

**EXPLORING EVALUATION COMPETENCY AMONGST PUBLIC HEALTH NURSES
IN CANADA: A SCOPING AND DOCUMENT REVIEW**

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Abstract

This study sought to better understand program evaluation capacity and competency amongst public health nurses. Program evaluation plays a vital role in public health and is an identified core competency for public health practice (Canadian Public Health Agency). In Part One, I conducted a scoping review to systematically map the current literature on this topic and to identify important areas for future research. Twenty-three articles were selected based on pre-established exclusion and inclusion criteria and the assistance of a secondary reviewer. The articles highlighted the value of program evaluation in public health and its importance as a nursing skill amidst the evolving health care sector. Themes identified included: a broader lack of public health competencies (including program evaluation) among all public health professionals; the complexities and challenges of evaluating public health interventions; and the uncertainty of what constitutes adequate evaluation competency in public health. Furthermore, my review noted inconsistent terminology to describe a public health nurse and the need for further exploration around the specific evaluation capacity of public health nurses.

In Part Two, I explored the stated or expected evaluation competencies for public health nurses through a document review of relevant Canadian public health nursing core competencies, guidelines, and standards for practice. The identification of 52 stated evaluation competencies, demonstrates the assumption that public health nurses have competency and or capacity related to program evaluation and contrasts with the themes identified in my scoping review. Furthermore, the documents I reviewed included no specific reference to the Canadian Evaluation Society (CES), however some of the included content did align with the CES Program Evaluation Standards.

This study demonstrates a misalignment between the discourse in the literature reviewed related to evaluation competency amongst public health nurses and the stated or assumed evaluation competencies put forth in leading public health nursing documentation. In the absence of any standardized evaluation training and preparation for public health nurses, further exploration is needed around what these broad evaluation competencies mean in practice and how they can be objectively assessed, exhibited, and better integrated into public health nursing education and evaluation capacity building activities. These questions warrant further

investigation to ensure public health interventions are properly evaluated and that public health nurses have the competencies required for effective public health practice.

Keywords: public health nurses, public health professionals, program evaluation competency, program evaluation capacity, scoping review

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Part 1: Introduction to my MA Thesis by Article

Structure of Thesis

I have chosen to complete this MA thesis, *Exploring Evaluation Competency Amongst Public Health Nurses in Canada: A Scoping and Document Review*, in article format. My research subject is grounded in my professional career, thus my desire to eventually disseminate my findings through formal publication. My thesis is presented in three sections. In this first Introduction Section, I present my research questions, the objectives of my study as well as the methods I employed. I share my personal views and positionality towards my research as well as my views on research in general. Finally, I discuss how my study will contribute to the field of public health and the body of research in this area.

In the second section, the manuscript section, I further describe the problem my research aimed to answer through my stated research questions. I also summarize the context, key terminology, and the existing body of knowledge related to my subject. Finally, in the third section, I conclude my thesis by summarizing lessons learned and possible next steps in my chosen area of study.

Research Objectives & Research Questions

In an evolving Canadian health care context, program evaluation is foundational to the “identification, implementation and dissemination of effective and cost- effective interventions” (Denford et al., 2017, p. 1). In public health, the evaluation of public health practice remains crucial (Pettman et al., 2012). Although evaluation is a stated core competency for public health practice, little is known about the evaluation capacity of public health nurses. Registered nurses, working as public health nurse, presently make up the largest professional discipline within public health and are “well placed to evaluate their services and practice” (Moule, Armoogum, Douglass, & Taylor, 2017, p.56). Recognizing this context, my research aimed to better understand the discourse, gaps, and strengths presented in the literature in relation to evaluation capacity amongst public health nurses. I also aimed to better understand how program evaluation is situated within guiding Canadian nursing documents. To accomplish these goals, I employed a scoping review and document analysis. Specifically, using a scoping review (Part One) and a document analysis (Part Two), my study aimed to answer the following four questions:

Part 1:

1. What is the current state of literature on program evaluation capacity and competency amongst public health nurses?
2. Based on the current state of the literature, what areas are important to consider for future research on program evaluation capacity and competency among public health nurses?

Part 2:

1. What are the stated program evaluation competency requirements or expectations for public health nurses in Ontario and Canada?
2. How do these stated competencies compare to the practice standards put forth by the Canadian Evaluation Society and the evaluation core competencies identified by the Public Health Agency of Canada?

Scoping Reviews

In Part One of my study, I used a scoping review to systematically assess what is currently available in the literature related to program evaluation capacity and competency amongst public health nurses. Scoping reviews present a systematic way to map the key concepts underpinning a research area and the main sources and types of evidence available (Munn et al., 2018). Often referred to as “realist reviews” (Munn et al., 2018, p. 2), scoping reviews are useful when an area is complex or has not necessarily been reviewed comprehensively (Munn et al., 2018). Scoping reviews are increasingly becoming a popular method of research, particularly when answering broad questions that may require changes in the search along the way (Anderson et al., 2020). I chose this method, because although there is a large body of literature available related to evaluation capacity building, less is known about the evaluation capacity within public health and specifically among public health nurses (PHNs). As stated by Munn et al. (2018), I felt a scoping review would be “an ideal tool to determine the scope or coverage of the body of literature on my topic” (p.2). Because the topic of evaluation capacity in PHNs is multi-faceted, I believed that a scoping review would support me to understand the related threads, considerations, gaps, and fields of inquiry related to my topic. While scoping reviews are a type of literature review, they are not always perceived as having the same rigour as a traditional systematic review. To counter this view and ensure I conducted my scoping review in a

transparent and rigorous way (Arksey & O'Malley, 2005), I ensured ongoing documentation of my processes throughout the process.

Document Analysis

In Part Two of my study, I employed a document analysis as a secondary research technique to enable a “systematic procedure for reviewing and evaluating the evaluation competencies cited” (Bowen, 2009, p.27). This analysis enabled me to view nursing documents as data sources, extract content, and elicit meaning from them (Bowen, 2009). I chose this method as the information it generated complimented and informed my above-mentioned scoping review. Document analysis is often positioned as a second or supplementary way of collecting data to add rigour (Cardno, 2018). It is often used “in combination with other qualitative research methods as a means of triangulation” (Bowen, p. 28). Some limitations flagged with this research methodology include bias selectivity, and the fact that the content may not provide the detail or evidence-base needed for research (Cardno, 2018). For my research, this analysis was appropriate because I chose to include the main documents guiding public health nursing practice in Ontario and the inclusion or absence of content in these documents themselves was important to note in relation to my field of inquiry.

Positionality

I have been employed in public health for over twenty years. During this time, I have worked as a public health nurse, program evaluator, and most recently as a quality improvement specialist. During this time, I have been alarmed and frustrated by the absence of quality program evaluation and evaluative thinking within my field. My desire to validate or negate these observations combined with a desire to be part of the change and improvement process inspired me to investigate this topic further. In 2016, I completed a diploma in program evaluation from the University of Ottawa. During one of my course assignments, I reviewed how program evaluation was broadly positioned within each of the main professional health disciplines working within public health. As part of this review, I examined the disciplinary colleges and or professional associations for nurses, physicians, public health inspectors, dietitians, and dental hygienists working in Ontario. My conclusion was that most of these professional health disciplines had stated requirements or competencies linked to program evaluation, but what was less clear was how these competencies were taught, assessed,

maintained, and implemented in practice. These observations inspired me to want to learn more. Being a registered nurse myself, further examination of this topic in the context of nursing practice seemed like an ideal place to start.

Philosophical Approach and Epistemology

My approach towards this research was pragmatic and driven by my desire to create useable knowledge for public health practice. A pragmatic epistemology enabled me to focus my research on ‘understanding’ what works and solutions to problems (Patton, 1990). It also enabled me to explore an issue rooted in my practice, “that matters most to me and pursue knowledge in a way that is most meaningful to me” (Morgan, 2014, p.6). In my own public health practice, I have observed and experienced a disconnect between the program evaluation expectations of public health practitioners and actual knowledge and preparation prior to practice. My desire to address this issue and my “desire for knowledge acquisition focused on practicality” (Morgan, 2014, p. 2) aligns well with pragmatism.

Quickly in this process, I recognized my own intrinsic bias on this topic, thus my approach towards this research was grounded in subjectivism. I understood at the onset, that my professional and personal experiences would influence the knowledge that I generated and that my findings would be very much influenced by my interpretation of the literature (Arksey and O’Malley, 2005). My epistemological orientation influenced what I deemed to be acceptable and relevant sources of information, it also affected how I analyzed, interpreted, and assigned meaning to the knowledge and evidence I gathered (Thomas, Lubansky, Durning & Young, 2020). True to the concept of subjectivism, I knew I could not stand apart or away from what I was studying (Thomas et al., 2020). For this reason, a scoping review was ideal for my study. A scoping review allowed me to remain inquisitive rather than formulate conclusions. In addition, my use of a broad range of sources (e.g., commentary articles, peer reviewed research, and non-traditional academic sources) demonstrated my broad view of what is legitimate evidence and increased the potential for a wider range of content and findings.

In consideration of my bias, epistemology, and personal interest towards this field of study, the trustworthiness of my findings could be questioned. The goal of any research is “to develop defensible and appropriate conclusions in a domain of inquiry” (Thomas et al., 2020, p. 991). To achieve this goal, I had to acknowledge my bias and continually reflect and challenge myself

through this process. In consultation with my thesis advisor and a secondary reviewer, I clearly defined my inclusion and exclusion criteria. I also defined key related terms so that I had to consistently assign meaning to terms discovered throughout the processes. Employing the assistance of a secondary reviewer was essential as she questioned my ideas and evidence choices. She also challenged me to justify and describe the literature I chose for inclusion. In addition, I used a journal to track and unpack my feelings along the way. I also engaged the university librarian so that I could ensure a systematic and logical approach to my initial literature searches.

Study Contributions

Public Health and Nursing Practice

Program evaluation is needed in public health as without it “the effectiveness of interventions cannot be assured” (Pettman et al., 2012, p. 151). Recognizing that the public health workforce is necessarily complex and interdisciplinary (Sibbald, Jegatheeswaran, Pocock, & Penney, 2020), further understanding of how program evaluation is situated within each of the related health disciplines is important. Through this study, I have shown, through the literature, that program evaluation capacity and or competency is currently lacking in professional health disciplines. Further description and understanding of this phenomenon, specific to nursing, helps to inform future preparation and stated competencies for nursing practice as well as other health disciplines. This eventually will lead to improved program evaluation practice in public health.

The Canadian Nurses Association advocates that Canada’s nurses must “intensify their role as leaders of system transformation” and that the “nursing scope must be expanded to meet changed and changing health needs” (The National Expert Commission, 2012, p.37). Enhanced competency in program evaluation is an important consideration if nurses are to meet these goals and necessitates further discussion such as this on the stated and actual competency of public health nurses in this area. In this study I highlight a disconnect between the stated and or assumed public health nursing competencies related to program evaluation and the actual competencies depicted in the literature. Questioning these stated competencies is important to inform undergraduate and on the job preparation for public health nursing practice.

Methods

Scoping reviews are a newer strategy of evidence synthesis (Munn et al., 2018) thus demonstrating their use as a research methodology in the context of health care is an important step towards their broader adoption. Typically, systematic reviews are considered the pillar amidst the vast range of health care research, (Munn, Porritt, Lockwood, Aromataris, & Pearson, 2014). Health researchers are drawn towards the structured, pre-defined process afforded by a systematic review to inform the development of trustworthy, clinical guidelines or broadly accepted truths. This review method may be necessary in the context of clinical care or treatment approaches, but for broader industry or practice-based inquiries it can be limiting. By demonstrating the application of a scoping review in the context of health, my study may help further normalized this research method.

Health care faces a myriad of complex issues, debates, and challenges as it moves forward in the 21st century. Rigorous evidence alone cannot only inform needed next steps. Scoping reviews can help ensure the inclusion of provocative ideas, innovation, differing perspectives and full understanding amongst health care discourse. My study demonstrates a compelling application of scoping review methodology towards a health-related issue., and as a pre-cursor to standard research methods such as systematic review (Munn et al., 2018). My application of scoping review methodology may help to increase this method's acceptance, application, and use.

In relation to public health, the noted absence of rigorously researched, evaluated, or published findings further necessitates the application of a broader research method such as a scoping review. Too often, important public health key learnings do not meet the inclusion criteria for systematic review, thus are not included. With the advancements in scoping review methodology, definitions, methods, and areas for use are now available. My study demonstrates how a scoping review can legitimately support and increase understanding. This will create more opportunities to further advance the existing public health knowledge base.

Theory

The adoption of sound evaluation practices is important for public health practice as well as the advancement of program evaluation theory. My research has identified important theory gaps around evaluating public health interventions, particularly those involving health promotion

practices and implied longer-term changes. Evaluation capacity building theory and its application to public health are further opportunities for exploration and study. Furthermore, recognizing the areas of alignment and disconnect with the Canadian Evaluation Society is an important first step to better position evaluation theory within public health. It also lays the foundation for further discourse with the CES on how evaluation theory can be better grounded within public health and the larger health care sector.

Part 2: Exploring Evaluation Competency Amongst Public Health Nurses in Canada: A Scoping and Document Review

Introduction

Program evaluation plays a vital role in public health and is a core competency for public health practice (Canadian Public Health Association, 2010). A well-constructed program evaluation can advance public health programs by evaluating their effectiveness, appropriateness, and sustainability. It can also “identify unexpected outcomes, and opportunities for improvement and cost-effectiveness” (Nichols, McFarlane, Gibson, Millard, & Packer, 2018, p.19). The need for evaluation of public health practice remains crucial (Pettman et al., 2012). Despite the noted value and stated public health core competencies in this area, evaluation capacity within public health settings is low and the implementation of public health programs is often poor, incomplete, and lacking any type of evaluation (Denford et al., 2017).

In this two-part study, I conducted a scoping review (Part 1) to systematically assess what is currently available in the literature related to program evaluation capacity and competency amongst public health nurses (the largest professional discipline employed within public health). I then conducted a document review (Part 2) of relevant nursing documents to describe the core competencies stated in relation to program evaluation and further compared these competencies to the best practice guidance put forth by the Canadian Evaluation Society. Findings from this study describe the stated and actual program evaluation competencies within the professional discipline of nursing. These findings illuminate future opportunities for improved undergraduate preparation, improved professional development for public health nurses working in practice, and better alignment between the Canadian Evaluation Society’s Program Evaluation Standards (2012) and those outlined for nursing practice. This knowledge and noted alignments and misalignments, may assist to improve the entry to public health practice preparation for nurses and other health disciplines. Furthermore, these findings may contribute to larger discussions related to the harmonization of essential evaluation skills across all public health disciplines, not just nursing, for improved public health practice.

Description of Problem

Program evaluation is an identified core competency for public health practitioners, including public health nurses, public health inspectors, dietitians, dental hygienists, and

physicians (Francis, & Smith, 2015; Lobo, Petrich, & Burns, 2014; Nichols et al., 2018; Smith, Rissel, Shilton, & Bauman, 2016). Recognizing that the public health workforce is complex and interdisciplinary (Sibbald et al., 2020), there is a growing demand to develop evaluation capacity within this workforce (Labin, Duffy, Meyers, Wandersman, & Lesesne, 2012). Despite this, it is unclear and inconsistent between individuals and disciplines what actual program evaluation capacity the public health workforce possesses. Recognizing there is an identified need for harmonization and consensus on core competencies across professional disciplines (Verma, Paterson, & Medves, 2005), the Building the Public Health Workforce for the 21st Century: A Pan-Canadian Framework for Public Health Human Resources Planning (Public Health Agency of Canada, 2005) noted that it is “important to develop an inter-professional workforce with the knowledge and skills to meet 21st century health needs” (p.21). Program evaluation is arguably a knowledge and skill needed as without it, the effectiveness of public health interventions cannot be assured (Pettman, et al., 2012). For this reason, further understanding of the stated and actual competencies and or capacity of public health practitioners in relation to program evaluation is needed.

