to decipher the value of the research (Dobbins et al., 2007, p.161; Choi et al., 2005, p.634). A barrier to KT and the use of research information relating to the social determinants of health or health equity is that decision or policy makers lack the capacity to understand some research evidence (Bowen, 2009, pp.97-98; Whitehead et al., 2004, p.819; Mitton et al., 2007, p.737). This is an important barrier to highlight with regards to health inequalities data since misreading these statistics could result in decisions that exacerbate the differences between population groups or result in a decision maker thinking that health inequalities are being reduced when they are actually increasing or staying the same (Martens, 2012, p.931). This issue highlights the importance of translating or presenting information on health inequalities to decision makers or policy makers in ways they can understand.

Health equity and the social determinants of health are complex concepts and numerous indicators and statistical measures are used to show inequalities in health including but not limited to deprivation indices, the GINI coefficient, Lorenz curve, absolute rates, relative rates and concentration indices. For example, common measures of health inequalities are relative and actual rates. Whereas both measures tell a different story, a policy maker inexperienced with interpreting these measures or presented with only one or the other may make a policy or program decision based on a misinterpretation (Martens, 2012, p.931). Despite the lack of evaluated KT strategies relating to health equity or the social determinants of health, a recent Canadian case study of

integrated KT at the MCHP assessed: “what facilitates uptake [of health equity data and information] by decision makers” (Martens, 2012, p.928); what kinds of evidence might be considered when making social-determinants or health equity-related decisions; and how to present data on health inequities for health system decision and policy makers (Martens et al., 2012, p.929). The Martens (2012) study noted that researchers tend to use relative rates which compare the highest SES groups with the lowest SES groups, however, the take-away message from these statistics may not be immediately obvious to decision or policy makers and may overstate the effects of the health equity trends actually taking place (Martens, 2012, p.930-931). The study concluded that actual rate differences which depict “...low and high SES groups over time” may be useful for displaying health equity data to decision makers since it provides a clearer sense of the improvement or worsening of health inequities within higher and lower SES groups (Martens, 2012, p.930-931). The case study provides valuable insights into how to present health inequities information to decision makers and policy makers who make population health-related decisions.

It will also be important for health services researchers to ensure that the main messages of the research are clear by making sure to highlight key messages so that decision makers and policy makers can easily understand the relevant takeaway messages from the research (Martens & Roos, 2005, p.78). In order to facilitate the movement of knowledge into action those developing the research will need to be more aware of the policy cycle, present information in a way that translates to decision makers’ needs, and frame issues in a clear and actionable way (Dobbins et al., 2007, p.161; Martens, 2012, p.935; Orton et al., 2011, p.9; Petticrew et al., 2004, p. 812). While those developing the research will need to alter their practices to reduce information-related barriers, those receiving the information can also be the cause of information-related barriers.

As noted in the two previous paragraphs of this section, it will be important for those communicating information on the social determinants of health and health equity to ensure that it is presented in a way that is understood by stakeholders. However, the research capacity of stakeholders is also a potential informational barrier. Research capacity has been identified as a barrier, albeit one of the less prominent barriers, of moving knowledge into action (Bowen et al., 2009, p. 100). However, while lack of research capacity may not be the primary barrier for moving knowledge into action for health services decision makers in general (Bowen et al., 2009, p. 100), it will be vital to ensure that decision makers understand how to interpret research on health inequalities since misinterpreting the information could have potentially damaging consequences. In order to develop policy to reduce inequities in health, policy and decision makers must understand how to use evidence effectively (WHO CSDH, 2008, p.178). Improving decision or policy makers’ capacity to understand research evidence, alongside addressing other barriers, could facilitate evidence-informed decision-making (Bowen et al., 2009, p.96; Orton et al., 2011, p.8, p.9) and the movement of knowledge on health equity and the social determinants of health into action.

Despite the well-developed evidence base describing the existence of health inequities, there is a lack of research and evidence on how best to address these issues in real word settings (MEKN, 2007, p.38). One specific informational challenge-related to the advancement of the health equity agenda includes the limited availability of: evaluations of health inequalities or social determinants of health-related interventions (MEKN, 2007, p.38; Bambra et al., 2010, p.289). Policy makers and decision makers are responsible for the spending of public resources and are accountable to the public. As a result, policy and decision makers are concerned with an intervention or programs

overall effectiveness and cost-effectiveness (MEKN, 2007, p.40; Petticrew et al., 2004, p.812). Lack of evaluation of policies or interventions is a widespread issue in numerous policy areas but is particularly prevalent in areas relating to the social determinants of health and health inequalities.

## 5.5 SUMMARY

The literature review helped to identify that the literature on health equity-related KT is still in its infancy. For many years KT was centred largely in clinical settings (Murphy et al., 2012, p.876). The field of KT itself has only recently started to be adapted to complex decision-making settings such as public health (Armstrong et al., 2011, p.2). Some work on KT in complex decision-making environments has emerged as is evidenced by the public health KT literature. Despite the fact that this field itself is also an emerging field, the evidence base is growing and the findings have implications for those pursuing health equity-related KT. The work on health equity-related KT that has emerged is very limited. A need exists for more work in this area especially surrounding evaluations of what is effective in different settings for different stakeholders. This sort of research will be important to be able to concretely identify which KT approaches work more effectively for health-equity-related work and for the different stakeholders in the field. The barriers to the pursuit of a health equity agenda also hinder efforts to translate knowledge on health equity into action. While some of these barriers (ideological, institutional, interest-related) will take a much longer time and systematic changes to be altered, the informational barriers are more actionable for CPHI. Starting to address informational issues could improve the movement of knowledge into action on health equity.

## 6.0 ADDRESSING THE IDENTIFIED NEED

This chapter outlines the decision to develop an online course as well as a brief description of the content of the course. Once the current state and the future state had been identified, the next step in the needs assessment process involved identifying an appropriate approach to address the issue. An education course was developed as a first step to address the identified need.

### 6.1 DECISION TO DEVELOP AN ONLINE EDUCATION COURSE

The identified need that was most actionable for CPHI to act upon was building the capacity of their stakeholders to apply and understand health inequalities-related statistics or information. The findings from the environmental scan revealed that there is a gap in instructional resources relating to how to apply health inequalities-related statistics in practice or decision-making. The findings from the 2010 CPHI stakeholder interviews revealed that some CPHI stakeholders were interested in training relating to how to use and apply health inequalities-related statistics and population health concepts in their work. The findings from the literature search revealed that there is limited evidence as to whether or not online learning is an effective KT activity. More research is needed to determine whether online learning methods lead to long-term changes in practice (LaRocca et al., 2012, p.11). The combination of these findings, provided the justification for the development of an online course.

### 6.2 CONTENT DEVELOPMENT FOR THE ONLINE EDUCATION COURSE

The need that was identified that there is a gap in instructional online resources relating to how to apply and understand health inequalities-related statistics for decision and policy makers. The client, CPHI, felt that several modules should be developed. The decision was made to develop two introductory modules for the course. One module would relate to the role of health system decision makers and policy makers in addressing health inequalities and the second module would focus on what action has been taken by different health regions across Canada to address health inequalities and health equity. The client felt that it would be beneficial to have introductory models describing the underlying concepts surrounding health equity and then once those had been completed, a third module could be developed that would have a focus on how to understand and apply health inequalities-related statistics.

Initially content for two modules was developed to be part of the online education course. As noted above, the first module was designed to provide descriptions of basic health inequalities and health equity-related definitions and concepts. The second module delved into what different health regions across Canada have done to address health inequalities and health equity in their respective regions. A number of different approaches for addressing health inequalities and health equity were defined and are as follows: local research and analysis, integrating a social determinants of health approach in planning partnerships, improving access to and appropriateness of health services, and community development and participation.

An expert review of the content was conducted in order to assess whether the content for the course was relevant, useful and appropriate for end-users. Experts from the fields of health equity and knowledge translation were selected for the review process. Detailed information relating to the recruitment of the expert reviewers can be found in section 4.6 Selection Process – Expert Reviewers in chapter 4.0 Methodology and Methods. An open and closed-ended survey was used to gather their feedback, a few of the reviewers also provided more detailed comments within the documents

containing the course content. The survey that was used to collect the information from the expert reviewers can be found in Appendix C – Survey for Expert Reviewers and the recruitment emails for the expert reviewers can be found in Appendix E – Correspondence to Expert Reviewers.

The majority of the expert reviewers felt that the content of the first module was too theoretical and that the content for the second module was more engaging and interactive. The specific findings from the expert review are outlined in detail in section 7.2 – Summary of Findings from the Expert Reviewers. The decision was made to turn the content that had been developed for the first module into a primer resource. The content for module two became the first part of the online education course. The client noted that they plan on developing a second part of the course that has a more specific focus on how to better understand and apply health inequalities-related statistics. The researcher worked with the CIHI education department to develop an interactive online learning platform and can be seen in Figure 4. Each Image on the page represents a different approach that has been taken to address health equity in different regions. Users can hover over any of the images and then are taken to case studies that outline how different regions have taken action on health equity.

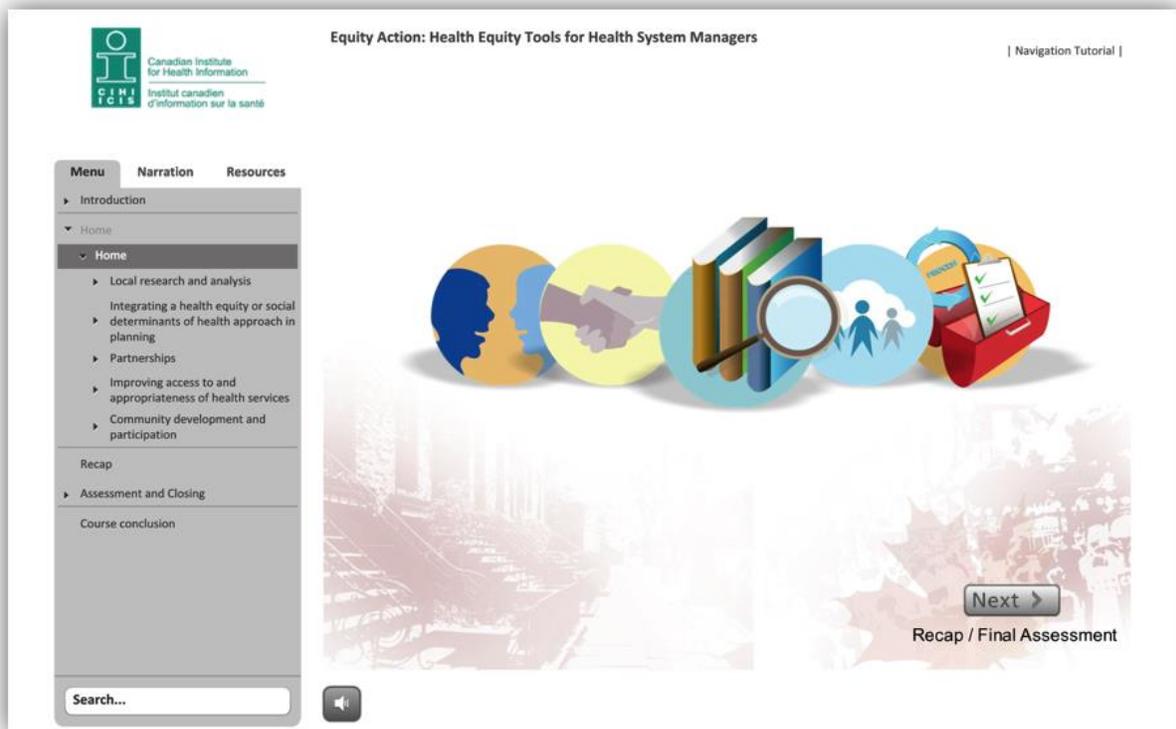


Figure 4. Image from the CPHI Online Education Course entitled *Equity Action: Health Equity Tools for Health System Managers*.

## 7.0 FINDINGS: ENVIRONMENTAL SCAN, EXPERT PANEL, AND SURVEY

This chapter outlines the findings from the environmental scan, the expert review and the end-user pilot.

### 7.1 FINDINGS FROM THE ENVIRONMENTAL SCAN

A scan of online resources relating specifically to health equity for decision and policy makers was conducted for this project. The scan revealed that although there were many resources related to health equity, there were limited instructional resources aimed at the needs of decision and policy makers, for example: how to interpret and apply evidence of health inequalities or health disparities (health equity-related data), promising practices about how to address health equity, or case studies of successful health equity related interventions etc. The 2010 CPHI stakeholder interviews provided insight into what stakeholders would like to see from future CPHI education products. The combination of the findings from: the scan of online resources, the analysis of the findings from the 2010 CPHI stakeholder interviews, and the identification of an informational barrier in the literature analysis (the lack of capacity to use research), justified the development of a resource to help build the capacity of decision makers, policy makers, and policy analysts to use and understand health equity-related information and data. The decision to develop an online course as a component of this project was made so that CPHI can start to build capacity in this field and could gain feedback from health equity and KT expert reviewers about future directions and the content of the resource, as well as the resource's effectiveness and usefulness.

While multiple resources were found relating to the social determinants of health, only five readily accessible no-fee courses were identified that related specifically to health equity. A summary of those five courses can be found in Table 1 entitled Health Equity-Related Online Resources for Health System Decision and Policy Makers. Only the five courses identified by this project's scan are included in Table 1. Four of the health equity courses were targeted mainly at public health practitioners, and one was aimed more at health care professionals.

Table 1.

*Health Equity-Related Online Resources for Health System Decision, Policy Makers and Policy Analysts*

Organization	Resource	Target Audience	Description	Link
U.S. Prevention Institute	<b>"Health Equity and Prevention Primer"</b> - Online self-learning courses (no fee)	Public Health Practitioners	"The Health Equity and Prevention Primer (HEPP) was developed to serve as an online learning tool, consisting of an equity-focused curriculum and collection of resources to build the knowledge and capacity of practitioners to incorporate health equity into their work. The Primer is comprised of seven brief, interactive presentations along with selected publications, tools, and other resources focused on health equity"(US Prevention Institute, 2013, para. 1).	<a href="http://www.preventioninstitute.org/tools/focus-area-tools/health-equity-toolkit.html">http://www.preventioninstitute.org/tools/focus-area-tools/health-equity-toolkit.html</a>
National Association of County and City Health Officials	Online learning collaborative and web-based course - <b>"Roots of Health Inequity"</b> (ne fee)	Public health workforce/ public health practitioners(USA)	"Roots of Health Inequity is an online learning collaborative and web-based course designed for the public health workforce. The site offers a starting place for those who want to address systemic differences in health and wellness that are actionable, unfair, and unjust. Based on a social justice framework, the course is an introduction to ground public health practitioners in concepts and strategies for taking action in everyday practice" (National Association of County and City Health Officials [NACCHO], 2013, para.1).	<a href="http://www.rootsofhealthinequity.org/">http://www.rootsofhealthinequity.org/</a>
Centre for Addiction and Mental Health	Online learning - <b>Introductory Health Equity and Diversity</b> (fee required)	Counsellors, intake workers, nurses, physicians, therapists, human resources staff, community workers, agency staff and allied professionals who are related to health care.  Service providers seeking to dialogue with colleagues and enhance their professional health equity and diversity competencies	"This <b>Introductory Health Equity and Diversity</b> course is part of a commitment to systems change in the area of health equity, diversity, access, and clinical cultural competence in the mental health and addictions field. This introductory course aims to enhance the capacity of service providers to provide equitable, inclusive and accountable mental health and addiction services" (Centre for Addiction and Mental Health[a], 2013 )	<a href="http://www.camh.ca/en/education/">http://www.camh.ca/en/education/</a>
Michigan Public Health Training Center Social Epidemiology and Population Health	Online self-learning course (approximately 2 to 3 hours to complete) - <b>Measuring Health Disparities</b> (no fee)	Public Health Practitioners – Please note this is a graduate level course	"This interactive course focuses on some basic issues for public health practice -- how to understand, define and measure health disparity. This course examines the language of health disparity to come to some common understanding of what that term means, explains key measures of health disparity and shows how to calculate them" (Michigan Public Health Training Center Social Epidemiology and Population Health , 2013, para. 1).	<a href="http://sitemaker.umich.edu/mhd/home">http://sitemaker.umich.edu/mhd/home</a>
Centre for Addiction and Mental Health	Online Course - <b>Health Equity Impact Assessment</b>	Practitioners	A course about how to use the health equity impact assessment tool. (Centre for Addiction and Mental Health [b], 2013 )	<a href="http://knowledgex.camh.net/health_equity/">http://knowledgex.camh.net/health_equity/</a>