Purpose and Research Questions

A further understanding of the stated and actual competencies of health professionals working in public health presents an important area for further understanding. Recognizing that registered nurses (RN's) are the largest single group of healthcare providers (Canadian Nurses Association, 2015) and that public health nurses play a critical role in evaluating and promoting health (Sibbald et al., 2020) this research aims to further understand this paradox in the context of registered nurses. Given the aims of my research, I investigated the following research questions in a two-part study employing both a scoping review and document review.

Part 1

What is the current state of literature on program evaluation capacity and competency amongst public health nurses? Based on the current state of the literature, what areas are important to consider for future research on program evaluation capacity and competency among public health nurses?

Part 2

What are the stated program evaluation competency requirements or expectations for public health nurses in Ontario and Canada? How do these stated competencies compare to the practice standards put forth by the Canadian Evaluation Society and the evaluation core competencies identified by the Public Health Agency of Canada?

Study Background

Before initiating my research, I sought out relevant peer reviewed and grey literature to better understand what the literature said about program evaluation capacity among public health practitioners, with particular focus on the professional discipline of nursing. I reviewed three different but related concepts. First, I examined what are the important concepts related to program evaluation and how these are positioned within public health practice. This included guiding theory and the ongoing professionalization of the evaluation field. Second, I examined the ever-growing field of evaluation capacity building (ECB), and the related key concepts and strategies employed to increase ECB. I then reviewed the professional health disciplines related to public health practice and how they influence skills and knowledge. In addition to these three main concepts, I also sought a general overview of how program evaluation is positioned within the professional discipline of nursing. I present a summarized version of this preliminary review to illustrate the development of my research questions and to also clarify terminology and contextual components related to program evaluation and public health practice.

Evaluation Concepts and Practice

In the context of public health, the Ontario Public Health Standards for Programs and Services (2018) defines program evaluation, “as the systematic gathering, analysis, and reporting of data about a program to assist in decision-making” (Ontario Ministry of Health and Long-Term Care, 2018, p.24). Program evaluation involves the application of a rigorous, systematic process to assess a program’s effectiveness, efficiency, appropriateness, and sustainability (Edwards, Stickney, Milat, Campbell, & Thackway, 2016). Pragmatically, program evaluation and or evaluation (as it is often simply referred to) includes any efforts aimed at determining, as systematically and objectively as possible, the effectiveness and impact of any health-related activities in relation to objectives, considering the resources that have been used. It employs

methods from social and health sciences (Brazil, 1999), including quantitative, qualitative, and mixed methods with the goal to inform learning and decision-making.

The Canadian Evaluation (CES) is a national body that aims to advance excellence in evaluation cross Canada and internationally by promoting the development of evaluation theory and practice; leading the professionalization of evaluation; building awareness of evaluation; and advocating for the use of quality evaluation. The CES describes three pillars that provide the infrastructure for effective program evaluation practices in Canada. First, the CES promotes ethical evaluation practices through a code of ethics that provides guidelines for ethical practice around three focus areas: competencies, integrity, and accountability. In addition to ethics, the CES also promotes their Program Evaluation Standards that outline specific standards of practice within the following five categories: utility standards, feasibility standards, propriety standards, accuracy standards and evaluation accountability standards (Yarbrough, Shulha, Hopson, & Caruthers, 2011). These standards are intended to provide a road map for effective and ethical public health practice based on the breadth of program evaluation theory, research, best practices, and academic discourse available. Finally, the CES compiles and circulates the Competencies for Canadian Evaluation Practice (CES, 2010) that describe 36 competencies in five domains for evaluation work in Canada and inform the CES professional credentialing program. These domains include reflective, technical, situational, management and interpersonal practices with each domain including identified related competencies.

Professionals can pay a small annual fee and become members within the CES. Membership includes access to an online repository of program evaluation information, resources, and best practices as well as professional development opportunities and networking opportunities across Canada. In 2009, the CES became the first evaluation society in the world to create a professional designation credentialing system. Once credentialed, a *CES Credentialed Evaluator* supports program evaluation practice by “defining, recognizing and promoting the practice of ethical, high quality and competent evaluation in Canada” (CES, nd). This professionalization of program evaluation is based on demonstrating in practice the three pillars discussed earlier: ethics, evaluation standards and competencies.

Evaluation Capacity

Evaluation capacity is the ability to conduct an effective evaluation. It includes both the capacity to do evaluation studies as well as the capacity within the organization to use evaluation results (Bourgeois, Chouinard, & Cousins, 2008). Competency, like capacity, is a multifaceted and dynamic concept that refers to the “understanding of knowledge, clinical skills, interpersonal skills, problem solving, clinical judgement, and technical skills by the different professions” (Verma et al., 2007). In health care, competencies are generally used to define professional standards, expectations of practice and to align practitioners, learners, academic institutions, and clients/patients themselves (Verma et al., 2007). In the literature related to program evaluation, the concepts of capacity and competency are often used interchangeably.

Evaluation Capacity Building

The continuously growing demand for well evaluated programs in public health has produced an increased need for improved program evaluation capacity (Labin et al., 2012). The World Health Organization defines capacity building as “the development of knowledge, skills, commitment, structures, systems, and leadership to enable effective practice” (Smith, Kwok, & Nutbeam, 2006, p. 341). Evaluation capacity building (ECB) is then the “intentional work to continuously create and sustain overall organizational processes, quality evaluation and its uses” (Preskill & Boyle, 2008, p. 444). Central to the concept of ECB is the notion that it will result in sustainable evaluation practice (Preskill & Boyle, 2008) and will ultimately generate useable findings and recommendations that can support and enable organizational decision-making (Brazil, 1999). Furthermore, the eventual goal of all ECB activities is to make the use of evaluation processes routine (Taylor-Ritzler, Suarez-Balcazar, Garcia-Iriarte, Henry, & Balcazar, 2013).

Multiple models exist to further describe ECB and the various influences and enablers. The Multidisciplinary Model of Evaluation Capacity Building put forth by Preskill and Boyle (2008) identifies actual ECB strategies rooted in a central belief that “evaluation knowledge, skills and attitudes are influenced by motivations and assumptions” (p. 444). This model draws on the fields of evaluation, organizational learning, and change, as well as adult and workplace learning theories. This model describes factors that may influence the initiation, design, implementation, and impact of ECB activities. It recognizes transfer of learning as a central element for the

application of evaluation skills and notes that the goals of ECB should be the development of evaluation knowledge, skills, and attitudes. It further illuminates specific strategies to help promote individual learning, including coaching, training, and communities of practice. Amongst the myriad of ECB models available, most extend their focus beyond individual skill and recognize that a “systemic approach towards building evaluation capacity is needed” (Smith et al., 2016, p. 185) and that multiple strategies are needed to increase evaluation capacity while also addressing the challenges faced by practitioners (Lobo et al., 2014). Preskill and Boyle (2008) describe these needed strategies in one of two categories: evaluation knowledge, skills, and attitudes; and sustainable evaluation practice. Within each category they describe further the specific strategies linked to ECB, including training, communities of practice, coaching, internship, technical assistance, involvement in evaluation, appreciative inquiry meetings, technology, and written materials. Specific to public health, Bourgeois, Whynot, and Theriault (2015) state ECB strategies should be selected and adapted based on organizations needs and context.

With the current interest in ECB, more research and understanding are needed around the effects of ECB interventions over time (Edwards et al., 2016) the factors (such as resources) that comprise evaluation capacity and the relationships amongst these factors (Taylor-Ritzler et al., 2013). Furthermore, the absence of validated instruments to assess and measure the results of ECB activities (Taylor-Ritzler et al., 2013) makes it challenging to understand how best to increase evaluation capacity.

Positionality of Program Evaluation Within Public Health

In Canada, public health is defined as the organized efforts of society to keep people healthy and prevent injury, illness, and premature death (Public Health Agency of Canada, 2008) and the public health workforce is “necessarily complex and interdisciplinary” (Sibbald et al., 2020). The World Health Organization states that “evaluation should provide accountability for achieving results from the use of resources and should facilitate learning from experience in ways that can be put into practice use” (<https://www.who.int/about/what-we-do/evaluation>).

Program evaluation is a recognized core competency for public health practitioners (Public Health Agency of Canada, 2008) working in Canada. The Public Health Agency of Canada (PHAC) sets the standards for national public health practice (Smith et al., 2016) and states that a

public health practitioner must be able to “evaluate an action, policy or program” (Public Health Agency of Canada, 2008, Category 3.6). In Ontario, program evaluation is a foundational standard within the Ontario Public Health Standards for Programs and Services (Ministry of Health and Long-Term Care, 2018), which guide public health services within the province. These standards state that “the board of health shall ensure a culture of on-going program improvement and evaluation and shall conduct formal program evaluations where required” (p.24). In addition to these industry competencies, many of the professional disciplines comprising public health (nursing, medicine, public health inspection, dietitians, dental hygienists etc..) also have core competency requirements related to program evaluation.

Public health practice within Canada is funded, managed, and delivered by an integrated system of government bodies at the municipal, regional, provincial, and federal level. Amongst this complex myriad of accountability and reporting, evaluation is used to “increase transparency, strengthen accountability and improve performance while also informing and assisting policy and management decision-making” (Wholey, Hatry, & Newcomer, 2010, p. 653). With increasing emphasis on continuous quality improvement in all health care settings, program improvement is an especially important application of evaluation competence in public health. A culture of improvement, learning, and sharing can be achieved through ongoing evaluation capacity building and is crucial for undertaking and using evaluation in public health (Shwarzman et al., 2018). Understanding what works, how things work and how they can be improved is essential because “public health programs tend to live once they are crafted” (Wholey et al., 2010, p. 653). Public health practice needs evidence of what works or does not work, under what circumstances and for whom” (Pettman et al., 2012 p. 151) and public health industry leaders such as the Centres for Disease Control and Prevention state “we must devote our skill, and our will, to evaluating the effects of public health actions” (Centres for Disease Control and Prevention, 1999, p.4).

Evaluation Capacity in Public Health

Evaluation capacity within public health settings is low and the need for evaluation of public health practices is crucial (Pettman et al., 2010). A recent Ontario Locally Driven Collaborative Project on Building Evaluation Capacity in Ontario’s Public Health Units (Bourgeois et al., 2015) found that the majority of Ontario’s Public Health Units are in the early stages of evaluation

capacity development. This means they are developing evaluation capacity but that more work is still required to enhance the quality and subsequent use of evaluation findings (Bourgeois et al., 2015). In surveys, public health practitioners identify barriers towards evaluation and admit to “undervaluing evaluation in the context of other competing priorities” (Lobo et al., 2014, p. 1). Time, resources, staff skills, managers, priorities, and the absence of an evaluation culture are commonly reported barriers (Smith et al., 2016). Public health practitioners often feel under-skilled to conduct evaluations (Denford et al., 2017) and there is often little incentive for them to do so or to do so well (Lobo et al., 2014). This time-consuming work can often become undervalued in the context of other competing priorities, such as service delivery (Lobo et al., 2014). Often evaluations are just not conducted thus, learned skills are never applied nor practiced. In one review spanning ten years it was found that less than 10% of published articles in health promotion journals reported evaluation findings (Francis & Smith, 2015). This issue is not unique to public health however, as studies indicate that few public sector policies and program are evaluated in industrialised nations (Edwards et al., 2016).

Prior to entry to public health, all professional disciplines require undergraduate degrees or specialized post-secondary training. For nursing in Ontario, the Registered Nurse, RN, designation requires graduation from an approved nursing program with a baccalaureate degree in nursing and successful completion of the RN registration examination (College of Nurses of Ontario, 2014). The amount of undergraduate preparation or institutional education public health professionals receive related to program evaluation however can vary depending on the professional discipline they are studying, which post-secondary institution they attend, and what electives or self-directed learning they seek. In general, there is little information available related to the undergraduate training or preparation received by professional disciplines related to program evaluation.

Recognizing the vital role of evaluation in public health (Lobo et al., 2014) and the need for high quality evaluation, significant discussion has evolved around how best to build evaluation capacity amongst public health practitioners (Smith et al, 2016). Furthermore, although many public health practitioners do receive training in evaluation, they continue to feel they lack the skills needed to conduct the complex, multifaceted interventions typically found in public health. (Denford, Lakshman, Callaghan & Abraham, 2018). Many public health interventions aim for

long-term health change and program development (Denford et al., 2018). These types of interventions often see results over a long period of time, do not always include readily available data and consequently are difficult to evaluate. To overcome these challenges, a skilled workforce with strong evaluation capacity is needed.

Building evaluation capacity requires more than a single focus on an individual's skills and confidence. Multiple strategies are needed to increase capacity and address the challenges faced by practitioners (Lobo et al., 2014). To increase evaluation practices and capacity within public health, "organisational leaders need to regard evaluation as a necessary tool for program development and workforce development strategies are needed" (Lobo et al., 2014, p. 4). Promising ECB strategies in public health address leadership and the organizational environment (Bourgeois, Simmons, & Buetti, 2018) and focus on "developing the knowledge, skills, and attitudes of health unit staff and managers" (Bourgeois et al., 2018, p. 89). Workshops and mentoring, strengthening systems to support program reporting and recruitment of staff with skills and experience (Nichols et al., 2018) are some of the strategies identified specific to public health. Schwarzman et al. (2018) identify seven key themes that influence evaluation practice. These themes include leadership, organizational culture, organizational systems and structures, partnerships, resources, workforce development and training and recruitment and skills mix. These influencers align with the strategies outlined in the Multidisciplinary Model of Evaluation Capacity Building (Preskill & Boyle, 2008) discussed earlier.

Currently, there are numerous evaluation guidance documents and resources available to support evaluation practice and increase individual capacity. A review of the grey and academic literature available identified 98 guidance documents specific to public health, of which 48 were found to be relevant (Denford et al., 2017). The Centres for Disease Control's Evaluation Framework (1999) is available to guide public health professionals as they perform evaluations. In Ontario, Public Health Ontario has developed and disseminated a 10 Steps Towards Evaluating a Public Health Intervention (Public Health Ontario, 2016) and the UK Medical Research Council has also developed an evaluation framework (Denford et al., 2017). Despite the multiple evaluation guides and tools, public health practitioners state that they often don't use these documents, nor do they find them useful (Denford et al., 2017). Novice evaluators often turn to the internet for guidance and then become overwhelmed by the multitude of choices

available. They often find it difficult to select which is the most appropriate and effective guidance for their specific evaluation project (Denford et al., 2017). Going forward, public health practitioners state they need “practical guidance that is accessible and not overly academic” (Denford et al., 2018, p.4) and relates to the real-world settings in which they operate (Denford et al., 2017).

The Role of Professional Disciplines Related to Program Evaluation

Professional disciplines refer to branch or domain of knowledge, instruction, or learning¹. Public health practice is made up of interdisciplinary teams that include physicians, dietitians, nurses, dentists, public health inspectors, epidemiologists, dental hygienists, and speech pathologists. These professional groups all have an affiliation to a professional body or college, who under the Regulated Health Professionals Act of Ontario (1991) must have competencies and standards to guide members, ensure quality assurance and also regulate the professions in the public interest.

The Regulated Health Professionals Act of Ontario (1991) sets out the governing framework for regulated health professions in Ontario and include statements that describe what the profession does. These colleges also must ensure health professionals provide safe, professional, and ethical care; set standards of practiced for the profession and investigate complaints and discipline members as needed. The required competencies identified by each professional body or college, “define discipline and speciality standards, expectations and align practitioners, learners’ teachers, and patients with evidence-based standards of care and performance” (Verma et al., 2005, p.110). They also describe the values, knowledge, attitudes, and skills that each profession identifies as essential (Verma et al., 2005, p.109). These competencies can also serve as a guide for curriculum development and for public and employer awareness of the practice expectations of entry level registered professionals (Canadian Council of Registered Nurse Educators, 2012, p.5).

Competencies are typically determined by the ongoing evaluation of the practice environment and further validated by data collected from new graduates on required entry level

¹ (<https://medical-dictionary.thefreedictionary.com/disciplines#:~:text=All%20rights%20reserved,-.discipline.are%20examples%20of%20academic%20disciplines>. Accessed October 12, 2020)

practice skills and roles (Canadian Nurses Association, 2015). There are currently 26 identified regulated health professions in Canada thus competencies can also reinforce an interprofessional health care culture, and vision (Verma et al., 2005, p.110).