The NCCDH completed an environmental scan in 2013 of online resources focused on the social determinants of health and/or health equity. The scan by the NCCDH was broader than the scan conducted for this project. While the NCCDH scan found more resources, the NCCDH scan was designed to identify all online learning related to the social determinants of health and health equity. This was broader than the current project's scan in two ways:

- The NCCDH scan was also not limited to a specific stakeholder group, whereas the scan for this project was limited to online resources, tools and education courses designed for health system policy makers, decision makers and, policy analysts, and
- This project's scan was limited to resources focused on health equity and how to apply those concepts to decision making.

The findings from the NCCDH scan were used to confirm the findings from the scan for this current report. The comparison of the two scans confirmed that there are numerous resources available about the social determinants of health and health equity, however, there are a limited number of instructional resources for health system policy makers, decision makers, and policy analysts on how to interpret and apply health equity-related evidence or information. Other non-course resources relating to interpreting health equity-related data included webinars and reports. For example a webinar entitled *Measuring Social Inequalities in Health* covered topics such as inequality measures and the challenges surrounding selection of appropriate measures (Hajizadeh, 2013). A report was identified from Public Health Ontario entitled *Summary Measures of Socioeconomic Inequalities in Health* (2013) which had a focus on measuring inequalities in health by socioeconomic status (Public Health Ontario, 2013). However, both of these resources were designed for a technical audience, those familiar with complex statistical measures.

## 7.2 SUMMARY OF FINDINGS FROM THE EXPERT REVIEWERS

All of the expert reviewers felt that the learning objectives were clear. However, a couple of reviewers felt that the objectives for module one were too broad for a single course and suggested that the scope of the objectives be narrowed down. These same reviewers felt that the more limited scope of the objectives in module two were appropriate.

Overall, the reviewers felt that the learning objectives accurately reflected the content. With regards to module one, a couple of the reviewers felt that the module lacked enough information for users to apply the information. They noted that health equity concepts are difficult to apply in practice and that the content of the course made it seem like it was an easy task. These same reviewers also suggested that the role of health regions needed to be elaborated. They also found that the section on approaches for addressing health equity might be too overwhelming, or text-heavy for end-users. The reviewers noted that it might be difficult for end-users to absorb all of the information.

With regards to the language of the course, the reviewers felt that it was easy to understand. One reviewer noted that this was assuming that the individuals accessing the modules have a higher level of education. For module one, two of the reviewers again noted that the language was straightforward but lacked the depth and application to help people truly understand the concepts. These same reviewers felt there was some redundancy in the language of module two and noted

that the language needed more of a “broadcast quality” if it is to be read out loud and that there needed to be more graphics.

All of the reviewers felt the content was interesting and that the content of both modules flowed well. One reviewer, who is an expert on health equity content, provided specific comments within the modules regarding the flow, content and language. A couple of the reviewers felt that the content for module one would be more useful if it had more of a practitioner focus. However, it should be noted that the intended audience for this education product was not designed for practitioners but more a health system decision maker and policy making audience. These reviewers also felt that the first module needed to delve into the tensions around how to help a decision maker or public health unit decide what an ‘inequity’ is or who decides what is ‘unfair.’ They also suggested that the section on roles needed to be more nuanced. These same reviewers commented that the examples in module two were good and that graphics would help bring them to life.

The reviewers had different perspectives on whether the major health equity concepts had been described. The health equity content expert felt that the major concepts had been adequately described. Three of the reviewers were uncertain, one noted that their specialty was KT and so they could not comment on whether the major concepts had been discussed. The two other reviewers once again noted that they felt the concepts were too theoretical and abstract for practitioners and felt that module one needed improvement in this area. However, it should be noted that the intended audience for the course was clearly stated several times and the intended audience was not practitioners.

The reviewers had mixed conceptions about whether the content provided users with enough information to consider health equity within a range of contexts. A couple of reviewers felt that module one lacked context and was too theoretical. Another reviewer noted that in general enough information was provided but the content could be strengthened by the following: “need to customize to target audiences and levels of decision makers and show concretely – case studies, scenarios, exercises – how this could be used by people at different locations and in different organizational and community contexts.” The main conclusion is that the content would be strengthened with more examples. The reviewers provided guidance and comments about where they thought the content could be improved with examples and cases within the modules. A couple of reviewers noted that module one would be stronger if it included more case studies. Three of the reviewers felt that the case studies used in module two were relevant and useful.

All of the reviewers felt that the content would be improved if it were more interactive, participatory and engaging. Case studies, online chats, talks by people working in the field, were all suggestions of how to engage users. One of the reviewers noted that it is important to make end-users more than passive learners “...[need to] build interaction into the module. So, exercises that reinforce learning, you may consider a knowledge test pre-post, or self-efficacy questions pre-post.” The same reviewer that works at an organization that develops online learning modules to help decision and policy makers, noted “What we hear most consistently about the modules is that people like how interactive they are.” In general, the reviewers felt that the literature used was relevant and up-to-date, however, they provided suggestions for additional resources that could be accessed to improve the content or added to the education courses’ resource list.

Overall, the reviewers agreed that the courses added value, especially if the content had not already been developed by another organization for this target audience. Two of the reviewers felt that the second module was stronger than the first, they argued that the first module was too conceptual and that "...I don't think that the values base of equity work is sufficiently addressed here- I think that education work aimed at influencing attitudes and behaviors needs more affective links- what does this mean to me, my family, my community, my clients?" Although this comment is quite insightful, these education modules were not aimed at those working as practitioners but those working at higher levels. The first module was intended to be more conceptual than the second module. Another reviewer mentioned that they were unsure about whether the module one would convince someone to engage in equity-seeking practice.

A couple of the expert reviewers deemed the content for module one was too theoretical, too conceptual, not context-specific enough and did not provide enough affective links. It is important for the users to be engaged and to connect with the material. They noted that the material should be "... customize[d] to target audiences and levels of decision makers and show concretely – case studies, scenarios, exercises – how this could be used by people at different locations and in different organizational and community contexts." Based on the comments from the expert reviewers regarding module one and the fact that it was deemed important to keep that information since it covered a lot of basic concepts (by the researcher [myself] and the client) it was decided that the content of module one would serve better as a primer. Time constraints limited the ability of the researcher to infuse the content of module one with more case studies or exercises. By making the content of module one into a primer individuals can review the primer if they wish or if they are already familiar with the concepts being discussed (health equity) they can simply take the online course, which is now solely content from module two.

The reviewers highlighted the importance of making the content interactive. This aligns with the findings from the KT literature that highlights how passive strategies are often not the most effective at transferring knowledge into action. The content that was given to the reviewers was not in its final format, however these comments were taken into careful consideration while designing the online platform of the course. The content for module two was made more interactive by working with the CIHI education team to develop an engaging platform and also by doing as the reviewers recommended and adding questions throughout the course to test users' knowledge. The platform is non-linear meaning that users do not have to follow a specific pathway; they can pick and choose to review the content that is of interest to them. One of the reviewers noted that the language of module two needed to have more of a "broadcast quality" in order to make the course accessible to a larger number of users. The language of the course was modified to be user-friendly and engaging, while maintaining the integrity of the content. It is also important to note that some reviewers provided comments throughout the content, these smaller changes are too numerous to describe here but they included this such as: adding additional content, clarifying concepts, adding links to relevant health equity-related resources.