Program Evaluation Within the Nursing Discipline

At a National level, the Canadian Nurses Association (CNA) promotes a common understanding of RN practices among nurses, students, and stakeholders. They assert that given the large number of regulated and unregulated care providers in Canada, it is essential for policymakers, decision makers, and employers to clearly understand RN competencies and contributions (The Canadian Nurses Association, 2015). The CNA's Framework for the Practice of Registered Nurses in Canada (2015) promotes a common understanding of RN practices among nurses, students, and stakeholders. This framework describes entry level competency statements organized under these five competency categories: professional responsibility and accountability; knowledge-based practices; ethical practice; service to the public; and self-regulation. Specific to public health, the Canadian Community Health Nursing (CCHN) Practice Model and Standards of Practice (Community Health Nurses of Canada, 2019) specifically mention evaluation in each of the 7 listed standards for nurses working within community settings such as public health.

Within Ontario, nursing practice is guided by the College of Nurse of Ontario (CNO) and the *Nursing Act of 1991*. The CNO acts as the regulatory body for nursing practice within the province of Ontario and grants qualified nurses the legal authority to use the title of registered nurse or RN. The CNO identifies ongoing evaluation of client care as an entry to practice competency for all registered nurses (College of Nurses of Ontario, 2014). In 2009, Public Health Nursing Discipline Specific Competencies (Community Health Nurses of Canada, 2009) were released stating that a public health nurse is able to “evaluate an action, policy or program in a systematic and continuous manner by measuring its effect on individuals, families, groups or communities” (Community Health Nurses of Canada, 2009, p. 6).

Conceptual Framework

My conceptual framework (Figure 1) for my research closely aligns with the concepts reviewed in the section above and my chosen research questions. It assisted in the development of my data collection tools and analyses processes. Each component of my framework influenced

the questions I asked in my scoping review (Part One) and then in my subsequent document review (Part Two). Central to my conceptual framework is the concept of evaluation capacity being on a continuum of low to high capacity. The model depicts ascending levels of competency between actual entry to practice capacity, the stated capacity identified by the professional discipline of nursing, and optimal evaluation capacity. Optimal evaluation capacity in my framework is full alignment with theory, and defined standards of practice put forth by the Canadian Evaluation Society.

The bottom orange box (*Actual Entry to Practice Capacity*) is where I seek to understand what the literature says about the actual program evaluation capacity, competency, and knowledge of public health nurses. The middle orange box (*Stated Professional Capacity*) articulates the stated program evaluation competencies for all registered nurses in Ontario as well as the core competencies assumed and required for public health practice. Finally, the top orange box (*Evaluation Capacity*) describes the scholarly based view of evaluation competency as put forth by the Canadian Evaluation Society. This box also reflects the expansive body of knowledge available on what evaluation capacity means and how it develops and manifests in public health practice. The arrows linking each of the orange boxes, flag the alignment and interplay between each of these concepts and depict the importance of alignment between actual capacity and stated/expected capacity. These arrows represent my chosen area of study which is to further understand this alignment or misalignment between required, stated and actual evaluation competency. Underneath each orange box is a series of grey boxes that describe related subthemes identified through the literature. These subthemes demonstrate the complexity of this topic and that the concept of evaluation competency requires more than a single focus on an individual's skills and confidence (Lobo et al., 2014). Further exploration and understanding of these subthemes are important to fully describe and understand the actual, stated, and ideal evaluation competency for effective public health practice.

Methodology

Research Design

As noted, my study included two parts. In Part One, I conducted a scoping review to systematically identify and characterize the available body of evidence that describes the evaluation capacity of health professionals working in public health, with specific focus on

public health nurses. In Part Two, I explored the stated or expected evaluation competencies for public health nurses through a document review of relevant Ontario and Canadian public health nursing core competencies, guidelines, and standards for practice (see Table 1).

Part One. The purpose of Part One was to systematically identify and characterize what the available literature said about the program evaluation capacity and or competency of public health nurses working in Canada. My goal was to focus specifically on the discipline of nursing. Due to the limited literature available on nursing alone, I broadened my search to include nurses and general public health professionals. Using a scoping review allowed me to rapidly synthesize a large body of evidence (Anderson et al., 2020) and identify and map key concepts related to my area of inquiry (Arksey & O'Malley, 2005). Throughout this scoping review, I adopted an iterative process whereas my familiarity with the literature increased, I redefined and revised my search terms to undertake more sensitive searches of the literature (Arksey & O'Malley, 2005). My review was guided by Arksey and O'Malley's framework for conducting a scoping study (2005). Appendix A provides an overview of the activities I undertook and the related instruments I used at each step. I also summarize my process below.

Step 1: Identifying the research questions. As a first step, I identified research questions that subsequently guided my search strategies (Arksey & O'Malley, 2005). My research, as noted, sought to answer what is the current state of literature on program evaluation capacity and competency amongst public health nurses? In my search, I also sought out further related areas that were important to consider for future research on this topic. Initially, I maintained a broad approach towards my search parameters but then refined them based on the breadth of information available (Arksey & O'Malley, 2005). In my study, I defined capacity as someone's ability to do a particular thing and defined competency as an important skill that is needed to do a job. The term public health nurse referred to a registered nurse with a baccalaureate four-year degree from a registered post-secondary institution working in the field of public health. A full glossary of terms is presented in Appendix D.

Step 2: Identifying relevant studies. Using my conceptual framework as well as the literature that describes evaluation capacity and competency, I devised a list of terms and a search strategy that included the keywords and phrases I searched. I engaged the support of the University of Ottawa's Health Sciences Librarian to further review and define my proposed

search strategy. I searched the following databases: Medline, Eric, CINAHL, and Nursing & Allied Health. Tables 2A to 2D provide a summary of the terms and specific strategies I applied towards the four databases. My search included articles, books, dissertations, published reports, and other relevant grey literature. I also conducted a Google search to ascertain if there were any other relevant and related terms or search sentences that would increase the breadth of studies. In addition, I manually reviewed the reference lists of relevant studies to further identify published materials that I may not have identified in the database searches. My investigation was iterative, so I included new terms and databases as I learnt more about my area of study. I used a pre-established inclusion and exclusion criteria (see Table 3) to ensure consistent and replicable decisions on which articles I included and to ensure my review was focused only on including articles that addressed my research questions. In consultation with my thesis advisor, I initially chose to include articles published within the last five years. This decision reflected the rapidly evolving context within public health and helped ensure my scoping review would be scoped and manageable. Upon further consultation, this initial five-year search period was expanded by two years to recognize the up to two-year lapse between research and publication. In consultation with the University of Ottawa librarian, I subsequently further revised my search period from 2014 to 2010 to broaden the depth of relevant literature.

Step 3: Selecting studies. Once I identified articles meeting my search criteria, I imported them into Endnote. I then transferred these articles into Covidence (i.e., a web-based literature review management software), to enable further screening and review. To enhance the transparency and trustworthiness of this process, I trained a secondary reviewer (i.e., a public health colleague) on my inclusion and exclusion criteria as well as my own bias related to my research. She and I then independently screened the articles selected at the level of title and abstract. Following this process, any areas of disagreement between our findings were further discussed and my own noted bias was considered in relation to the abstracts selected. The inclusion and exclusion criteria applied focused on studies published in English between 2010 and December 31, 2020. Any articles that did not focus on health care related disciplines, or solely focused on strategies for increasing evaluation capacity were excluded. Because this was a scoping review, we did not consider the methods applied or the rigour for each of the studies included. Once selected, each abstract was further reviewed for suitability by the secondary reviewer and I at the level of full text.

Step 4: Charting the data. Once I identified all the relevant literature, I used a defined data extraction process to extract and map the information from my selected sources housed in Covidence. I charted my findings in Microsoft Excel with the following headings: authors name(s), publication dates, aims, themes, methodology, key findings/recommendations for practice, and areas of for future research (Appendix B). These headings aligned with my stated research questions and provided consistency and focus to the information I extracted from each of the sources. Table 4 provides a high-level summary of the data extracted from the articles.

Step 5: Collating, summarizing, and reporting the data. Once I charted my data, I conducted basic numerical analysis of the “nature and distribution of the studies included in the review” (Arksey & O’Malley, 2005, p. 27) as well as emerging categories. The numerical summary reported the number and types of studies included in the study dates as well as the countries of origin. Within each article reviewed, I applied basic content analysis to enable subjective interpretation of the text through a systematic classification process of coding and identifying themes (Anderson et al., 2020). I applied a conventional content analysis approach in that I had no pre-conceived themes, and I allowed the themes to “flow from the data” (Hsieh & Shannon, 2005, p. 1279). As a first step, I read and re-read the articles, making notes about my first impressions, dominant themes, and areas of discourse. As this iterative process continued, I developed codes and assigned colours to the codes. Using basic by-hand content analysis I identified main categories by highlighting content in relation to the assigned colours. Through an iterative approach, I then further refined, combined, and grouped the categories and then identified subcategories. Once developed, creating and adhering to a coding scheme “increased the trustworthiness of my study” (Hsieh & Shannon, 2005, p. 1286) and assisted me to identify categories within and across information sources. My coding guide (see Table 5) provided a road map for content analysis. To ensure consistency in my coding practices, I further defined inclusion criteria and definitions for each of the nine categories. My secondary reviewer also reviewed these categories. As part of my reporting process, I also identified and highlighted knowledge gaps related to my area of study (Munn et al., 2018) using data collected through my data extraction tool. Because this theme was necessary to answer my stated research questions, I applied a direct content analysis approach and analyzed each article in relation to this pre-conceived theme. However, as this process proceeded, I enable the literature content to guide the development of the arising sub-categories. Furthermore, to improve the quality of my reporting I

used a PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analysis) Flow Diagram (Moher, Liberati, Tetzlaff, Altman, & the PRISMA Group, 2009) that can be seen in Figure 2.

Part Two. In Part Two, I explored and described how program evaluation is situated as a stated nursing competency within Ontario and Canada. I completed this part by reviewing pertinent federal, provincial and municipal public health and nursing documents. I also reviewed the stated core competencies for public health practices available from the Public Health Agency of Canada (2008). I employed document analysis to ensure a “systematic procedure for reviewing or evaluating documents” (Bowen, 2009, p.27). Although not included in my document review, I did also review the best practice program evaluation documents put forth from the Canadian Evaluation Society. These documents provided an important point of reference for both my findings and discussion related to this study.

Sample of documents. As mentioned, the document review focused on Ontario and Canadian guiding documents for public health nursing, including core competencies, certification/registration requirements and practice standards. I also reviewed three pertinent best practice documents from the Canadian Evaluation Society’s Competencies for Canadian Evaluation Practice, Program Evaluation Standards (2018) and the Code of Ethics (nd). Table 7 presents the full list of documents that I reviewed.

Data collection. To guide my review, I developed and used a data extraction form (see Appendix C) for each document reviewed. First, I skimmed, read, and interpreted the documents identified (Bowen, 2009). During this step, I continuously reflected on the relevance of the documents to my research problem and purpose (Bowen, 2009). I then extracted data that included the stated program evaluation competencies required for practice, any noted training and or preparation requirements, quality assurance mechanisms, and information on how the program evaluation competency was assessed and or demonstrated in practice. I also extracted and summarized any stated program evaluation theory or content that aligned with the Canadian Evaluation Society’s best practice guidelines and resources.

Analysis. I conducted a content analysis of the information collected through my data extraction forms (see Appendix C) (Hsieh & Shannon, 2005). I coded the text within each document to extract categories and themes (Cardno, 2018). During the coding process, I also

identified and quantified emerging words or content in the text. I also conducted numerical analysis of the documents to assess the number of evaluation competencies included, the areas of focus, and the number of articles mentioning or referencing the Canadian Evaluation Society or their stated best practices. I then used by-hand thematic analysis to further understand the categories or themes across the various documents.

Part One Findings

Numerical Summary

The four database searches resulted in 1315 articles. Upon further refinement and application of limits, I further screened 187 articles by reviewing their abstracts in consideration of my full search parameters and exclusion criteria. This additional screening resulted in 118 studies being selected for further consideration and then uploaded from Endnote into Covidence. Table 8 demonstrates this process for each of the relevant data bases.

Table 8
Data Bases Searched

Data Base	Initial Search Query Results	Articles Selected for Consideration
Medline	131	94
Nursing & Allied Health	239	15
ERIC	85	55
CINAHL	860	23
TOTAL	1315	187

Covidence automatically identified and removed 16 duplicate articles from the 118 originally uploaded. In collaboration with my secondary reviewer, we then screened the remaining 102 studies at the level of title and abstract. From these 102 studies, we agreed upon 56 studies for full text review. Following full review, 20 English articles were then selected for inclusion in the scoping review based on my pre-established exclusion and inclusion criteria and review with my secondary reviewer. Three additional articles were identified by manually reviewing the references from key documents. The primary reason for excluding articles at the level of full-text screening was that one or more of the inclusion criteria was not met or in collaboration with my co-reviewer it was identified the context did not align with public health

and or my research questions. Figure 2 presents my article screening and selection process in the form of a PRISMA² flow diagram (Moher et al., 2009).

Characteristics of the Articles Included

Within the 23 selected articles, 16 reported on research findings while seven provided additional analysis, discussion and or commentary to existing knowledge and research related to evaluation capacity within public health. Table 6 summarizes the articles included within my scoping review. Systematic reviews were the most common research method used (n=4), however many of the studies employed qualitative methods to assess capacity using case studies (n=2), surveys (n=2), interviews (n=2), employee self-assessments (n=2), and focus groups (n=1). Audits, rapid reviews, and environmental scans were other research methods employed to assess competency. Many of the studies included were based on Canadian research (n=7) however, six articles originated from the United States, five articles from Australia, three articles from the United Kingdom, and two articles from New Zealand

Terminology and scope. Thirteen of the articles focused their research and discussion around competencies specific to program evaluation, while 10 articles spoke about evaluation as a part of a suite of public health skills. The articles used multiple terms when referencing the public health workforce. These terms included chronic disease prevention worker, health promoter, public health practitioner, community health nurse and public health nurse. The term Community Health Nurse (CHN) and Public Health Nurse (PHN) were often used interchangeably (Schofield et al., 2011), despite the highly varied roles and expertise of each of these professions. This inconsistency in terms made it difficult to assess findings and or discussion specifically in the context of public health nurses.

Contexts and purposes of included studies. The purpose of the included studies was often to understand existing evaluation capacity amongst public health professionals with the intent to inform future capacity building activities, training, undergraduate preparation, and resource development. Nine studies explored training, issues, and competency needs related to public health (while identifying program evaluation as one of the core competencies for public health), while six articles explored issues and needs more specifically in relation to program evaluation.

² Preferred Reporting Items for Systematic Reviews and Meta-Analyses (Moher, Liberati, Tetzlaff, & The PRISMA Group, 2009)

Three of the studies, aimed to better understand the factors that enabled or hindered evaluation performance amongst public health professionals while an additional four focused on assessing and identifying existing evaluation capacity building approaches and resources. One commentary article (Moule et al., 2017) aimed to encourage nurses to appreciate the importance of evaluation for nursing practice. Of the 23 articles included, seven focused specifically on public health nurses and or community health nurses, and one focused on registered nurses. The remaining 15 articles took a broader focus towards public health practice and public health professionals.

Thematic Summary

What is the current state of literature on program evaluation capacity and competency amongst public health nurses? Initially 11 major themes were identified for analysis with each theme having four to 10 sub-themes. These themes were then further refined and grouped into nine final themes related to program evaluation capacity and competency amongst public health nurses. Due to the limited literature specific to evaluation capacity and public health nurses, related concepts such as community health nursing and public health professionals were included in the analysis. An overview of the main themes and related sub-themes identified through the scoping review is available in Table 5. I have summarized the nine predominant themes below in relation to the three main areas of focus and my research questions.

The context and importance of evaluation in public health.

Health care is evolving thus further evaluation capacity and competency is required amongst public health professionals. Within the articles reviewed, eight included discussions on the evolving nature of health care and increasing emphasis on public health specifically (Schofield et al., 2011; Valaitis et al., 2014; the Education Committee of the Association of Community Health Nurse Educators, 2010; Moule et al., 2017; Espina, Bekemeier & Storey-Kuyl, 2016; Siemon, Gallagos & Gehrke, n.d; Adams & Neville, 2020; Sibbald et al, 2020). Schofield et al. (2011) commented on how health care is shifting from the hospital to the community thus necessitating new or changing roles for health professionals and more specifically nurses. Espina et al. (2016) discussed the need for a competent, population focused workforce as health care reform continues. Two studies (Adams & Neville, 2020; Sibbald et al., 2020) commented that overall health professionals are ideally suited and positioned to do evaluation, while one article (Moule et al., 2017) flagged that increasingly nurses are becoming

involved in and leading evaluations as more emphasis is placed on demonstrating effectiveness and efficiency in health care. Sibbald et al (2020) spoke to the changing and expanding role of nurses, outside of their typical treatment and acute care focus, and that in the future the number of nurses working in non-hospital settings will grow as health care moves more towards community-based models of care. Valaitis et al. (2014) and Schofield et al. (2011) further elaborated on this point, stating there were changing needs for nurses amidst health system change and quoted the Registered Nurses Association of Ontario (RNAO) saying that RNs are a “grossly under-utilized resource in Ontario’s primary care system and are eager to take on expanded roles” (Registered Nurses Association of Ontario, 2012, p. 2). They advocated that more resources were required to support the learning needs of community health nurses amidst the changing health sector needs. Three articles linked health system change to an increased need for nurses to conduct and understand evaluation (Moule et al., 2017; Espina et al., 2019; Sibbald et al., 2020).

Evaluation is important in public health so public health professionals require evaluation capacity and competency. Many of the studies included (n=12) asserted the importance, increasing emphasis and or need for quality evaluation in public health. Lobo et al., (2014) stated the “vital role of evaluation as integral to program planning and program development is well supported in the literature” (p.1) while both Espina et al. (2019) and Hobston, Coryn, Fierro and Sherwood-Laughlin (2019) described it as an important service in public health and Pettman et al. (2012) stated the need for evaluation of public health practice remains crucial. Denford et al. (2017) identified evaluation as being important to identify what public health programs are effective, to improve public health, to inform funding decisions and to reduce financial waste.

A sub-category identified amongst four of the articles was evaluation’s link towards quality improvement and or practice improvement (Denford et al., 2017; Lobo et al., 2014; Pettman et al., 2012; LaMarre, D’Avernas, Riley, Raffoul & Jain, 2020). Lobo et al. (2014) further elaborated saying that evaluation’s “most important purpose is to not prove but to improve” (p.1) while Lamarre et al. (2020) stated evaluation helps organizations deliver quality programming and to make any needed improvement to the work that they do. One article (Pettman et al., 2012) emphasized the direct link between quality improvement and evaluation in reference to assessing practice and to document what doesn’t work. Similarly, Lobo et al. (2014) spoke about the

importance of sharing negative outcomes, learnings, and mistakes so that “others can learn and not make the same mistakes” (p. 4).

The lack or absence of quality, rigorous evaluation in public health was frequently cited (n=12) in the articles (Denford et al., 2017; Bourgeois et al., 2017; Francis & Smith, 2015; Denford et al., 2018; Lobo et al., 2014; Jacobs, Jones, Gabella, Spring, Ross & Brownson, 2012; Pettman et al., 2012; Lamarre et al., 2020; Smith et al., 2016; Decorby-Watson et al., 2018; Siemon, et al., 2018; Freund et al., 2018). Denford et al. (2017) stated that currently public health programs are often “implemented with poor, incomplete or no evaluation at all” (p.2) while Freund et al. (2018) claimed that few contemporary public health policies are robustly evaluated despite their potential impacts and significant costs. One Australian review of health promotion evaluations reports showed that nearly half of evaluations assessed used only one method to inform the evaluation findings (Smith et al., 2016). Pettman et al. (2012) spoke about the need to formulate clear evaluation questions with a clear population, intervention, comparison, and outcomes.

The dissemination of evaluation findings to enable use was discussed in relation to public health. Schofield et al. (2011) stated that much in public health is not being published and Moule et al. (2017) observed that more dissemination of evaluation findings is needed. In their study, Francis and Smith (2015) audited 29 Australian evaluation reports and interviewed experienced public health practitioners before concluding that evaluation findings are rarely included in published health promotion articles. Pettman et al. (2012) echoed this perspective by stating the “dissemination of findings and learning is a critical but often a neglected aspect of public health practice” (p. 153).

Within the conversations, a gap in evaluation was frequently referenced related to health promotion and chronic disease prevention work rather than public health specifically. Because of the strong basis of this type of work in public health and that chronic disease prevention is commonly used as a catch all term for public health interventions (LaMarre et al., 2020), these terms were included as part of this scoping review.

Evaluation is an important component of evidence-based practice, so evaluation capacity or competency is needed. Overall, the link between evidence-based practice and public health evaluation were repeatedly mentioned. Ten sources stated the importance of quality evaluation to inform evidence-based practice and decision making (Denford et al., 2018; Francis & Smith,

2015; Denford et al., 2017; Lobo et al., 2014; Jacobs et al., 2012; Pettman et al., 2012; LaMarre et al., 2020; Decorby-Watson et al., 2018; Moule et al., 2017; Espina et al., 2019) and to bridge gaps in evidence/research and practice. Denford et al. (2017) and Francis and Smith (2015) both identified evaluation as an important source of evidence and key informant for decision-making in consideration of limited public health funds. Within the discussions related to evaluation capacity building, increased awareness and use of evaluation findings for evidence-based decision making was included. DeCorby-Watson et al. (2018) assessed, as part of their systematic review on evaluation capacity building interventions, that gaps were consistently noted around the use of evidence for decision making in the public health workforce. Noting the links between evidence-based practice and evaluation, Moule et al. (2017) highlighted that public health nurses could contribute to developing the public health evidence base through the dissemination of evaluation findings.

Evaluation is complex in public health so strong evaluation competency and or capacity is needed. Evaluation within the context of public health was identified as being challenging and difficult within eight of the articles reviewed (Francis & Smith, 2015; Denford et al., 2017; Denford et al., 2018; Lobo et al., 2014; LaMarre et al., 2020; Moule et al., 2017; Stewart, Halverson, Rose & Walker, 2010; Freund et al., 2018). Four basic types of evaluation were associated with public health: formative, process, impact, and outcome. The authors recognized that the aim of many public health interventions is to change multiple behaviours over long periods of time (Denford et al., 2017), thus measurable change could be hard to track and require a long-term commitment. Other challenges noted, specific to the nature of public health, included: the difficulty in demonstrating causal relationships between health promotion initiatives and outcomes (Francis & Smith, 2015); the challenge in identifying if chronic disease trajectories are actually altered (LaMarre et al., 2020); and the challenge of undertaking data collection with vulnerable participants (Francis & Smith, 2015). An added element to the conversation was the interdisciplinary nature of the public health workforce which could further complicate the approaches, philosophies, and goals that practitioners bring towards program evaluation (Sibbald et al., 2015).

Evaluation capacity or competency in Public Health and amongst public health nurses.

There is a perceived lack of evaluation capacity or competency amongst public health professionals. Any discussion within the literature related to broad public health competency

also relates to my research questions as evaluation is an identified competency within both the Community Health Nursing Standards for Practice and both the Canadian and American core competencies for public health practice. In addition, Espina et al. (2019) spoke in their article about 10 essential public health services and competencies in the United states. Evaluation was one of the services, and core competencies listed.

Many of the included studies alluded to a general public health skill deficit (not evaluation specifically) and or inconsistency in training amongst the public health workforce (Jacobs et al., 2012). Ten articles specifically stated public health practitioners or those working in the field of health promotion, lacked evaluation capacity, or reported widely varying levels of evaluation knowledge (Denford et al., 2018; Francis et al., 2017; Denford et al., 2017; Lobo et al., 2014; Pettman et al., 2012; LaMarre et al., 2020; Decorby-Watson et al., 2018; Bourgeois, Hotte, Simmons & Osseni, 2016; Hobson et al., 2019; Freund et al., 2018). These articles did not speak specifically to nursing as a professional discipline (my research questions) but rather referenced a lack of evaluation capacity within an interdisciplinary public health workforce. Noted evaluation gaps included low rigour, poor data collection, a lack of access to measurement tools, inability to formulate clear evaluation questions (Pettman et al., 2012), and reliance on data that is easy to collect (such as surveys vs. multi-method approaches) (Lobo et al., 2014). The challenges of conducting a rigorous, tightly controlled intervention in a community “real world” setting was acknowledged as a true challenge for practitioners (Pettman et al., 2012). Lack of understanding of evaluation (Lobo et al., 2014; Adams et al., 2020), and a common perception of evaluation as an add-on process were additional issues identified (Lobo et al., 2014).

A needs assessment conducted by Stewart et al. (2010) found that a large proportion of public health professionals reported having limited formal training in public health science prior to practice. DeCorby-Watson (2018) spoke of a general skill deficit in public health workforce and related this to insufficient preparation while other authors spoke about the general gap in academic preparation for public health and the need to identify the training and preparation public health practitioners receive prior to practice (Denford et al., 2018; Jacobs et al., 2012; Schofield et al., 2018; Decorby-Watson et al., 2018; Siemon et al., 2018; Valaitis et al., 2014; Education Committee of the Association of Community Health Nurse Educators, 2010).

Within the included articles, there was no mention of evaluation organizations and or the Canadian Evaluation Society. Furthermore, the professionalization of program evaluation was

not addressed, except for one article that commented “in general public health professionals are unaware of the distinctiveness of program evaluation as a discipline” (Adams et al., 2020, p. 2).

The articles included explored causal, contributing, individual and organizational factors in relation to evaluation capacity. A shortage of skilled practitioners, an absence of evaluation culture and the limited use of evaluation findings were listed as barriers towards full integration of evaluation within public health practise (Francis & Smith, 2015; LaMarre et al., 2020). The high costs and complexity of public health evaluations, as well as a lack of accessible and user-friendly resources were mentioned (Denford et al., 2017). The perception of evaluation as being an add-on process to practitioner’s work (Denford et al., 2018) or undervalued (Lobo et al., 2014) and the potential risk involved in the event of unfavourable findings (Lobo et al., 2014) were also referenced as possible barriers. Francis and Smith (2015) questioned whether public health’s historic focus on meeting funding reporting requirements versus truly assessing impact may have entrenched behaviours counter to an evaluative culture. Others discussed more broadly that evaluation related requirements are relatively new in public health so may not yet be a priority for public health units (Bourgeois et al., 2016).

Evaluation training prior to practice, as well as ongoing professional development were noted gap in many articles (Francis & Smith, 2015; Denford et al., 2017; Denford et al., 2018; Hobson et al., 2019; Lamarre et al., 2020; Lobo et al., 2014; Decorby-Watson et al., 2018). The articles spoke about public health practitioners feeling unqualified to conduct evaluation (Denford, 2018), not understanding evaluation (Lobo et al., 2014) and needing support (Denford et al., 2017). Knowledge gaps referenced included: formulating clear evaluation questions; data collection; data analysis, use of evaluation findings; and the development and application of an evaluation framework. One article stated that despite the importance of evaluation competency in public health, little was known about the quality, consistency, and content of evaluation education provided (Hobson et al., 2019). In terms of action needed, Denford et al. (2017) argued that there was first a more immediate need to define what public health evaluation includes and then from there define workforce evaluation capacity needs.

Links to academic institutions, specifically related to evaluation, were discussed in four of the articles included (Denford et al., 2018; Adams et al., 2020; Francis & Smith, 2015; Hobson et al., 2019). This is in addition to the six articles mentioned earlier that generally addressed academic preparation for public health (understanding that evaluation is a stated competency for

public health). Hobson et al. (2019) asserted that the quality and consistency of evaluation content amongst public health courses offered in the United States were inconsistent and questioned whether evaluation should be regarded as an advanced practice role with its teaching grounded within the Master of Public Health. Francis & Smith (2015) spoke about forming links with universities to improve practitioners' skills in rigorous evaluation while another article focused on the emphasis placed on research practice and methods in undergraduate and graduate preparation with little inclusion of program evaluation (Adams et al., 2020). Additionally, links between professional evaluation bodies and public health academia were discussed as being important to identify the essential evaluator competencies for public health and then to identify ways to integrate these competencies into training (Hobson et al., 2019).

The scope of practice for community health nurses is broad making it difficult to define the needed capacity and competency for public health nurses. Public health nurses comprise the single largest professional group within the field of public health (Espina et al., 2019) and fall under the larger classification of community health nurses (Schofield et al., 2011). The definition or understanding of a community health nurse is broad and also includes home care nurses and nurses working in community settings. Recognizing the vast differences between these roles, it is difficult to assess the evaluation capacity required for the broader title of community health nurse. Currently much of the discussion related to evaluation capacity and or competency is in relation to the broader classification of community health nurses.

In general, evaluation is an identified core knowledge and basic competency for community health nurses (Education Committee of the Association of Community Health Educators, 2010) however nurses working in public health have identified significantly greater needs to “know about evaluating population health programs systematically vs. other areas included within the title of community health nurse” (Valaitis et al., 2014, p. 66). When evaluation was discussed in the context of being a core competency for public health, one article stated there was inadequate preparation amongst Canadian graduating nurses to practice in community health settings and that enhanced preparation was needed around the Standards of the Community Health (Schofield et al., 2018).

There is a perceived lack of evaluation capacity or competency amongst public health nurses. Of the literature assessed, seven articles addressed and identified a gap in evaluation capacity amongst nurses as part of a larger discussion related to public health competencies

(Schofield et al., 2011; Valaitis et al., 2014; Moule et al., 2017; Education Committee of the Association of Community Health Nurse Educators, 2010; Espina et al., 2019; Siemon et al., 2018; Sibbald et al., 2015). Of these seven, five delved further to discuss evaluation specifically in the context of public health nurses and or community health nursing. Valaitis et al. (2014) reported that Canadian public health nurses identified evaluation as an activity they frequently performed and that these nurses had significant needs in this area. When evaluation was discussed in the context of being a core competency for PHN's, Espina et al. (2019) commented that more dissemination and application of public health competencies into practice was needed to advance the field.

In the American context, Espina et al. (2019) reported that evaluation is an “identified essential service “(p.9) within the Quad Council public health nursing competencies. Their assessment of public health nurse leaders identified that practitioners in general lacked knowledge of these Quad Council competencies and had limited resources to apply them in practice. Furthermore, the work of Siemon et al. (2018) reported that competency assessments of new graduate nurses found that less than half (n=39%) met the minimum overall public health competency scores and thus were likely not prepared to work in public health (Siemon et al., 2018). Additionally, Moule et al.'s (2017) British-based commentary on the subject of evaluation and nursing, asserted the need for more nurses to become involved in leading evaluations and stated that at present it is challenging for nurses to differentiate between evaluation, audit and research.

Specific to nursing preparation for public health practice, six articles spoke about a need for more public health preparation within nursing education and undergraduate BScN preparation (Schofield et al., 2018; Valaitis et al., 2014; Education Committee of the Association of Community Health Nurse Educators, 2010; Espina et al., 2019; Siemon et al., 2018; Sibbald et al., 2015). Gaps in theoretical content, clinical practice experiences (Schofield et al., 2018) and quality educational programs focused on community health and or public health (Valaitis et al., 2014) were referenced. Espina et al. (2019) spoke about 10 essential public health services and the related gaps in undergraduate education in each of these areas. They further expanded on this issue stating academic faculty often reported they did not feel competent to teach these topics. Furthermore, one article summarized the findings from competency assessments of new graduate

nurses stating that less than half (n=39%) met the minimum overall public health competency scores and thus were likely not prepared to work in public health (Siemon et al., 2018).