The CPHI branch is considering developing a follow-up course relating to measuring inequalities and the common statistical measures used to measure health inequalities. The reviewers were asked if they felt that this type of course would be useful and if they had any suggestions for other potential topics for health equity education content. The consensus among the reviewers was that a third module relating to the topics mentioned above would be useful, but urged CPHI to ensure that this

work was not already being done by another organization. Two of the reviewers noted that they knew of other organizations looking to develop a course with a similar theme and suggested potential areas for collaboration.

One of the reviewers noted that the first two modules could also be improved through collaboration. The reviewer commented that “While I agree that these modules will help decision makers learn about incorporating evidence on health inequities into policy and programs, it does not go far enough in terms of suggesting how, once inequities are identified, how one might use an EIDM [evidence-informed decision making] approach to identify effective strategies to address the inequities. I think a collaboration with ... to take folks through that process would provide a more comprehensive approach.” The CPHI branch does not necessarily need to develop a course on their own, the branch could consider collaborating with other organizations to develop courses to build the capacity of health system decision makers, policy makers, and policy analysts to apply health inequalities-related data and information.

### 7.3 SUMMARY OF FINDINGS FROM THE END-USER PILOT SURVEY

Originally the pilot was sent to seven end-users, however only four of the users completed the review. Therefore the results must be interpreted with caution. The feedback was varied, one individual who had more advanced knowledge of the subjects felt that the course was: too simple, did not allow them to meet the learning objectives, and was not useful for taking action and did not contribute to their job. The individual who felt it was not advanced enough felt that “...it lacks deep explanations of the topics being discussed. It has substantial amount of “nice to know” information but the amount of valuable knowledge that could be gained is a little thin...”. This user also noted that they felt it was practical in some ways but largely irrelevant and unnecessary for them.

Other users felt that they were able to meet the learning objectives of the course based on the material. These users felt that the content was interesting and one participant noted that “ [it was] Good to see reference to my own province’s work in this area. Nice to localize content”. Another participant noted that international examples might also have been useful, especially from jurisdictions like the United Kingdom that have done some work surrounding health inequalities. This highlights the importance of contextualizing information for end-users. These same users also felt that the content provided them with the information they needed to understand various options on how to address health equity at the regional level. One user stated, “The province will be moving to a new health structure soon so regional level resources will be more important”. Some users felt that the content would be useful and relevant in their day-to-day work setting because “Public health protocols have specific sections on health equity...”. One of the participants stated that they already work in the area but the content would be useful for individuals who are new to the topic and area of health equity.

Most of the users felt that the course was well organized, flowed well and was easy to understand and noted that the resources and support material were useful. One user found the navigation strange, indicating that there might be a need for a quick explanation of new learning platforms. The links to resources of other health regions reports was seen as valuable “... should I or my team need to complete comparative studies ourselves”. It was noted by one user that it might have been useful to have links to examples not used in the course and to frameworks for people to use. One

user commented that although they had the opportunity to participate in the learning they found that the "...methods used to evaluate the learning to be ineffective". This finding indicates that there is an opportunity for CPHI to attempt different evaluation methods in their learning resources.

The findings outlined in this paragraph help to illustrate the need to tailor content of products or develop unique products for different users. Most of the participants provided thoughts on what products they would find useful. One participant noted that a product on statistical analysis would be useful, specifically "...Why we need it, how we undertake it and to better understand how statistics can be manipulated to answer ANY question asked." The participant felt that a course on statistical analysis would be beneficial for their work. Other recommended potential topics were on topics relating to policy work, such as "Policy work "made Easy". One user noted that courses relating to policy work would be useful since "Staff need to understand policy work better and feel less threatened...". The participant meant that they would like staff to be confident when working conducting policy-related research or work. The CPHI branch often includes a policy and intervention perspective into their work. In the future it might be feasible to develop a resource that focuses on policy. One user noted that "I think more tools like these where case studies are shared in more depth would be great...". There were potential topic ideas from those who felt the course was not advanced enough. As noted above, advanced learners felt that the course was too basic and not actionable enough. One of the more advanced learners noted that this was a good module for beginners and noted that a more advanced module for individuals already engaged in this work would be useful. With regards to supporting resources it was noted by one of the participants "Templates and 1-2 page resources are more helpful. Staff more apt to read something that is visual and brief". The abovementioned findings can be considered by CPHI when they develop future education products.

## 8.0 DISCUSSION

This chapter contains a discussion of the implications of the findings from this research for CPHI. This chapter presents information on how the findings from the literature review; the expert reviewers and the pilot end-users informed the development of the online course and the final recommendations.

### 8.1 MOVING FORWARD WITH KNOWLEDGE TRANSLATION

Through the literature scan conducted for this project, it was identified that KT literature relating to the effectiveness of strategies to translate knowledge into action on health equity is very limited at this point in time. However, the concepts of KT are increasingly being applied to more complex decision-making environments such as public health. Despite the expansion of KT concepts into areas such as public health, little primary research evidence exists relating to the effectiveness of KT strategies in public health decision-making settings. Though limited, the findings from the public health KT literature may help guide future work on KT strategies to move knowledge of health inequalities into health system decision and policy making since health equity and social determinants of health related decision making also happens in a complex decision-making environment.

While there was not a lot of detail on which specific KT activities would be useful to deliver knowledge of health equity to health system decision makers, policy makers, or policy analysts, there were some findings on how best to structure a KT strategy. The main findings from the public health KT literature were that standalone passive strategies were found to be ineffective (LaRocca et al., 2012, p.11; Dobbins et al., 2009, p.11). Findings from a systematic review indicated that KT strategies did not have to be complex and multi-component to be effective (LaRocca et al., 2012, p.11). The review also highlighted that KT strategies that are tailored to the needs of end-users and that are accessible or actively delivered to end-users have yielded positive results (LaRocca et al., 2012, p.11). These findings were based on limited empirical evidence, therefore, the transferability of findings must be interpreted with caution. A key finding from the literature analysis was that there is no “one size fits all” KT strategy and that it would be difficult to have context independent KT (Mitton et al., 2007, p.756; Contandriopoulos et al., 2010, p.468; LaRocca et al. 2012, p.13). The main takeaway messages from the literature with regards to KT strategies were that each KT strategy would need to be adapted for different stakeholders; and despite that fact that no specific KT activities were identified as effective for moving knowledge into action to health system decision makers and policy makers, due to the limited empirical evidence, KT strategies with active components were identified as more effective than those that are passive.

Therefore, the findings relating to KT strategies should be considered with this contextual information in mind. The CPHI branch engages in end-of-grant KT, wherein they apply their KT strategy after the research has been developed. The most relevant findings for CPHI relate to which KT strategies were found to be most effective for communicating information to stakeholders, as well as the importance of understanding the needs of knowledge users, and tailoring and targeting the knowledge being produced. This is because most of their KT work is focused on designing resources that are useful and actionable for CPHI and CIHI stakeholders.

## 8.2 THE IMPORTANCE OF THE END-USER

Many findings from the literature emphasized the importance of understanding the desired end-users and fostering relationships with the end-users. Improving decision or policy makers' capacity to understand research evidence could facilitate evidence-informed decision-making (Bowen et al., 2009, p.96; Orton et al., 2011, p.8, p.9). The challenges associated with interpreting and applying research information on health disparities (or differences in health, another term for health inequalities) is a barrier to moving the health equity agenda forward (Martens, 2012, pp.930-931). It will be important to ensure that researchers present health equity-related research in ways that decision makers and policy makers can understand (Martens, 2012, pp.930-931). Therefore, prior to implementing a KT strategy aimed at moving knowledge on the social determinants of health or health inequalities into action, it will be important to assess the capacity of decision makers and policy makers to understand and use information relating to these topics. This is especially important for decision and policy-making that is related to the social determinants of health and health equity, as certain informational challenges present barriers to the movement of knowledge into action. Other informational challenges include: the complexity of social determinants of health evidence; policy makers' and decision makers' capacity to use research evidence; researchers presentation of research information and data; and lack of evidence relating to health-equity-related interventions.