Evaluation capacity building is needed in public health. There is a vast amount of literature and discussion available related to evaluation capacity building (ECB) specific to public health. Recognizing this, I chose to include ECB as an exclusion criteria unless it also contributed towards the discussion of evaluation capacity amongst public health professionals and more specifically public health nurses. Thirteen of the articles included did address ECB with three of them focusing specifically on the well-developed body of literature in this area (Lobo et al., 2011; Francis & Smith, 2015; LaMarre et al., 2020). There was general agreement amongst the articles, that evaluation capacity referred to the ability to not only do evaluation but also to use evaluation findings and that it included both individual and organizational capacity. One article described it further, stating it referred to “the ability for people within an organization to conduct evaluation within a supportive and well-resourced context “(Lamarre et al., 2020, p.10). There was general agreement across the articles reviewed about the benefits of building evaluation capacity within public health (Bourgeois et al., 2017; Denford et al., 2017; Lobo et al., 2014; LaMarre et al., 2020; Espina et al., 2019; Adams et al., 2020). One article stated ECB in public health units would ensure higher quality programs and better use and understanding of evaluation findings amongst public health staff (Bourgeois et al. 2017). In terms of approaches towards ECB, one article stated efforts should focus on application in practice (Sibbald et al., 2015) while another spoke more specifically about the need to strengthen evaluation design and methods (Smith et al., 2016).

Support and resources.

Existing support and resources to build evaluation capacity and or competency in public health. Linked to the conversation around evaluation capacity building amongst public health professionals was discussion around the resources currently available, the resources needed and opportunities to strengthen ECB. A total of 13 articles reviewed discussed public health resources available in public health. Four authors specifically mentioned the need to build stronger connections with the academic and evaluation community to enhance evaluation amongst practitioners (Denford et al., 2018; Francis & Smith, 2015; Schofield et al., 2011; LaMarre et al., 2020). Stewart et al. (2010) spoke of partnerships between schools of public health and public health departments as being a viable option for workforce development

programs. Schofield et al. (2011) stated that community health nurses should build partnerships with nursing academia to enhance professional development. One article (Hobson et al., 2019) spoke of a general need for improved collaboration between the professional public health community and the professional evaluation community “to identify the essential public health evaluator competencies and how these could be integrated into existing training programs” (p. 602).

Within the articles reviewed there was debate around the role and usage of external evaluation supports in public health. Freund et al. (2018) felt that organizations needed to develop internal capacity rather than engage external agencies for support. Adams et al. (2020) similarly expressed that health professionals are ideally suited to do evaluation themselves and concluded that this health involvement was integral to the successful delivery of health services. Bourgeois et al. (2016) reported from their case study research that public health units with a higher degree of staff involvement and or participation in evaluation had stronger use scores than organizations that engaged external experts only. They also elaborated that public health staff involvement allowed for better understanding of the findings, the contexts involved and more recommendations thus making the findings more applicable.

Four authors stated there were adequate or plentiful evaluation resources available to the public health community but what was lacking was practice based support to put these resources into real world practice (Denford et al., 2018; Denford et al., 2017; Lobo et al., 2014; Moule et al., 2017; Sibbald et al., 2015). One article further stated that the resources were available but were often underused by public health practitioners because they became overwhelmed trying to navigate them all (Denford et al., 2018).

What areas are important to consider for future research on program evaluation capacity and competency amongst public health nurses? Based on the current state of the literature related to evaluation capacity and competency amongst public health nurses these were some important areas identified for consideration in future research: how best to evaluate public health activities; how best to prepare public health practitioners (including public health nurses) for entry to practice; and how best to build and sustain evaluation capacity in public health practice.

How best to evaluate public health activities? Within the articles reviewed, five expressed a need for further research on how best to evaluate public health activities, particularly those

related to health promotion, public health policy and chronic disease prevention (Freund et al., 2018; Lobo et al., 2014; Denford et al., 2018; Denford et al., 2017; Francis & Smith, 2015). Denford et al. (2018) stated that public health evaluation is challenging so practice-based guidance that relates to the real-world setting in which public health operates is needed. Forming links with academia was referenced within five articles. It was posited that these links could improve practitioners' skills in rigorous evaluation methods (Francis & Smith, 2015) and help identify methods for evaluating public health in the context of health promotion, chronic disease prevention and the population health focus (LaMarre et al., 2020).

How best to prepare public health practitioners (including public health nurses) for entry to practice? General entry to practice preparation for public health and ongoing professional development needs once practicing were opportunities for further study identified. Hobson et al. (2019) commented that public health experts should collaborate on identifying the essential evaluator competencies for public health and how these competencies could be integrated into existing training programs. Stewart et al. (2010) elaborated stating that once competencies were identified, research was needed around the best way to apply these competencies towards training and workforce development. In regards to public health nurses, further understanding of their expanding role within an evolving health system was referenced within three articles (Valaitis et al., 2014; Espina et al., 2019; Sibbald et al., 2015). Building partnership with nursing academia to broaden the literature available related to community health nurse preparation was also discussed (Schofield et al., 2011). Siemon et al. (2018) flagged a need for further research around the competency gap of nurses entering public health and community health and further commented that there were few existing instruments available to assess competency in public health in general amongst undergraduate or new graduate RN's. Specific to the Canadian context, one article stated further research was needed to better understand gaps in training and "why public health nurses feel certain needs are not being met by current training, education and programming" (Sibbald et al., 2015, p. 29).

How to build and sustain evaluation capacity in public health practice? Although the literature related to ECB is plentiful, some noted areas for further understanding specific to public health included studies assessing the long-term impacts of ECB activities (Bourgeois et al., 2018), how best to sustain and support ECB in public health (LaMarre et al., 2020), and the evaluability of public health activities (Denford et al., 2017). Multiple articles referenced the

need to understand better how to support evaluation within public health (LaMarre et al., 2020; Decorby-Watson et al., 2018; Stewart et al., 2010). Schofield et al. (2018) identified a need a need to better understand teaching strategies to build evaluation capacity while Lobo et al. (2014) similarly stated more knowledge was required around how to support application of evaluation resources to practice. One article stated a “better understanding of centralized/ decentralized/ hybrid support structures within public health units requires further study related to evaluation capacity” (Bourgeois et al, 2016, p. 178). Regarding external supports, Hobson et al. (2019) spoke of needing to “create “stronger connections between the professional public health community and the professional evaluation community” (p.602) and that evaluation and public health experts needed to collaborate on identifying the essential evaluator competencies for public health professionals.

Part Two Findings

Characteristics of Documents Included

I included a total of 11 guiding documents for public health nursing practice in Canada and or the province of Ontario. Ten of the documents focused exclusively on nursing practice and described the essential knowledge and practice requirements for registered nurses in Ontario and Canada. In addition, the Public Health Agency of Canada’s *Core Competencies for Public Health in Canada* (2008) were included. All the documents reviewed were Canadian with seven of them focused on national nursing practice and four of them focused on nursing practice within the province of Ontario. An additional three guiding documents from the Canadian Evaluation Society were reviewed, but not included in the document analysis. As stated earlier, these CES documents were reviewed to provide a point of comparison for summarizing my findings and the ensuing discussion. Table 7 provides an overview of the 11 documents reviewed.

Numerical analysis. Six of the documents reviewed focused on generic nursing practice, while five of the documents specifically focused on public health and or community health nursing. Two of the documents primarily focused on nursing ethics. Amongst the 11 documents reviewed, 52 different evaluation related skills, competencies or capacities were identified. Ten of the documents reviewed identified at least one evaluation related competency for practice and or specifically listed evaluation as a recognized nursing practice role. The Ethics Practice Standard (College of Nurses of Ontario, 2019) was the only document that did not reference at least one evaluation related competency or skill in relation to nursing practice. The Canadian

Community Health Nursing Professional Practice Model and Standards (Canadian Community Health Nurses of Canada, 2019) contained the most references to evaluation (n=10). Two of the 11 documents (Canadian Public Health Association, 2010) (Public Health Agency of Canada, 2008) included a formal definition of evaluation either within the body of the document or within the glossary of terms that aligned with the recognized CES definition for evaluation.

Thematic Summary

What are the stated program evaluation competency requirements or expectations for public health nurses in Ontario and Canada? A total of 15 categories or competencies were identified during the broad analysis of the documents included. Seven categories included specific evaluation competencies while eight categories broadly addressed general themes emerging. Understanding these stated competencies, or how program evaluation is generally positioned within these documents, is important to articulate a definition or point of reference for the concept of evaluation capacity in public health. Table 9 summarizes these categories, including how these categories were defined and the related frequency counts. Where relevant, the identified categories have also been linked to the Canadian Evaluation Society Evaluation Standards.

In total, 10 documents identified evaluation as a core skill and or competency for public health nursing practice. Within these 10 documents, 52 evaluation related competencies were cited, often linked to broad statements such as evaluate the effectiveness of an activity and revise or modify as needed (College of Nurses of Ontario, 2018, p.5). None of the documents reviewed included any direct mention or reference to the Canadian Evaluation Society or other international evaluation bodies. A summary of the stated evaluation and quality improvement competencies can be found in Table 10. These competencies have been further linked to identified content and or theory from the Canadian Evaluation Society.

Evidence-Informed Practice. Nine of the documents emphasized the use of evidence to inform decisions and general practice. Program evaluation was not always specifically stated in relation to evidence-informed practice, but the competencies often referenced skills/components linked to evaluation. For example, the Public Health Community Health Nursing Practice document states “the nurse uses structure, processes, and outcome-orientated research as a guide to practice” (Canadian Public Health Association, 2010, p.27). The College Nurses of Ontario Professional Standards (2002) also state “that nurses in administrator roles need to measure the

impact of evidence-based decisions on practice” (p.8). The Canadian Community Health Nursing Standards (Community Health Nurses of Canada, 2019) articulate the requirement for evidence informed health assessments using multiple sources and methods while also citing the importance of evidence informed advocacy, development, and implementation of nursing interventions.

Quality Improvement. Eight of the included documents referenced quality improvement through 10 related competencies and or skills (College of Nurses of Ontario, 2018; College of Nurses of Ontario, 2014; Community Health Nurses of Canada, 2019; Community Health Nurses of Canada, 2009; Canadian Public Health Association, 2010). Although not always explicitly linked to evaluation, the skills and related activities were often complementary or linked by the concept that evaluation is conducted to inform current and future care planning (College of Nurses of Ontario, 2018, p. 8) or that the nurse evaluates and modifies activities (Community Health Nurses of Canada, 2019). The College of Nurses of Ontario (2012) definition of continuous quality improvement (CQI) states “continuous quality improvement is a continuous cycle of planning, implementing and evaluating the effectiveness of strategies and reflecting to see what further improvements can be made” (p. 9). The College of Nurses of Ontario (2018) Entry to Practice Competencies clearly link program evaluation and quality improvement in their statement that nurses “evaluate the effectiveness of an intervention and revise the plan if necessary” (p.7), while the Canadian Community Health Nursing Standards of Practice (Community Health Nurses of Canada, 2019) state a community health nurses is able to use available resources to systematically evaluate the achievement of desired outcomes for quality improvement purposes. Additionally, the Ethics Practice Standard (College of Nurses of Ontario, 2019) states a nurse must “consider policies and guidelines for subsequent situations and decisions and revise them as necessary” (p.16).

Evaluation Methodology. Evaluation methodology was addressed within eight of the 11 documents included. These competencies and or standards outline the use of theory and or a systematic approach in relation to evaluation. The Canadian Community Health Nursing Standards (Community Health Nurses of Canada, 2019) include mention of using both process and outcome approaches to evaluate impact while the Entry to Practice Public Health Nursing Competencies (Canadian Association of Schools of Nursing, 2014) state nurses recognize trends and patterns of epidemiological data (p.9). The Public Health Community Health Nurse Roles

and Activities (Canadian Public Health Association, 2010) focus' on nurses having competencies related to the collection, storage, integration, analysis, and interpretation of data. The Core Competencies for Public Health in Canada (Public Health Agency of Canada, 2008) also reference collection, storage, and retrieval of information in addition to “the use of accurate and appropriate information on public health issues” (p. 2.3). Multidisciplinary evaluation practice was referenced three times regarding reliable data sources, interprofessional engagement, and the dissemination of findings.

Needs Assessment. Conducting a needs assessment or assessing an issue using data to inform practice was referenced in five of the documents. The Canadian Community Health Nurses Standards (Community Health Nurses of Canada, 2019) state that “nurses conduct a health assessment using multiple sources and methods to identify needs, assets, inequities and resources” (p.18). The Public Health Nursing Discipline Specific Competencies (Community Health Nurses of Canada, 2009) includes competency 2.1 which states public health nurses conduct comprehensive community assessments using quantitative and qualitative strategies while the Public Health Community Health Nursing Roles and Activities (Canadian Public Health Association, 2010) reference public health practice as being “guided by an assessment of health status that is determined through a community health assessment process” (p.16).

Evaluation Use. The use of evaluation findings to inform practice is referenced within 13 competencies across six of the documents included. These competencies focus on the use or “application in practice” (College of Nurses, 2002, p.7) of findings in relation to evidence informed practice or to use evaluation findings to inform health policies and programs (Public Health Agency of Canada, 2008). Use of evaluation findings is also referenced in relation to quality improvement within five documents to modify, individualize, change, increase, and inform interventions or care.

Stakeholder Engagement. Six of the documents specifically mentioned stakeholder engagement in reference to evaluation competencies. The Public Health Nursing Discipline Specific Competencies (Community Health Nurses of Canada, 2009) describe the involvement and engagement of the client, families, groups, communities, and other stakeholders in evaluation. The Canadian Community Health Nursing Standards (Community Health Nurses of Canada, 2019) reference collaboration and partnership with the client in relation to evaluation practices, while the Ethics Practice Standards (College of Nurses of Ontario, 2019) address

involving in the evaluation those who were part of the initial assessment and planning, including the client.

Evaluation Ethics. Five of the included documents incorporated evaluation competencies that speak to ethical evaluation practice. Areas addressed included data collection, the ethical treatment of people, privacy, informed consent, and quality evaluation practices. The Code of Ethics for Registered Nurses (Canadian Nurses Association, 2017) informs nurses of ethical values and their related responsibilities. Within this document, consent, privacy, and ethical data management practices were described.

General categories. Here are some of the general categories that emerged across the documents included.

Regulation. When evaluation competencies were stated, the related competency assessment mechanism was either through self-regulation and or self-assessment (nine documents) and or assessed by existing nursing regulatory bodies (five documents). Nursing regulatory bodies establish registration and licensure criteria for RN's including graduation from an approved nursing program, passing a registration exam, and participating in continuous quality improvement initiatives. In Ontario, self-regulation was identified as the “annual self assessment by the RN; the development of professional learning goals; as well as actively engaging in interprofessional practice” (College of Nurses of Ontario, 2018, p. 3). In the documents reviewed there were no specific skills that had to be demonstrated or, indicators of success included to define and inform self- assessment related to evaluation.

Training and Preparation. Stated competencies or practice standards inform the undergraduate baccalaureate skills taught prior to practice. The Entry to Practice Public Health Nursing Competencies for Undergraduate Nursing Education (Canadian Association of Schools of Nursing, 2014) are positioned as the core competencies in public health nursing that all nursing students should acquire over the course of their undergraduate education. They cite four evaluation competencies that are intended to guide faculty teaching to “ensure reasonable levels of student competence in this area of nursing” (p.4). The College of Nurses of Ontario (2014) Competencies for Entry Level Registered Nurse Practice include two specific competencies directly linked to evaluation. These standards are used by the College of Nurses to evaluate baccalaureate nursing education programs. Public health specific standards, such as the Public Health Nursing Discipline Specific Competencies (Community Health Nurses of Canada, 2009)

are also intended to guide professional development practices. Professional development upon entry to practice is referenced in the Canadian Community Health Nursing Standards of Practice (Community Health Nurses of Canada, 2019) which cite 12 evaluation related standards but assert that “a new nurse entering community health practice will likely need at least two years to achieve the practice expectations of these specialty standards” (p. 15).

Discussion

This two-part study revealed a breadth of discussion around the importance of program evaluation practices in public health as well as the importance of evaluation competency and or capacity within the public health workforce. In Part 1, the scoping review identified multiple themes including gaps or needs related to evaluation capacity, the links between evaluation and evidence informed practice, and evaluation’s role in supporting ongoing quality improvement in health care. The evolving health care context and stated complexity of evaluating public health interventions were discussed with links drawn to the importance of preparation prior to entry to public health practice as well as ongoing training and support during practice.

In the context of public health nurses, the literature included focused on demonstrating or discussing a general lack in evaluation capacity or competency amongst public health nurses. Often this stated capacity gap was identified in reference to a broader suite of public health skills and knowledge. Like the public health workforce, the need for adequate training, preparation and ongoing professional development once practicing was referenced within the discussions. Furthermore, the document review conducted demonstrated a general assumption and expectation that nurses have knowledge and skill related to program evaluation. This was demonstrated through the identification of 52 evaluation competencies within the 11 documents reviewed. Although these competencies included no specific reference to the Canadian Evaluation Society or recognized evaluation best practices, their themes and content did align to many of the CES Program Evaluation Standards. These noted themes and concepts will be further explored in this section.

Across the literature included in this scoping review, there was a wide range of discussion related to a broader lack of public health competency. This discussion was noteworthy as evaluation was consistently identified as one of the essential skills or competencies required for effective public health practice. This was demonstrated in Battel-Kirk & Barry’s (2009) international review of literature on health promotion competencies, that identified evaluation as

a domain within public health competency frameworks. Similarly, the Public Health Agency of Canada's Core Competencies for Public Health in Canada (2008) clearly identify evaluation as one of a suite of skills required for effective public health practice. Within this discussion, entry to practice preparation and within practice preparation related to broad public health practice was frequently explored. A systematic review conducted by Decorby-Watson et al., (2018) concluded that a skill deficit in the public health workforce was evident and included insufficient preparation. Stewart et al. (2010) shared in their findings that a large proportion of public health professionals reported having little formal training in public health. Jacob's et al., (2012) similarly commented that fewer than half of all public health workers have formal training in a public health discipline such as epi or health education. Specific to public health nurses, the wide scope of practice of a public health nurse and the emphasis on traditional clinical skills within undergraduate preparation, alluded to a disconnect between the realities of practice and the accepted preparation for public health practice.

An absence of broader public health skills is noteworthy, especially when considering that at present there is no single credential certifying a public health practitioner (Jacob's et al., 2012). Without identified public health standards of knowledge or practice, it is challenging to define what program evaluation capacity is in the context of public health. The absence of standardized "credentials for practice" also influences the training, preparation and professional development public health nurses receive to ensure acceptable public health practice. In the absence of a consistent benchmark for public health practice, it is difficult to define what is acceptable capacity or competency for a wide range of skills including program evaluation. Future exploration and discussion related to a recognized credential for public health practice could further illuminate the skills and knowledge required for "acceptable program evaluation capacity" in public health.

Many articles spoke to the evolving context of public health in the health care system and trumpeted the need for further capacity related to program evaluation. Increasingly health care is shifting from the hospital sector to the community thus there is more emphasis on public health (Schofield et al., 2011). Recognizing that nurses are the biggest workforce in public health, these changes in the health care landscape will shift the skills needed by nurses as they take on expanded roles (Valaitis et al., 2014). These expanded roles include more nurses becoming

involved in, leading and contributing towards evaluations (Moule et al., 2017) (Siemon et al., 2018).

Within the studies included an absence or lack of sound evaluation practices in public health were discussed. The innate challenges of evaluating policy work, population health focused interventions and longer-term community-based interventions, associated with public health, were emphasized by some authors with the caveat that unique approaches and knowledge related to evaluation practice in these settings required further development. Similar to broad public health knowledge, Hobston et al., (2019) asserted that “despite the stated importance of evaluation competence in public health practice, the quality, consistency and content of evaluation education in public health was nearly undocumented” (p. 592).

In the context of nursing, Moule et al. (2017) focused on how nurses are well positioned to evaluate their work. They further commented that amidst increasing emphasis on demonstrating effectiveness and efficiency in healthcare more nurses are becoming involved in evaluation activities. Moule et al.’s observations (2017) were shared by other authors, as the scoping review conducted demonstrated consensus in the discussion on a need for evaluation capacity amongst public health nurses.

When considering evaluation capacity and or competency within public health nurses, it is important to recognize the different terms used across the literature to define a public health nurse and the limitations this can present. Within the articles included, public health nurse, community health nurse, health promoter, public health professional, and registered nurse were all terms employed to describe a public health nurse. These inter-changing terms made it challenging to extrapolate discussion specific to my stated research question amidst a small pool of relevant research. Many community health nurses work in public health; however, some community health nurses may provide home care or work in community health clinics. These areas of speciality are inherently different than public health.

At a basic level, all registered nurses, regardless of their area of speciality, are expected to share common skills, knowledge, and competencies. In Ontario, the *Regulated Health Professions Act of Ontario* (1991) requires that all nurses be registered with the College of Nurses of Ontario and that the College have a program in place to assign designation and ensure quality assurance. Competencies and standards are therefore created to meet these requirements and guide members. These competencies “define discipline and specialty standards, expectations

and align practitioners with evidence-based standards of care and performance” (Verma, Paterson, & Medves, 2000, p. 110). The document review conducted consistently demonstrated the inclusion of program evaluation as a required competency for nursing practice. In fact, 10 of the 11 guiding public health nursing documents reviewed, included capacity statements or competency requirements that either directly referenced program evaluation or indirectly referenced skills or practices that are recognized components. Although there was no purposeful alignment with or mention of the Canadian Evaluation Society within these documents, the competencies stated often complimented the evidence-based Program Evaluation Standards created by the CES.

Stakeholder engagement resonated strongly within the nursing documents and is a valued utility standard within the CES Program Evaluation Standards (CES, 2012). Statements such as “evaluates and modifies prevention and health protection activities in partnership with the client” (Canadian Community Health Nursing Professional Practice Model and Standards of Practice, 2019, n.p) and “evaluates programs in partnership with individuals, families, groups, communities and other stakeholders” (Community Health Nurse Canada, 2009, #3D3) demonstrate the integration of stakeholder engagement within assumed nursing competencies. Within the articles included in the scoping review, there was no specific mention of stakeholder engagement in the context of evaluation competency, however stakeholder engagement was frequently referenced related to evaluation capacity building activities (LaMarre et al., 2020; Bourgeois et al., 2016; Hobson et al., 2019).

Conducting evaluations that generate useful information is referenced in both the CES Utility Evaluation Standards (Canadian Evaluation Society, 2012) and the nursing competencies reviewed. The scoping review also referenced this concept stating that quality evaluation is essential for the evidence base (Denford et al., 2017; Francis & Smith, 2015) and that supporting public health professionals to undertake rigorous evaluation would build a culture for evidence informed practice (Pettman et al., 2012). Evaluation use was cited within several of the articles included as being a specific area where public health practitioners lacked capacity or could benefit from evaluation capacity building initiatives (Lobo et al., 2014; Pettman et al., 2012; Moule et al., 2017; Bourgeois et al., 2017).

The concept of evaluation use was further explored in relation to quality improvement with emphasis on learning from both positive and negative outcomes (Lobo et al., 2014) and

documenting what doesn't work (Pettman et al., 2012). The Entry to Practice Competencies for Registered Nurses state that a registered nurse in Ontario "integrates continuous quality improvement principles and activities into nursing practice" (p. 7) while the Canadian Community Health Nursing Standards of Practice (2019) postulate that "the practicing nurse uses available resources to systematically evaluate the achievement of desired outcomes for quality improvement in community health nursing practice." Throughout the nursing competency statements, evaluation use and quality improvement were used interchangeably. This is an important observation considering the increasing emphasis placed on quality improvement within health care since the 1980's (Cantiello, Kitsantas, Moncada, & Abdul., 2015).

The CES Accuracy Standards focus on increasing the dependability and truthfulness of evaluation findings through rigorous methods and systematic data collection (CES, 2012). Similarly, the nursing documents reviewed identified nursing competencies related to using a critical inquiry process (College of Nurses, 2014), using available resources to systematically evaluate care, and employing multiple methods and sources (Canadian Association of Schools of Nursing, 2014). Despite the stated importance of these competencies, the scoping review unearthed conversations that implied public health professionals (including public health nurses) do not necessarily have these skills. Adams et al., (2020) concluded that many reported program evaluations amongst health professionals show no evidence of the application of any evaluation specific methodology. Practitioners feeling under skilled to conduct evaluations (Denford et al., 2017), single method public health evaluations (Smith et al., 2016), unclear evaluation questions (Pettman et al., 2012) and poor data collection strategies (Lobo et al., 2014) were findings reported in the literature. A common thread in these discussions was the need for improved training prior to and within practice in areas such as analytic/assessment skills (Siemon et al., 2018), collection and use of data (LaMarre et al., 2020) and experimental design (Freund et al., 2018).

When examining the document review and scoping review in tandem, it is apparent that evaluation competency in public health nurses is referenced as being both valued and needed. My findings however highlight an important disconnect between stated nursing competency in this area and the actual evaluation capacity findings discussed in the literature. The absence of clear standards on what constitutes ideal evaluation capacity in public health further clouds this discussion. The Core Competencies for Public Health in Canada (2008) clearly state in their

third domain (Policy and Program Planning, Implementation and Evaluation) that public health practitioners must evaluate actions, policies, or programs. With this stated competency however, no further direction is provided as to what achievement of this competency would objectively look like. Additionally, the current emphasis placed on self-assessment and self-directed quality assurance mechanisms within the nursing regulatory bodies impedes meaningful assessment or measurement of the actual program evaluation competencies of public health nurses.

Gaps and Areas for Further Understanding

As public health continues to evolve, many authors anticipate public health nurses will need to take on more roles and expertise related to program evaluation. For this to happen, further research and understanding is needed related to what constitutes acceptable evaluation capacity in public health; what evaluation capacity building strategies are the most effective; and what evaluation approaches best evaluate complex and long-term public health interventions. The literature identifies a current abundance of ECB methods and resources however, what is not known is why these resources are often not used and what actual results are being achieved. Furthermore, a better understanding of the current entry to practice preparation of public health nurses can help start important conversations between public health practitioners, nursing professional bodies, academia, and evaluation content experts such as the CES. Bridging evaluation experts and public health experts may be an important first step in identifying the essential evaluator competencies for public health (Hobston et al., 2019). Identifying how best to bridge and align these bodies is an important opportunity deserving further study and exploration.

Limitations

While the scoping review conducted included a comprehensive search strategy, it is possible that relevant literature is missing. As part of my search strategy, only four data bases were searched and only articles published in English were included. Because this was a scoping review, I did not assess the quality of the literature included aside from requiring that the articles be published in a formal publication housed within my included databases. Furthermore, the inclusion of commentary and editorial articles may have also introduced bias from other researchers and authors.

The broad and inconsistent titles used to describe a public health nurse may have led to some inconsistency in the defined terms, especially when including literature published outside

of Canada. I assumed that PHN's were included in any reference to community health nurses, the public health workforce, health promotion workers and public health practitioners. Because of this limitation, I was not always able to extrapolate any direct reference to public health nurses as part of the discourse. I accepted this limitation due to the limited amount of discussion available directly relevant to my research question and recognizing that a significant proportion of the public health workforce is made up of public health nurses. This approach is acceptable as the goals of my scoping review were to capture the essence of the discourse rather than specific findings.

Upon discovering there was not an expansive amount of literature available relevant to my specific topic, I did broaden my search criteria to include articles dating back to 2010. Public health is evolving quickly so this step may have led to the inclusion of articles that are no longer relevant. Additionally, during the analysis stage, I discovered that evaluation is frequently couched as one of a series of assumed public health competencies. I did not include public health competency as a stand alone search term, so it is possible that some discussion relevant to program evaluation and public health nurses was missed.

The greatest limitation in this study, however, is that I was the analytical tool in the research process. My own judgement, experiences and bias may have influenced which articles and documents were included as well as the themes and discussion retrieved. Although I continually took steps to reduce this bias, my own pre-conceived attitude towards program evaluation capacity in public health nurses must be recognized.

Conclusion

Evaluation is viewed as an “essential service” (Espina et al., 2019) in the context of public health. In the realm of general nursing, it is the fifth step in the highly valued “Nursing Process” (Faust, 2021) and a frequently identified core competency for public health nurses. Despite its importance, the scoping review conducted unearthed a perceived absence of evaluation capacity or competency amongst all public health professionals including public health nurses. In contrast to these assertions, the document review conducted demonstrated that in Canada, it is assumed that public health nurses possess and demonstrate sound capacity and competency in this area. This study illuminates these contrasting realities and identifies important areas for further exploration and understanding. This study lays an important foundation for further discussion

around what constitutes ideal program evaluation capacity in public health nurses and all public health professionals. It also sets the stage for further engagement between researchers, academia, public health, evaluation bodies and professional health disciplines such as nursing. In an evolving health care system, the role of the public health nurse will continue to expand and change. Ensuring this professional discipline has the training, skills and on the job support to optimally evaluate their work, is an important area for future research, knowledge, and growth.

Part 3: Conclusion Section

In this final part, I discuss my own learnings and challenges in relation to conducting a scoping review. I share the benefits of this approach as well as my experience conducting a document review as a complimentary secondary data source. I also present future research and or additional understandings needed in my area of study. Finally, I personally reflect on how my research and findings will influence my own public health practice.

Lessons Learned about Scoping Reviews and Document Reviews

This study has challenged me both professionally and personally. From a professional perspective, I took a subject in which I had pre-conceived notions and leaned towards a new methodological approach to broaden my understanding and perspective. I continuously combatted my own bias and the findings I desired to uncover, to broaden and enrichen my own view of a problem plaguing my public health practice. From a personal experience, I took a middle-aged journey towards a whole new understanding and appreciation for time management, organization, and perseverance. Working in public health amidst a COVID pandemic and balancing a busy home with three children challenged me daily. As a result of COVID, I had to defer my master's studies for three terms, which posed additional challenges as I started, resumed, and then re-started my research. This reality required me to be flexible and determined in my approach.

From a research methodology perspective, I knew very little about scoping reviews prior to this study. This methodology appealed to me instantly as it appeared practical, efficient, and less time intensive than a full systematic review. I initially believed a scoping review was just a condensed, scoped systematic review and set out to use my findings to prove and validate a point. Thankfully my thesis advisor (Dr. Katherine Moreau), was able to guide me towards the truth that "scoping reviews do not aim to produce a synthesized and critically appraised answer to a particular question" (Ayala, Sikora, Kirtley, Labelle, & Lenton, 2019, p.4).

In truth, scoping reviews are not a research strategy employed for answering questions. As I learned, they are intended to map relevant literature in a field of interest (Arksey and O'Malley, 2005) and assist the researcher in questioning and exploring more. For my research, a scoping review provided an important mechanism to summarize the discussions and related content as they pertained to my research question. This approach was far more exploratory than a systematic review and enabled me to take a broader perspective. Because I came into my

research with pre-existing bias and thoughts already related to the topic, a scoping review enabled me to look at all perspectives, considerations, and learnings prior to me drawing conclusions or identifying repeating themes. It enabled me to further assess the root causes of some of the frustrations I had experienced in practice. It also forced me to look more broadly at the issue rather than just my own pre-conceived impressions.

While conducting my study, I did encounter some frustrations. Having adequate time is often identified as the most common barrier towards conducting a scoping review (Ayala et al., 2019; Bonfield, Fearnside, & Cramp, 2018.). To fully submerge myself in the process, I needed large blocks of time. This was next to impossible for me as I was continuously balancing work and home demands. I became frustrated at times, as each time I resumed my work, I needed to invest significant time to re-orientate myself to where I left off in the process. Scope creep is another challenge commonly associated with scoping review methodology (Ayala et al., 2019) that also plagued me. As I fully invested myself in the literature, I found multiple conversations of interest to me such as the best way to embed program evaluation into master's in public health or nursing undergraduate education. Although this discourse was important, I had to reframe my focus to ensure I stayed true to the scope of my research question. I was also thankful for a well constructed data extraction form that assisted me to stay on topic.

Information management is a huge component of any systematic or scoping review. It can lead to efficiency, but also helps ensure the process is explicit, replicable, and transparent (Bonfield et al., 2018). The sheer volume of information collated and processed for both the scoping review and document review required a strategic system and exceptional organization skills. In hindsight this was certainly a weakness and challenge for me. Being somewhat unorganized in nature, I regret not having purposefully designed an information management plan so that I could be more efficient with my time. Stacks of physical articles, document summaries, spreadsheets, word documents, and my Covidence repository led me to track information and references inconsistently and impeded me from quickly retrieving information as needed. Thankfully, employing tools such as Endnote and Covidence did assist me to centralize and organize my information so I was eventually able to retrieve the information required.