Differences between the research community and the decision-making and policy-making communities often create barriers for moving knowledge into action. While it will be necessary for both communities to adapt and work with one another, there are certain steps that those developing research and knowledge can take to better understand how to communicate information to the desired stakeholders. As identified in the literature, KT strategies need to be customized based on: knowledge needs of end-users, end-user preferences for receiving information, end-user context (Lavis, 2006, p.41; Martens & Roos, 2005, p. 81; Oliver et al., 2014, p.10). Building relationships and trust between the decision and policy-making community as well as the credibility of the research have also been identified as important components of the KTA process (Dobbins et al., 2004, pp. 123-125; Martens & Roos, 2005, p. 83; Bowen & Martens, 2005, p.205). It has also been suggested that understanding both the characteristics and research culture of an organization whilst developing a KT strategy is important since each organization or group of individuals will have different knowledge needs and skills (Dobbins et al., 2009, p.12-13). The findings from the literature review confirmed the importance of developing KT strategies and resources that are tailored and relevant for the end-users (LaRocca et al., 2012, p.11; Wathen et al., 2011, p.11). Therefore it is clear that developing a clear understanding of stakeholders is an important step in the KT process.

The literature review yielded information regarding how decision makers and policy makers prefer to receive information. Decision makers and policy makers prefer information that is easy to access, easy to understand and actionable (Choi et al., 2005, p. 634; Mitton et al., 2007, p.737). It has been well established that this group of stakeholders is confronted with a lot of different types of information and so the information delivered to them must be concise and have clear key messages (Choi et al., 2005, p. 634; Mitton et al., 2007, p.737). Those developing resources and research for decision makers and policy makers must be able to present information in a way that translates to their needs, and present information and findings in ways that are clear and actionable (Dobbins et

al., 2007, p.161; Martens, 2012, p.935; Orton et al., 2011, p.9; Petticrew et al., 2004, p. 812). These findings once again highlight that understanding end-users needs could help move knowledge into action more effectively.

The expert reviewers of the online course emphasized the importance of customizing the intended product to target audiences. The expert review yielded important information about how to improve the online course developed for this project as well as how to communicate information to decision makers and policy makers. Some of the content the online modules reviewed was deemed too theoretical and a couple of reviewers noted the importance of using case studies and highlighting how the information could be applied by others in different locations, communities or organizations. The course was originally conceived as two modules, however, following the expert review it was felt that the content for the first module was too theoretical, not engaging enough, and was better suited as a primer for the content of the second module. The content developed for module one, which became the primer for the course, focused on the concepts of the social determinants of health, health equity, the role of the health system and health regions in addressing health equity, different policy approaches to addressing health equity, and policy entry-points that have been identified as effective for addressing health inequalities. The content for module two (which became the online course) focused on the different tools and resources that health regions across Canada are applying to address health equity in Canada. Numerous case studies are discussed throughout the course to help users contextualize and understand how these tools are actually being applied. The online interface of the course was developed to be engaging and questions about the content were inserted throughout the course to further engage users. The intent of the course is to inform health system decision makers, policy makers, and policy analysts about the work being done on health equity, as well as to inform them of the health equity-related tools and resources available for decision makers.

The CPHI branch develops online resources to support their analytical work. The expert reviewers provided insightful comments on how to deliver online content to health system decision and policy makers. The expert reviewers noted the importance of making sure that the content, especially for an online course, was interactive, participatory and engaging. Overall, their comments reinforced findings from the KT literature that no matter what product is being developed it is important to tailor the content of the information that is being translated and to make sure the information is accessible, actionable, and engaging. The literature review helped to reveal that little is known about the effectiveness of rapid online learning resources to move knowledge into action for health system decision makers, policy makers, and policy analysts. The development of an online course and the methods used to capture the opinions of the expert reviewers and the end-users yielded important insights into how to tailor and design these resources to make them more effective at transferring knowledge to the abovementioned stakeholder group. CPHI develops has developed a number of online resources, so it will be important for the branch to continue to evaluate and monitor how and whether these resources are impacting knowledge use.

One of the main findings from the KT literature was the importance of building relationships and involving end-users so that the product or resource being developed is useful to the end-users. The findings from the 2010 CPHI stakeholder interviews were used to help tailor the resource to the needs of end-users. The CPHI branch did see the value want another set of interviews with stakeholders, see chapter 4.0 Methodology and Methods. Therefore, a survey was used to capture

the opinions of some of CPHI's end-users. While the purpose of the survey was to determine the usefulness and relevance of the online course, an added benefit of conducting the pilot of the course was that CPHI was also able to gain feedback from end-users about how CPHI could make their other online resources more useable and applicable to end-users as well as feedback on how users prefer to receive information. Overall, it was felt that the online course was a useful resource that was well organized, flowed well, and was easy to understand. However, it was felt that the course was for individuals less familiar with the field and some participants recommended that there should be resources for individuals already familiar with the material. It was also suggested that the material would have been improved had it contained information that went further than basic explanations. In this case the process of engaging end-users helped the researcher and CPHI to understand what was positive and what could be improved about the course and this could be useful when CPHI develops online resources in the future.

### 8.3 SUMMARY

The importance of tailoring and targeting resources and KT strategies in order for the strategies to be effective was consistently noted throughout the KT literature. Despite the limited evidence of health equity-related KT, several important factors that are essential for KT strategies' success emerged from the public health KT literature: the importance of understanding end-user context; that passive KT strategies are relatively ineffective on their own; and that more actively delivered and accessible strategies seem to be effective. These findings will be important for those pursuing health equity-related KT to consider. Due to limited empirical evidence, these findings must be interpreted with caution. Further research on the effectiveness of KT strategies in complex decision making environments is needed to strengthen the KT evidence base.

Several barriers for the movement of knowledge into action were identified, alongside barriers to the implementation of a health equity agenda. If some of the barriers to pursuing a health equity agenda are not addressed, there will be continued challenges to pursuing health equity-related KT. Four types barriers to the implementation of a health equity agenda were identified: ideological, institutional, interest related and informational. The informational related barriers were the most actionable for the client. The three other barriers will not necessarily change quickly or for many years. The informational-related barriers hinder the movement of knowledge into action for health-equity-related research, due to the fact that if end-users do not understand the concepts or how to apply the evidence, then they may not be able to properly use the knowledge of health equity that is being transferred. Building the capacity of health system decision makers, policy makers, and policy analysts, as well as improving how health equity-related research and information is communicated to these groups, will be important for moving knowledge into action.

CPHI's mandate is not to influence the larger funding and jurisdictional barriers to adopting social determinants of health and health equity agenda. However, CPHI can address informational barriers by developing resources that will to help build the capacity of health system policy makers, decision makers, and policy analysts to understand information and data relating to the social determinants of health and health equity. Therefore the next step in the process is to provide health system policy makers, policy analysts, and decision makers with information that allows them to better understand the tools and data needed to make decisions that incorporate a health equity or social determinants of health focus into their work.

CPHI is in a unique position and could play a role in moving knowledge into action on health equity and the social determinants of health because:

- The CIHI organization and the CPHI branch are seen to be neutral;
- As a branch of CIHI, CPHI has access to numerous databases and resources;
- The CIHI organization and CPHI are well known for their commitment to producing high quality products; and
- The CPHI branch has been in existence for fifteen years and has developed an expansive stakeholder base.

The branch could continue to help build the capacity of health system policy makers, policy analysts, and decision makers by developing multiple resources including reports, analysis and courses that provide neutral, accurate and high quality information on health equity and the social determinants of health.