As stated earlier however, the greatest challenge for me, was approaching my research without the intent of proving and articulating that all public health nurses lack evaluation

capacity. As I wrote up my findings, I continually had to reframe my findings to provide an overview of the discussion rather than proving my beliefs. One strategy I employed to counter my own bias, was when reading each article, I forced myself to re-read the content with the lens of “what does the article say about PHN’s having strong evaluation capacity and practices”? This forced me to specifically look for discourse that opposed my own pre-conceived views. Countering my bias was helpful, as I learned many new things including the broader gap in public health knowledge and the need to first define what evaluation competency means in the context of public health.

Next Steps

This study marks an important first step in mapping the literature related to evaluation capacity in public health nurses and then contrasting or comparing it to the stated or assumed evaluation capacities put forth in Canadian public health nursing documents. The scoping review presented many areas benefiting from more study including what constitutes adequate public health capacity in public health nurses; entry to practice preparation for public health and evaluation practice; and user-friendly ECB resources for practitioners. The combined findings from both the scoping review and document review however put forth additional areas benefiting from further exploration.

Within 10 of the 11 Canadian public health nursing documents reviewed, evaluation was consistently identified as a required nursing competency for practice. Across these documents, broad statements alluded to public health nurses having the knowledge and capacity to conduct needs assessments, evaluate all aspects of their practice and apply evaluation findings towards quality improvement activities and or the evidence base. Amidst these broad and ambitious statements however there was no explanation around how these skills would be assessed and or demonstrated in practice. In the absence of standardized measurement tools and the nursing discipline’s reliance on self assessment mechanisms, there currently exists no formalized method to properly assess public health nurses’ knowledge, skills and general evaluation competency. This gap is further exacerbated by themes unearthed within the literature. At present, there seems to be no consensus on what constitutes adequate evaluation capacity in public health and much of the literature is pre-occupied with highlighting the broader gap in public health capacity.

Health care is evolving at a rapid pace, and public health nurses will play a pivotal role in broader health promotion, population health and community prevention work. As a first step,

further research and exploration around evaluation tactics and approaches in the context of public health is needed so that there is a shared understanding amongst public health professionals, health disciplines and academia around what constitutes evaluation competency in public health. Hobston et al. (2019) put forth a compelling argument that in the future public health and evaluation experts should collaborate to identify the “essential evaluator competencies for public health professionals” (p. 602). This recommendation warrants further exploration and could certainly advance evaluation practices within public health. Understanding this landscape could also help set the stage for integrating the essential evaluator competencies for public health into existing training programs (Hobston et al., 2019).

Once evaluation competency is better understood the related assessment, education and preparation mechanisms can be further researched. An understanding of the current undergraduate and practice-based training that public health nurses currently receive related to program evaluation is imperative. Identifying present commonalities, inconsistencies, strengths and weaknesses related to undergraduate and on the job training will provide key learnings towards future evaluation competency or capacity development amongst public health nurses. Furthermore, it will be important to engage public health, professional health disciplines, and professional evaluation bodies such as the Canadian Evaluation Society. The combined perspectives of these parties can help ensure better alignment between preparation, practice and the stated competencies put forth in guidance documents.

This study has renewed my passion for championing evaluation in public health practice for all disciplines, not just nursing. The study findings validated some of my own pre-drawn conclusions but most importantly illuminated the broader issues and barriers towards evaluation competency that I had not previously considered. Going forward, I will use my findings to promote improved undergraduate and on the job evaluation training. As a College of Nurses of Ontario member, I will also highlight the inconsistencies between the commonly stated nursing evaluation competencies and actual practice. I will request more targeted resources and support for public health nurses to help bridge these noted gaps.

In my current career, I have chosen to further advance my knowledge and experience related to program evaluation. I will seek to engage others like me to develop a shared understanding of what program evaluation constitutes in public health as well as the capacity required by public health nurses to practice effectively. Recognizing the current void in the literature related to

public health evaluations, I will continue to seek opportunities for sharing and publication within my work. Furthermore, as a member of the Canadian Evaluation Society, I will seek out opportunities to better integrate evaluation best practices and theory into public health and I will continue to advocate for future partnership between these two professional bodies.

Summary

This study sought to better understand the current state of the literature on program evaluation capacity and competency amongst public health nurses. It employed both a scoping review and document review methodology. The literature included presented themes related to a gap in both public health and evaluation capacity amongst public health nurses; the challenges and complexity of evaluating public health interventions; and the importance and need for effective public health practices in public health. The review of key Canadian public health nursing guidance found that program evaluation or evaluation activities were consistently listed as competencies or capacities related to general nursing or public health nursing practice.

Employing a scoping review methodology enabled an efficient and broad understanding of the key concepts in the literature related to my stated research questions and also demonstrated the application of this newer review process. The role of the public health nurse continues to expand amidst an evolving health care context. The findings from this study, are very applicable in my professional life and will contribute to the knowledge base needed to ensure effective evaluation capacity or competency in public health.

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Tables

Table 1
Document Review, Guiding Documents for Public Health Nursing Practice

Document Name and Source	Focus	Scope
Framework for the Practice of Registered Nurses in Canada. (2015) Canadian Nurses Association https://www.cna-aiic.ca/~media/cna/page-content/pdf-en/framework-for-the-practice-of-registered-nurses-in-canada.pdf Accessed 2021-08-23	Broadly cites the responsibility of a RN for practice and promote a common understanding of and RN practice and competencies	Canada
Entry to Practice Competencies for Registered Nurses. (2018) College of Nurses of Ontario https://www.cno.org/globalassets/docs/reg/41037-entry-to-practice-competencies-2020.pdf Accessed Aug 23, 2021	Lists the nursing competencies required by the provincial regulatory body for nursing in Ontario.	Ontario
Professional Standards (2002) College of Nurses of Ontario https://www.cno.org/en/learn-about-standards-guidelines/educational-tools/learning-modules/professional-standards/ Accessed Aug 23, 2021	Provides an overall framework for the practice of nursing through seven professional standard statements.	Ontario
Code of Ethics for Registered Nurses (2017) Canadian Nurses Association https://www.cna-aiic.ca/~media/cna/page-content/pdf-en/code-of-ethics-2017-edition-secure-interactive Accessed September 16, 2021	Both aspirational and regulatory. Informs nurses of the ethical values and responsibilities of nurses.	Canada
Ethics Practice Standard (2019) College of Nurses of Ontario https://www.cno.org/globalassets/docs/prac/41034_ethics.pdf Accessed Sept. 17, 2021	Describes the expectations and accountabilities in relation to nursing ethics.	Ontario
Competencies for Entry-level Registered Nurse Practice (2014) College of Nurses of Ontario https://13vwko3o6qj4n7ke13qq2j8m-wpengine.netdna-ssl.com/wp-content/uploads/CNO-Competency-2014.pdf Accessed Sept 17, 2021	Outlines competencies expected of RN's upon entry and ongoing registration with the college.	Ontario
Canadian Community Health Nursing Professional Practice Model and Standards of Practice. (2019) https://www.chnc.ca/en/membership/documents?category=21 Accessed: Sept 19, 2021	Standards define the scope and depth of practice by establishing criteria for acceptable nursing practice.	Canada
Public Health Nursing Discipline Specific Competencies Version 1.0. (2009) https://www.chnc.ca/en/competencies	Aims to further define discipline specific competencies for public health nurses,	Canada

Document Name and Source	Focus	Scope
<p>Accessed Sept 20, 2021</p>		
<p>Public Health Community Health Nursing Practice in Canada Role and Activities Canadian Public Health Association https://www.cpha.ca/sites/default/files/assets/pubs/3-1bk04214.pdf Accessed Sept 20, 2021</p>	<p>Describes public health/community health nursing practice in Canada.</p>	<p>Canada</p>
<p>Core Competencies for Public Health in Canada, Release 1.0. (2010) Public Health Agency of Canada https://www.phac-aspc.gc.ca/php-ppsp/ccph-cesp/pdfs/cc-manual-eng090407.pdf Accessed Sept 20, 2021</p>	<p>Describes public health/community health nursing practice in Canada.</p>	<p>Canada</p>
<p>Entry to Practice Public Health Nursing Competencies for Undergraduate Nursing Education. (2014) Canadian Association of Schools of Nursing https://casn.ca/wp-content/uploads/2014/12/FINALpublichealthcompeENforweb.pdf Accessed Sept 19, 2021</p>	<p>Describes the core competencies in public health nursing that all nursing students should acquire on their undergraduate education</p>	<p>Canada</p>
<p>Competencies for Canadian Evaluation Practice. (2019) Canadian Evaluation Society https://evaluationcanada.ca/txt/2_competencies_cdn_evaluation_practice_2018.pdf Accessed Sept. 21, 2021</p>	<p>Provides a suite of competencies for evaluation work in Canada.</p>	<p>Canada</p>
<p>Program Evaluation Standards Canadian Evaluation Society https://evaluationcanada.ca/program-evaluation-standards Accessed Sept. 21, 2021</p>	<p>Describes the best practice standards for evaluation practice in Canada.</p>	<p>Canada</p>
<p>Ethics Canadian Evaluation Society https://evaluationcanada.ca/ethics Accessed Sept 21</p>	<p>Describes competence and accountability for ethical evaluation practice.</p>	<p>Canada</p>

Table 2A
Preliminary Search Strategy for Medline

1.	Students, Nursing/
2.	“health promot*/
3.	“public health”/
4.	“health care”/
5.	“regulated health prof*”/
6.	“public health practi*”/
7.	“disciplines and occupations” or “health promti*” or “public health” or “health prof* or “health care”
8.	(“public health practi*” or “health promot*” or “population health” or “community health” or “health department” or “health authority” or “health unit” or “public health practice”) ti ab
9.	(evaluat* adj3 (competen* or capac* or capab* or knowledge* or skill* or proficient* or train*))ti ab
10.	1 and 2 and 3 and 4 and 5 and 6 and 7 and 8 and 9 (ti ab)
11.	8 and 9 ti ab
12.	1 and 9 ti ab
13.	8 and 9 ti ab
14.	1 or 2 or 3 or 4 or 5 or 6 or 7 or 8 ti ab
15.	14 and 9 ti ab
16.	Evaluat* adj2 (competen* or capac* or capab* or knowledge* or skill* or train* or proficien*)ti ab
17.	14 and 16 ti ab
18.	Limit to (english language and yr="2010 -Current")

Table 2B
Preliminary Search Strategy for ERIC

1.	nurs*/ab
2.	“registered nurs*”/ab
3.	“public health nurs*”/ ab
4.	“community health nurs*”/ab
5.	“health professiona*”/ab
6.	“health promot*”/ab
7.	“public health profe*”/ab
8.	“health practitio*”/ab
9.	“evaluat* N/3 capacity”/ab
10.	“evaluat* N/3 train*/ab”
11.	“evaluat* N/3 competen*”/ab
12.	“evaluat* capab*”/ab
13.	“evaluat* N/3 skill*”/ab
14.	“evaluat* N/3 ability”/ab
15.	“evaluat* N/3 knowledge”/ab
16.	“public health”/ab
17.	“community health”/ab
18.	“health promotion”/ab
19.	healthcare/ab
20.	“health care/ab
21.	1 or 2 or 3 or 4 or 5 or 6 or 7 or 8
22.	9 or 10 or 11 or 12 or 13 or 14 or 15
23.	16 or 17 or 18 or 19 or 20
24.	21 and 22
25.	22 and 23
26.	Limit 24-25 to (english language and yr="2010 -Current")

Table 2C
Preliminary Search Strategy for CINAHL

1.	(nurs or nursing or nursing student or student nurse or nursing education) AND AB (evaluat*adj3 capacity or (competen* or capab* or skill or knowledge or train* or competen* or ability)/AB
2.	“Nursing Administrators” or “students, Nurse Midwifery” or “Community Health Nurse” or New Graduate Nurses” or “nurse or nurses or nursing” or “Associate degree nurse” or “registered nurses” or “students, nursing, diploma programs” or students, nursing, baccalaureate” or Canadian nurses association”/AB
3.	“evaluat* adj 3 capacity”/AB
4.	“evaluation capacity”/AB
5.	“evaluation capacity” or “evaluation competen*” or evaluation ability” or “evaluation skill” or “evaluation capab*” or “evaluation knowledge” or “evaluation train*”/AB
6.	1 and 5 / AB
7.	“public health” or “health promot*” or “healthcare professionals” or “health care” or “health care” or “health pracition*” or “regulated health professional*” or “community health nurs*” or “professional health discipline” or “allied health professionals”/AB
8.	1 or 2 or 7/AB
9.	8 and 5/AB
10.	Health/AB
11.	10 and 5/AB
12.	“public health” and 5 /AB
13.	“nurs*” and 5 / AB
14.	“public health nurse” and 5/AB
15.	“public health” and nurs* and 5/AB
16.	Limit to English language and after Jan 1, 2010 to present

Table 2D
Preliminary Search Strategy for Nursing and Allied Health

1. Nurs*/ subj
2. “evaluat* capacity” /subj
3. “evaluat* compet*”/subj
4. “evaluat* skill” /subj
5. “evaluat* capab*” /subj
6. “evaluat* knowledge” /subj
7. “evaluat* ability”/subj
8. 1 and 2-7/ subj
9. “public health” /subj
10. 9 and 2-7 /subj
11. “health prof*” /subj
12. 11 and 2-7 /subj

Table 2E
Preliminary Search Strategy for Google

1. evaluation capacity and public health nurses
2. evaluation capacity and nurses
3. evaluation capacity and public health
4. evaluation competency and nurses
5. evaluation competency and public health
6. evaluation training and nurses
7. evaluation training and public health
8. evaluation knowledge and nurses
9. evaluation knowledge and public health
10. evaluation skill and nurses
11. evaluation skill and public health
12. evaluation capability and nurses
13. evaluation capability and public health
14. evaluation ability and nurses
15. evaluation ability and public health
16. evaluation capacity and health
17. evaluation capacity and healthcare

Table 3
Inclusion and Exclusion Criteria (for Part One)

Subject	Inclusion Criteria	Exclusion Criteria
Field/Discipline	<ul style="list-style-type: none"> • Professional health disciplines that work in the field of public health 	<ul style="list-style-type: none"> • Articles focusing on non-health care related disciplines
Program Evaluation	<ul style="list-style-type: none"> • Articles that discuss evaluation and competencies required for Public Health practice 	<ul style="list-style-type: none"> • Articles that solely focus on strategies for increasing capacity or competency (evaluation capacity building methodology) • Publications created by sources aiming to sell an evaluation related service, training program or product • Published evaluations of specific interventions in public health.
Publication date	<ul style="list-style-type: none"> • 2010 to 2020 	<ul style="list-style-type: none"> • Prior to 2010 and after Dec 31, 2020
Language	<ul style="list-style-type: none"> • Study is published in English 	<ul style="list-style-type: none"> • Study is published in language other than English

Table 4
Data Extraction Summary

Author(s)	Publication Date, Type	Aims, Purpose	Methodology	Key Findings/Recommendations	Gaps and Areas for Future Research
Denford et al.	BMC PH Journal, 2018 Improving PH evaluation: a qualitative investigation of practitioners needs	Needs assessment to describe what training and material would be most use to UK PH practitioners	Semi structure interviews with PH practitioners	Evaluation needed. Important evidence base PH Practitioners lack training in evaluation and feel unqualified /resources, links to academia and external support.	How best to evaluate in PH Training for PH practitioners prior to practice Greater access to expertise in evaluation. Practical advice/ resources
Bourgeois, Simmons & Buetti	Elsevier, November 2017 Building evaluation capacity in Ontario's PHU's: promising practices and strategies	To present the findings of a project focused on building evaluation capacity in 10 Ontario PHU's	Qualitative multiple case research design. Scoping review re. promising ECB strategies	80% of participating HU's were in the early stages of EC development. EC self-assessment instruments employed. Improving EC important	Future longitudinal studies assessing the long-term impact of ECB activities
Francis & Smith	Health Promotion Practice Journal, Sept 2015. Toward Best Practice in Evaluation: A Study of Australian Health Promotion Agencies	To understand the factors that enabled or hindered evaluation performance	Audited evaluations. Systematic assessment in-depth interviews with experienced practitioners	Budget, untrained staff, lack of access to measurement tools identified barriers Hard to evaluate health promotion initiatives Evaluation findings rarely published Shortage of skilled practitioners Absence of evaluation culture and limited use of evaluation findings Well developed body of lit. re. evaluation capacity.	Little research about characteristics and determinants of evaluation practice in health Links with universities to improve practitioners' skills Tailored eval. training Online portal for practitioner resources