## 9.0 RECOMMENDATIONS

Based on the findings from this report, several recommendations related to informational KT barriers are presented to CPHI to help bolster their KT activities and achieve their strategic direction of making decision makers and policy makers better able to understand and consider health equity when making program and planning decisions. The recommendations fall into four categories: build capacity of stakeholders; strengthen KT strategies; tailor resources for different stakeholder groups; and strengthen online resources. The recommendations do not all have to be implemented at once. Suggested timelines have been provided for each group of recommendations.

### 9.1 BUILD CAPACITY OF STAKEHOLDERS

Through this research, lack of capacity to use research information was identified as a barrier to moving knowledge into action. Inability to understand or apply health equity-related information or data was also identified as an informational barrier to moving the health equity agenda forward. Therefore, it is recommended that CPHI:

- Build capacity of decision makers and policy makers across Canada so they can better understand and use health equity and social determinants of health-related concepts, information, and data in their work.

Capacity building work has taken and continues to take place at CPHI. However, more capacity building needs to take place, especially surrounding how to understand and apply health equity-related data and information. It will be very important to help CPHI stakeholders of different levels of need to understand the basic concepts and the data, so that they can properly implement the research and information being produced by CPHI. This recommendation should be implemented as soon as possible. It will be important to implement this recommendation as soon as possible in order to improve the ability of stakeholders to understand and use CPHI products and resources. This should not require additional resources, but can be planned for in future CPHI budgets.

### 9.2. KNOWLEDGE TRANSLATION STRATEGIES

Despite the limited empirical evidence relating to KT strategies in complex decision-making environments, several important strategies that can remedy informational barriers and therefore contribute to effective KT strategies, were identified. It is recommended that CPHI consider these strategies when developing future KT strategies:

- Pursue actively delivered KT strategies rather than passive KT strategies;
- Tailor KT strategies for different stakeholders;
- Attempt to develop a better understanding of the decision making context and organizational context of end-users; and
- Continue to evaluate KT activities in order to improve understanding of the effectiveness of KT activities.

There is a lack of empirical evidence on the effectiveness of KT in complex decision-making environments. Therefore, it is also recommended that CPHI:

- Continue to monitor and evaluate the needs of stakeholders in order to keep producing relevant and timely products.

These recommendations should be considered when the next major project is being developed and then be considered in subsequent projects. The CPHI branch has a specific KT and knowledge exchange (KE) arm that is responsible for KT-related activities. A KT approach is already in place that helps the branch develop their KT strategies. These recommendations are simply meant to guide the already well-established KT procedures in place within CPHI. These recommendations could easily be integrated into the existing CPHI KT procedures. The only instance where more resources would potentially be needed would be if CPHI decided to embark on a formal evaluation of one of their KT strategies, however, if planned in advance it could be included in a future budget.

### 9.3 TAILOR RESOURCES FOR DIFFERENT STAKEHOLDER GROUPS

The importance of communicating and presenting research findings in a way that is useful for stakeholders is essential for successful evidence-based decision-making. Through the literature review and the expert review, it was identified that it is important, in order to overcome informational barriers to KT, to produce research that is actionable and can be used by decision and policy makers. Findings from the literature review, the expert review and the end-user pilot revealed the importance of tailoring resources for end-users. It is recommended that CPHI:

- When developing the messaging for products, translate findings to different stakeholder groups in order to increase the reach and accessibility of CPHI products.

This recommendation would ideally be implemented as soon as possible. These recommendations are directed more towards products or resources such as: fact-sheets, online resources, and smaller scale projects. There are obvious potential resource limitations, but where possible, attempts should be made to reach as many CIHI and CPHI stakeholder groups as possible.

The responsibility for this will fall on all of the team leaders (data, policy and KT/KE). They will need to work together to identify the groups for which certain resources should be tailored. The input of senior management will also be valuable for this recommendation.

### 9.4 ONLINE AND OTHER LEARNING RESOURCES

The CPHI branch develops a breadth of online resources. The expert review and the end-user pilot of the online course yielded insight into how to improve online resources, which can overcome various informational barriers to KT. It is recommended that CPHI:

- Develop resources for stakeholders with differing ability levels;
- Ensure that learners who engage with CPHI material are not just passive learners; and
- Ensure that the content of CPHI products is engaging, participatory and interactive.

These recommendations should be considered or implemented when CPHI is planning or in the process of developing their next set of online resources, including online courses or interactive online tools. If CPHI considers pursuing interactive tools or in-depth case studies, more resources may be needed. However, this would largely manifest itself in an increased use of other CIHI departments, such as: education, information technology, web group and publications. The CPHI branch, more specifically the KT/KE team lead, would need to plan the resource allocation with relevant CIHI departments.

The KT/KE team would take a lead role in considering and implementing these recommendations, since they are largely responsible for developing the education and KT activities for the branch. Input from other senior staff will be important for deciding which features to implement.

## 10.0 CONCLUSION

Despite the lack of empirical evidence on KT and health equity, the limited evidence on KT in public health yields some insight into how to develop effective KT strategies in a complex decision-making environment and some of those findings align with what has been established in the KT literature. Some of these findings will be important for CPHI to consider when developing their KT strategies. Although the literature suggests that there may be no context-independent KT, some important findings were identified through this research. This includes:

- The need to tailor strategies to end-users;
- The confirmation that passive KT strategies are ineffective;
- The effectiveness of more accessible and actively delivered KT; and
- The importance of understanding the decision making context of end-users prior to developing a KT strategy.

Neither CIHI generally nor CPHI in particular have a mandate to address the larger ideological, interest-based, or institutional barriers to KT that would address social determinants of health or health inequalities, due to their structure as a private, non-profit, policy-neutral organization. One of CPHI's primary short-term strategic directions is to build the capacity of health system decision and policy makers in order to improve population health and health system outcomes across Canada (CPHI, 2012, p.1). CPHI can most productively work to reduce informational challenges, specifically by improving policy and decision makers' capacity to understand health inequalities data and health-equity-related information and indicators.

The CPHI branch can attempt to improve the capacity of decision and policy makers at the health region level to act on the social determinants of health and health inequalities. This could be achieved by improving stakeholders' understanding of data, concepts, and information relating to the social determinants of health and health inequalities. The CPHI branch could attempt to improve the capacity of their stakeholders to use health-equity-related data and information by presenting key findings in a way that is relevant to the stakeholders; for example, by providing actionable, accessible, and coherent messaging from CPHI produced research. Incorporating information relating to promising practices and examples from other jurisdictions into research and online resources could also be an effective means of communicating information to stakeholders. It will be important for CPHI to provide targeted messaging to different stakeholder groups since the information needs of stakeholder groups differ. This could also include developing resources for stakeholders with differing abilities.

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## APPENDICES

### APPENDIX A – FEEDBACK FROM 2010 CANADIAN POPULATION HEALTH INITIATIVE

#### STAKEHOLDER INTERVIEWS

Stakeholder interviews were conducted by CPHI in 2010, with 14 key stakeholders, so that the branch could improve their understanding of what education resources and product CPHI stakeholders needed or wanted to see developed by CPHI. The interviews had several objectives, one was related to education products and was stated as follows “to identify specific topics and content options for inclusion in new CPHI education products” (Canadian Population Health Initiative [CPHI] [b], 2010, p.1). It is important to note that the interviews had a broad focus, meaning they were focused on all potential education content, not just health equity-related content. Of the 14 interviewees: nine were health system policy makers or decision makers (including consultants, managers, directors and coordinators), two were policy analysts, one was a dietician, one was an epidemiologist and one was a community mental health nurse.

The feedback from the interviewees indicated that stakeholders are looking for tools and products to help them understand population health tools for planning and evaluation, inequities in health and population health definitions and statistics. The feedback was organized into challenges and training needs of stakeholders under three categories: “use of data, literature and indicators,” “planning and selecting interventions,” and lastly “communication and collaboration” (CPHI[b], 2010, pp.3-6). Of interest for this project were the challenges and training needs relating to the first two of the three-abovementioned categories with a more specific focus on how these needs relate to health inequalities. With regards to use of data, literature and indicators, stakeholders identified the following challenges and training needs:

- Training needs relating to “...learning methods to better understand and use disparities data (to understand how to achieve health equity within their particular health area)... and incorporating external promising practices that might work in users respective settings” (CPHI[b], 2010, p.3);
- Some of the stakeholders contribute to policy development and identified a need for knowledge relating to “...identifying promising practices and strategies to contribute to prevention” as well as “identifying and synthesizing current accurate information on the status of a particular health theme or condition” (CPHI[b], 2010, p.3); and
- A need to expand their knowledge surrounding definitions used in population health and statistics (CPHI[b], 2010, p.3).

Stakeholders identified the following challenges and training needs relating to planning and selecting or designing interventions:

- A recognition that, with regards to planning and selecting or designing interventions, they would benefit from “...better ways to combine and interpret data to identify inequalities from local groups” (CPHI[b], 2010, p.3);

- That they had “... a desire to understand how to include disparities or inequities data in organizational planning...” (CPHI[b], 2010, p. 4); and
- An interest in seeing more case studies examples within CPHI products and resources to help them learn from “...complex and realistic scenarios that include the use of population health tools for planning and evaluation” (CPHI[b], 2010, p.4).
- Additional needs and interests that were raised by the stakeholders included a desire “... to learn more about applying and understanding data, and connecting this data to other forms of local information” (CPHI[b], 2010, p. 6).

The stakeholder feedback from these interviews provided insight into what stakeholders would like to see from future CPHI education products. The feedback helped to justify the need for education products that are tailored for health system decision makers, policy makers and policy analysts.

## APPENDIX B – THE CANADIAN POPULATION HEALTH INITIATIVE’S KNOWLEDGE TRANSLATION ACTIVITIES

Table 2

### *The Canadian Population Health Initiative’s Knowledge Translation Activities*

<b>Knowledge Transfer (Products and Tools)</b>	<b>Knowledge Exchange (Collaborative Initiatives)</b>	<b>Knowledge Uptake (Impact Evaluation)</b>
Reports (summary reports, methods papers, bibliographies)	Workshops (inspired by reports and research)	Management of Impact Tracking Database
Analysis in Briefs	Webcasts	Bibliometric research/database
E-newsletter	Networking – external linkages (i.e. conferences and other external events)	Focus groups
Promotional materials	Networking – internal linkages (i.e. collaborations with other CIHI departments)	Knowledge Exchange Outcome Evaluation
Commissioned research	Media relations (work with communications department)	
CPHI external website	Liaise with CIHI interdependencies (other branches)	
Education workshops	Stakeholder development and management of stakeholder	

	database	
E-modules	Expert advisory and peer reviewer relationships	
Presentations	Data quality	
Contributions to scholarly literature		
Policy and Environmental Scans		

APPENDIX C –SURVEY FOR EXPERT REVIEWERS

Are the learning objectives of the education product clearly outlined?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Uncertain	<input type="checkbox"/> Needs Improvement
Comments:				
Do the learning objectives accurately reflect the content of the course?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Uncertain	<input type="checkbox"/> Needs Improvement
Comments:				
Is the language of the content easy to understand?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Uncertain	<input type="checkbox"/> Needs Improvement
Comments:				
Is the content interesting?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Uncertain	<input type="checkbox"/> Needs Improvement

Comments:				
Does the content of the product flow well?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Uncertain	<input type="checkbox"/> Needs Improvement
Comments:				
Have the major health equity concepts been adequately described?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Uncertain	<input type="checkbox"/> Needs Improvement
Comments:				
Does the content provide users with the appropriate information needed to consider health equity concepts within a range of different contexts?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Uncertain	<input type="checkbox"/> Needs Improvement
Comments:				
Has the most relevant and up-to-date literature been included?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Uncertain	<input type="checkbox"/> Needs Improvement
Comments:				
Have relevant case studies been	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Uncertain	<input type="checkbox"/> Needs Improvement

included?				
Comments:				

1. Do you have any additional comments regarding the course content?
2. Do you have any suggestions for how the content could be presented?
3. Does the course add value to already existing health equity related resources? If no, how could the course be improved?
4. The content of these two modules have been designed to be a precursor for a future course on issues relating to measuring disparities and the common statistical measures used to measure disparities. Do you think that this type of course would be useful for decision makers or policy makers? If no, do you have any suggestions for other potential health equity education content?

APPENDIX D –SURVEY FOR END-USER PILOT PARTICIPANTS

*Survey Questions*

What is your main position or role?

- Health manager or administrator
- Researcher  Educator
- Policy analyst  Student/youth
- Health provider/professionals  Social service providers/professionals
- Other (please specify) \_\_\_\_\_

What type of organization do you work for?

- Non-Governmental Organization  Government
- Academic/Research  Professional Association
- Regional Health Authority  Hospital
- Public Health Unit
- Other (please specify) \_\_\_\_\_

What sector do you work in?

- Health  Education  Social Services  Other (please specify) \_\_\_\_\_

How often do you take online learning?

- Often    Rarely    Never

How long did it take you to complete the online education course, *Equity Action: Health Equity Tools for Health System Manager?*

<p>Through the course were you able to meet learning objective 1?</p> <p><i>Objective 1 - Describe different approaches for addressing health inequities at the regional level.</i></p>	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Uncertain	<input type="checkbox"/> Needs Improvement
<p>Comments:</p>				
<p>Through the course material were you able to meet learning objective 2?</p> <p><i>Objective 2- Identify how Canadian health regions are using information, strategies, policies, programs to reduce health inequities in their regions</i></p>	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Uncertain	<input type="checkbox"/> Needs Improvement

<i>or cities.</i>				
Comments:				
Through the course material were you able to meet learning objective 3?  <i>Objective 3- Access tools and resources available to support the use and development of a health equity perspective into the decision making processes.</i>	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Uncertain	<input type="checkbox"/> Needs Improvement
Comments:				
Is the language and flow of the product easy to understand?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Uncertain	<input type="checkbox"/> Needs Improvement
Comments:				
Is the content interesting?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Uncertain	<input type="checkbox"/> Needs Improvement
Comments:				
Is the content engaging?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Uncertain	<input type="checkbox"/> Needs Improvement
Comments:				

Does the content provide you with the information needed to understand various options on how to address health equity at the regional level?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Uncertain	<input type="checkbox"/> Needs Improvement
Comments:				
Will the content help you in your day to day work? If yes, how. If no, why not?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Uncertain	<input type="checkbox"/> Needs Improvement
Comments:				
Did the primer provide enough background information on health equity?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Uncertain	<input type="checkbox"/> Needs Improvement
Comments:				
What future education products should CIHI/CPHI develop that would be useful to your work?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Uncertain	<input type="checkbox"/> Needs Improvement
Comments:				

Did you find the Resource list useful?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Uncertain	<input type="checkbox"/> Needs Improvement
Comments:				

1. What would make this education product more useful for you?
2. Additional Comments:

APPENDIX E – ETHICS CERTIFICATE OF APPROVAL AND REQUEST FOR ANNUAL RENEWAL FROM THE UNIVERSITY OF VICTORIA HUMAN RESEARCH ETHICS BOARD



Human Research Ethics Board  
Application for Research Ethics Approval for  
Human Participant Research

The following application form is an institutional protocol based on the

[Tri-Council Policy Statement on the Ethical Conduct for Research Involving Humans](#)

**Instructions:**

1. Download this application and complete it on your computer. Hand written applications will not be accepted. You will receive a response from the HREB within 4-6 weeks.
2. Use the *Human Research Ethics Board Annotated Guidelines* to complete this application:  
<http://www.uvic.ca/research/conduct/home/regapproval/humanethics/index.php>.  
Note: This form is linked to the guidelines. Access links in blue text by hitting CTRL and clicking on the blue text.
3. Submit one (1) original and two (2) copies of this completed, signed application with all attachments to: Human Research Ethics, Administrative Services Building (ASB), Room B202, University of Victoria, PO Box 1700 STN CSC, Victoria BC V8W 2Y2 Canada
4. Do not staple the original copy (clips O.K.).
5. If you need assistance, contact the Human Research Ethics Assistant at (250) 472-4545 or [ethics@uvic.ca](mailto:ethics@uvic.ca)
6. Please note that applications are screened and will not be entered into the review system if incomplete (e.g., missing required attachments, signatures, documents). You will be notified in this case.
7. Once approved, a Request for Annual Renewal must be completed annually for on-going projects for continuing Research Ethics approval.

**A. [PRINCIPAL INVESTIGATOR](#)**

*If there is more than one Principal Investigator, provide their name(s) and contact information below in Section B, Other Investigator(s) & Research Team.*

Last Name: Boyes

First Name: Christine

Department/Faculty:

**UVic** Email: [cboyes@uvic.ca](mailto:cboyes@uvic.ca)

Phone: 613-694-6522

Fax:

Mailing Address including postal code: 495 Richmond Road Suite 600, Ottawa, Ontario, K2A 4H6

Title/Position: (Must have a UVic appointment or be a registered UVic student)

Faculty

Undergraduate

Ph.D. Student

Staff

Master's Student

Post-Doctoral

Adjunct or Sessional Faculty (Appointment start and end dates): \_\_\_\_\_

Students: Provide your Supervisor's information:

Name: Dr. Kim Speers

Email: [kspeers@uvic.ca](mailto:kspeers@uvic.ca)

Department/Faculty: PADM

Phone: 250-597-4244

Graduate Students: Provide your Graduate Secretary's email address: [youngb@uvic.ca](mailto:youngb@uvic.ca)

## B. PROJECT INFORMATION

Project Title: Identifying Effective Approaches to Translate Knowledge on Health Equity to Health System Decision Makers, Policy Makers and Policy Analysts

Anticipated Start Date: August September, 2013

Anticipated End Date: Early to Mid April 2014

Geographic location(s) of study: Ottawa Ontario

Keywords: 1. Health equity 2. Knowledge translation 3. Health system decision makers, health system analyst and health system policy makers 4. Knowledge to action

## APPENDIX F – CORRESPONDENCE TO EXPERT REVIEWERS

Dear X,

I am a Masters student, from the University of Victoria, working for the Canadian Population Health Initiative (CPHI) at the Canadian Institute for Health Information (CIHI). I am currently working on my Masters project entitled “Identifying effective approaches to translate knowledge on health equity to health system decision makers, policy makers and policy analysts.”

Part of my research will involve developing content for a health equity online learning course. I am looking for KT experts to review the module and fill out a short survey providing their thoughts on how best to improve the delivery of the content. It would only take approximately one hour to complete. The content is set to be complete by late August 2013 and will be sent to participants (along with the survey) around that time.

I was wondering if you would be interested in participating in the review. I would greatly appreciate the help.

If you have any questions or comments please do not hesitate to email or call. Thank you for your time.

Sincerely,  
Christine Boyes

Hello X,

I would like to thank you once again for agreeing to participate as an expert reviewer for my Masters project “Identifying effective approaches to translate knowledge on health equity to health system decision makers, policy makers and policy analysts.”

The draft content for the equity education module was originally set to be ready for review by the end of August 2013. However, the draft content will be complete by mid-September 2013. I apologize for any inconvenience this may cause. Once the draft content is complete it will be emailed to you along with a short survey.

I also wanted to let you know of a resource I stumbled across (which you may have already seen). A group at the University of Victoria, B.C. is being funded by CIHR and are conducting research on how to better apply a health equity lens within public health. They have produced a document that is an inventory of health equity related tools and resources. Here is the link <http://www.uvic.ca/research/projects/elph/assets/docs/Health%20Equity%20Tools%20Inventory.pdf>. Thank you for your time.

Sincerely,  
Christine

Hi X,

This is an update regarding the education content that I have asked you to review for my Masters project “Identifying effective approaches to translate knowledge on health equity to health system decision makers, policy makers and policy analysts.” We are just finishing the internal review in

order to ensure that the content is solid before seeking your feedback. The content will be sent out on the week of October 21<sup>st</sup> 2013.

I appreciate your patience and want to thank you again for agreeing to participate as an expert reviewer.

If you have any additional comments or concerns you can contact myself or my CIHI supervisor Karen Weir [kweir@cihi.ca](mailto:kweir@cihi.ca).

Sincerely,  
Christine

Dear X,

Thank you once again for agreeing to be an expert reviewer and once again I apologize for the delay. You will be reviewing two modules of a health equity education course that has been developed for the Canadian Population Health Initiative (CPHI).

The health equity education modules are a component of my Masters project "*Identifying Effective Approaches to Translate Knowledge on Health Equity to Health System Decision Makers, Policy Makers and Policy Analysts*". The purpose of the my Masters project is to identify effective approaches of moving knowledge on health equity into action in order to:

- Help the Canadian Population Health Initiative (CPHI) strengthen their knowledge translation activities; and
- Help CPHI achieve their strategic goals of improving the ability of health system policy makers, policy analysts and decision makers at the provincial and regional level to consider health equity when making program and policy design decisions.

There are four documents attached to this email:

The first is a *Letter of Information* which will inform you about:

- a. The purpose and objectives of the research;
- b. The importance of the research; and
- c. Your role as an expert reviewer.

Please review the *Letter of Information* first as it confirms your participation and informed consent.

The second and third documents attached are the two modules that you are to review.

The fourth document is a short survey relating to the course material.

Please review the two course modules and complete the survey. Once complete, please send the survey and any feedback that you have to me at [cboyes@cihi.ca](mailto:cboyes@cihi.ca).

If you have any questions regarding the process or with regards to any of the questions in the survey please do not hesitate to contact me via email at [cboyes@cihi.ca](mailto:cboyes@cihi.ca) or via telephone at 613-694-6522. You may also contact my Canadian Population Health Initiative (CPHI) supervisor Karen Weir via email at [kweir@cihi.ca](mailto:kweir@cihi.ca) or via telephone at 613-694-6651.

Thank you again for taking the time to be an expert reviewer.

Sincerely,  
Christine Boyes

Hello X,

I just wanted to follow-up and make sure you received the instructions and the material. I also wanted to provide you with a deadline date to complete the review. If you could have it completed by November 14<sup>th</sup> or 15<sup>th</sup> it would be greatly appreciated. If you need more time to complete the review please just let me know.

Sincerely,  
Christine

Dear X,

Thank you for your question about the instructional design. We will be working with an instructional designer from CIHI's education department once the content is reviewed and finalized during this stage. We have been consulting with the instructional designer during content development. The content has been developed with the idea that the content will be read aloud to end-users and each slide will have an image or a graphic associated with it. To highlight important aspects of the content, images will be highlighted and focused on to help users retain the information. The full content that will be read aloud will be available in written format and printable. Questions and/or exercises based on the content will be asked at the end of each section to reinforce the learnings. There will also be an assessment at the end of each module consisting of 6-7 questions to award a certificate of completion. Learners will be able to tailor their learning path and will be able to select whether they would like to complete one or both of the modules. They will be able to click around within the module on different topics. The idea being that those who already have a grasp of the basic concepts will not need to listen to every section.

Following this expert review, the next stage in the process for my Masters project is to:

- Modify and adapt the content based on the expert feedback;
- Develop the exercises and assessment questions based on the finalized content;
- Work with the CIHI's instructional designer from the education department to put the content into an online format; and
- Pilot the modules with end-users to solicit their feedback. If you would like I can send you ... the pilot version of the course once I have incorporated all of the suggested changes from the expert review and completed the instructional design.

I hope this answers your question. If you have any further questions or comments please do not hesitate to contact me at [cboyes@cihi.ca](mailto:cboyes@cihi.ca).

Sincerely,  
Christine