Author(s)	Publication Date, Type	Aims, Purpose	Methodology	Key Findings/Recommendations	Gaps and Areas for Future Research
Denford et al.	BMC 2017. A review of Grey and academic literature of evaluation guidance relevant to PH interventions	To identify accessible high quality evaluation guidance available	Systematic review of grey and academic literature.	Need to improve evaluation of interventions/ evaluation practices. Evaluation in PH is complex and expensive Evidence of effectiveness needed with limited PH funds PH programs often implemented with no evaluation PH practitioners feel under skilled.	More discussion/focus on guidance re. to evaluability of activities or projects. High quality practice guidance that relates to the real-world settings
Schofield et al.	Western Journal of Nursing Research March 2011 CHN vision for 2020; Shaping the Future	To understand issues facing CHN's and develop recommendations	Focus groups and key informant interviews.	Health care shifting from hospital to community PHN's included in CHN description CHN's role unclear Inadequate preparation of graduating nurses No standard entry to practice for CHN or PHN roles.	Limited literature specific to CHN's Much in PH not published More professional development of nurses and partnerships with nursing academia
Lobo, Petrich and Burns	BMC Public Health, 2014 Supporting health promotion practitioners to undertake evaluation for program development	To assess the role of evaluation in health promotion practice	Debate/discussion article	Practitioners undervalue evaluation and do not use findings. Evaluation often determined by data that is easy to collect Few incentives for quality evaluation Lack of knowledge, support and skills ECB strategies well documented.	Little use of evaluation findings. Support for practitioners to apply evaluation knowledge
Jacobos et al.	CDC Prevention Chronic Disease: 2012 Tools for Implementing an Evidence Based Approach in PH Practice		Research accessible, efficient tools for evidence-based PH practice.	Evaluation is core component of evidence-based practice. Dissemination of findings is often overlooked	No single credential certifies a PH practitioner
Schofield, Chricop, Baker et al.	Nurse Education Today Entry to practice PH nursing competencies: A	Describe the three phased competency development process.	Environmental scan, competencies drafted, face to face consultations	Concerns raised re. the preparation of nursing students in PH nursing Canadian study highlighted curricular	Teaching strategies outlining how competencies may be acquired

Author(s)	Publication Date, Type	Aims, Purpose	Methodology	Key Findings/Recommendations	Gaps and Areas for Future Research
	Delphi method and knowledge translation strategy. 2018	Identify entry to practice competencies for PHN's	and survey (Delphi method).	gaps in both theory content and clinical practice experiences	
Pettman, Armstrong, Doyle et al.	Journal of PH, March 2012, Cochrane Update. Strengthening evaluation to capture the breadth of PH practice			Evaluations of practice needed Evaluation can contribute to the evidence base. Formulating clear evaluation questions with clear intervention and outcomes is needed.	Dissemination of findings and learnings to document what doesn't work. Need to include more negative findings in journals
LaMarre, D' Avernas et al.	Canadian Journal of Program Evaluation, Spring 2020 A Rapid Review of Evaluation Capacity-Building Strategies for Chronic Disease Prevention	Review of lit. specifically exploring ECB for chronic disease prevention in context of PH	Rapid review using systematic methods. Included grey and academic lit.	PHU capacity to evaluate varies in Ontario EC for CDP amongst Canadian PHU's is lacking Need training in evaluation methodology, increased resourcing and endorsement of the importance of evaluation Evidence that those in PH value ECB	How best to support and sustain ECB. Specific strategies to enhance ECB for CDP Evaluation of ECB in specific contexts.
Valaitis, Schofield et al.	BMC Nursing, 2014 CHN's learning needs in relation to the CHN nursing standards of practice: results from a Canadian survey	Examine Canadian CHN learning needs in relation to the 2008 Canadian CHN Standards of Practice.	National survey	CCHN standards informs graduate and undergraduate curricula and prof. development. RN's are grossly under-utilized resource. PHN's id evaluation as a frequently performed activity Shifting needs for nurses amidst health systems change	Resources to support the learning needs of CHN's. Curriculum planning within schools of nursing Strengthen prof. development content Surveys to track changes in learning needs for CHN's.
Smith, Rissel et al.	Health Promotion Journal of Australia 2016 Advancing evaluation practice in health promotion	Summarize recent reviews of published and unpublished evaluation reports	Commentary citing previous studies, evaluations, and audits.	Half of evaluations conducted used one method (usually surveys). Issues include time, resources, staff skills, manager priorities and presence of evaluation culture	Continued learning to strengthen evaluation design, methods and the capacity of practitioners and agencies to implement this in a systematic way.

Author(s)	Publication Date, Type	Aims, Purpose	Methodology	Key Findings/Recommendations	Gaps and Areas for Future Research
DeCorby-Watson, Mensah et al.	BMC Public Health, 2018 Effectiveness of capacity building interventions relevant to PH practice: a systematic review.	To assess the effectiveness of ECB intervention in PH practice	Systematic review including grey literature	Skill deficit in the PH workforce Insufficient PH preparation. Capacity building programming should consider which outcomes are of highest priority	Effectiveness of capacity building in PH.
Education Committee of the Association of Community Health Nurse Educators	Essentials of Baccalaureate Nursing Education for Entry-Level Community/ PH Nursing. PH Nursing, 2010	Disseminate core knowledge, entry to practice competencies for community/ PH nursing	Review of key documents re. to community/PH nursing.	BScn preparation for entry level CHN/PHN should include competencies in CHN/PHN practice.	Unclear definition of CHN/PHN.
Bourgeois, Hotte, Simmons and Osseni	Measuring Evaluation Capacity in Ontario PHU's Canadian Journal of Program Eval. 2016	Provide overview of evaluation capacity in Ontario PH	Organizational self-assessment key informant interviews	Staff involvement in evaluation = higher use of evaluation findings and understanding Evaluation capacity is developing in most health units. Evaluation requirements new in PH and evaluation may not be priority	Better understanding of centralized/ decentralized/hybrid structure within PHU's requires further study re. to evaluation capacity.
Moule, Armmogum, Douglas et al.	Nursing Standard, 2017 Evaluation and its importance for nursing practice	To encourage nurses to appreciate and conduct evaluation for nursing practice	Discussion/ Commentary Growing emphasis on demonstrating effectiveness and efficiency in evaluation among nurses	By disseminating evaluation findings, nurses can contribute to evidence base Evaluation data can demonstrate quality improvement Challenging for nurses to differentiate between evaluation, audit, and research Evaluation of service delivery often overlooked	Conducting evaluation can be complex and challenging More dissemination of evaluation findings needed

Author(s)	Publication Date, Type	Aims, Purpose	Methodology	Key Findings/Recommendations	Gaps and Areas for Future Research
Hobston, coryn, Fierro and Sherwood-Laughlin	Instruction of Evaluation Competencies in Council on Education on Education for PH - Accredited Master of PH Degree Programs.	Investigate how evaluation competencies are addressed in the MPH programs	Two-phased sequential mixed method design	Importance of evaluation competency in PH Quality, consistency, and content of evaluation education Create stronger connections between PH community and evaluation community	Improved collaboration between PH and evaluation experts Identify essential evaluator competencies for PH Understand how evaluation competencies are taught by academia

Table 5
Scoping Review Coding Guide and Frequency of Categories

Category	Related Sub-Categories	Frequency
The importance of evaluation in public health - characteristic of studies	Overall	12
	Benefits of evaluation in public health	4
	Gaps and limitations	9
	Links between evaluation and quality improvement and client care	4
	Health Promotion and chronic disease prevention	3
	Evaluation vs. research	1
Evaluation and evidence-based practice	Overall	11
	Dissemination of findings	3
	Source for decision-making	3
Evaluation is complex in public health	Overall	9
	Hard to demonstrate causal relationships	2
	Complex workforce	2
Role of Public Health Nurses	Overall	8
	Community Health Nurses	2
	Importance in public health workforce	3
	Scope of practice	2
	Evaluation competency requirements	2
	Training and preparation	4
Evaluation capacity – public health professionals (including nurses)	Overall	14
	General lack of capacity related to public health	3
	Lack of evaluation capacity	10
	Barriers	3
	Absence of training	3
	Entry to practice /academic preparation	10
	Academic and practice-based support	4
Evaluation capacity – public health nurses	Overall	4
	General lack of capacity related to public health/CHN	8
	Lack of evaluation capacity	2
	Improved training	3
	Entry to practice preparation	4
Evaluation capacity building (ECB)	Overall	13
	Benefit/need for ECB in Public Health	6
	Evaluation methods for Public Health	4
	Well developed body of ECB literature	3
	Absence of ECB for chronic disease prevention	3
Evaluation support and resources in public health	Overall	13
	Links with academia and evaluation experts	3
	Need resources/guides	3
	Resources available underused	4
	External support	8

Category	Related Sub-Categories	Frequency
	Self-assessment / measurement tools	2
	Professional development	3
Health care is evolving	Overall	8
	Changing role of nurses	5
	Increasing emphasis on public and or community health	3
	Increasing roles related to evaluation	3
Gaps and Areas for Future Research	How best to evaluate public health	3
	Guidance documents and support	4
	Training for public health/evaluation	10
	Better links with academia	5
	Evaluate ECB activities	4
	Improved understanding of CHN role	2
	Understand what factors support organizations to evaluate well	1
	Document what doesn't work	1
	More collaboration between public health and evaluation	1

Table 6
Articles Included in Scoping Review

Author(s)	Title and Publication	Year	Country of Origin	Methodology	Setting
Denford et al.	<i>Improving public health evaluation: a qualitative investigation of practitioners needs</i> BMC Public Health Journal	2018	United Kingdom - 2 regions	Semi structure interviews with 32 public health practitioners. Explored participants existing evaluation practice and needs for further training, Thematic analysis	Public health
Bourgeois, Simmons & Buetti	<i>Building evaluation capacity in Ontario's public health units: promising practices and strategies</i> Elsevier	2017	Canada (Ontario)	Qualitative multiple case research design. ECB strategies built, monitored and assessed based on a reporting template. Scoping review re. promising ECB strategies.	Ontario Public Health Units
Francis & Smith	<i>Toward Best Practice in Evaluation: A Study of Australian Health Promotion Agencies</i> Health Promotion Practice Journal	2015	Australia	Audit evaluations completed by health promotion agencies in Victoria, Australia. Systematic assessment of 29 recent evaluation reports and in-depth interviews with experienced practitioners.	Health Promotion Agencies in Australia
Denford et al.	<i>A review of Grey and academic literature of evaluation guidance relevant to public health interventions</i> BioMed Central Health Services	2017	United Kingdom	Systematic review of grey and academic literature. Data extracted by two authors. Sought out evaluation guidance documents.	Public health
Schofield et al.	<i>Community Health Nursing vision for 2020; Shaping the Future</i> Western Journal of Nursing Research	2011	Canada (Ontario)	Four focus groups and 10 key informant interviews across Canada with Community Health Nurses. Qualitative descriptive approach.	Community Health Nurses-Canada
Lobo, Petrich and Burns	<i>Supporting health promotion practitioners to undertake evaluation for program development</i> BMC Public Health	2014	Australia	Debate/discussion article citing previous studies.	Health Promotion Programs in Australia
Jacobs et al.	<i>Tools for Implementing an Evidence Based Approach in Public Health Practice</i> CDC Prevention Chronic Disease	2012	United States	Researched and summarized easily accessible and time efficient tools for implementing evidence-based PH practice	Public Health

Author(s)	Title and Publication	Year	Country of Origin	Methodology	Setting
Schofield, Chricop, Baker et al.	<i>Entry to practice public health nursing competencies: A Delphi method and knowledge translation strategy</i> Nurse Education Today	2018	Canada	Environmental scan, competencies drafted, face to face consultations and survey (Delphi method).	Public Health - nursing
Pettman, Armstrong, Doyle et al.	<i>Cochrane Update Strengthening evaluation to capture the breadth of public health practice: ideal vs. real</i> Journal of Public Health,	2012	Australia	Systematic Review	Public health agencies - globally
LaMarre, D' Avernas et al.	<i>A Rapid Review of Evaluation Capacity-Building Strategies for Chronic Disease Prevention</i> Canadian Journal of Program Evaluation	2020	Canada New Zealand	Rapid review using systematic methods. Included grey and academic lit. Extraction based on identified themes.	Public Health
Valaitis, Schofield et al.	<i>Community health nurse's learning needs in relation to the Canadian community health nursing standards of practice: results from a Canadian survey.</i> BMC Nursing	2014	Canada	National survey conducted between 2008 and 2009 to identify learning needs of CHN's in relation to the Canadian Community Health Nursing Standards of Practice.	Canadian Community Health Nurses
Smith, Rissel et al.	<i>Advancing evaluation practice in health promotion</i> Health Promotion Journal of Australia	2016	Australia	Commentary citing previous studies auditing completed evaluation report conducted on Australian health promotion projects.	Health Promotion Agencies in Australia
DeCorby-Watson, Mensah et al.	<i>Effectiveness of capacity building interventions relevant to public health practice: a systematic review</i> BMC Public Health	2018	Canada (Ontario)	Systematic review including grey literature. To assess the effectiveness of ECB interventions relevant to public health practice	Public Health practice in all settings
Education Committee Assoc. of CHN Educators	<i>Essentials of Baccalaureate Nursing Education for Entry-Level Community/Public Health Nursing</i> Public Health Nursing, 2010.	2010	United States	Review of key documents re. to community/public health nursing. Synthesis of the science, values, and practice of nursing and public health.	Community/public health nursing

Author(s)	Title and Publication	Year	Country of Origin	Methodology	Setting
Bourgeois, Hotte, Simmons and Osseni	Measuring Evaluation Capacity in Ontario Public Health Units Canadian Journal of Program Evaluation	2016	Canada (Ontario)	Descriptive, multi-case, non-experimental research study examining 32 Ontario HU's Organizational self-assessments and key informant interviews	Public Health Units in Ontario
Moule, Armogum, Douglas et al.	<i>Evaluation and its importance for nursing practice</i> Nursing Standard	2017	United Kingdom	Discussion/ opinion article. Aims to encourage nurses to appreciate the importance of evaluation for nursing practice.	General healthcare - nursing
Hobston, coryn, Fierro and Sherwood-Laughlin	<i>Instruction of Evaluation Competencies in Council on Education on Education for Public Health - Accredited Master of Public Health Degree Programs</i> American Journal of Evaluation	2019	United States	Two-phased sequential mixed method design. Review of 156 schools and programs and their 652 evaluation course offerings. Qualitative document review conducted first. Internet survey	Accredited schools of public health and MPH programs
Espina, Bekemeier and Storye-Kuyl	<i>Population focused Practice Competency Needs Among PHN Leaders in Washington State</i> CNE Article	2019	United States	Semi-structured interview of Community Health leaders. Competency self-assessment survey.	Public Health - Nursing
Stewart, Halverson, Rose and Walker	<i>Public Health Workforce Training: Application of the Council on Linkages Core Competencies</i> Journal of Public Health Management Practice	2010	United States	Pre and post conference self-assessment for public health professionals based on the identified core competencies for public health.	Public Health professionals
Siemon, Gallegos and Gehrke	<i>Assessment of public health competencies in prelicensure baccalaureate nursing students</i> Wiley, special features; academics	2018	United States	Pre and post community health nursing course competency assessment for pre-licensure baccalaureate nursing students, Self-reported levels of public health competence	Public health nursing - entry to practice
Freund, Zucca, Sanson-Fisher, Milat, Mackenzie, Turon	<i>Barriers to the evaluation of evidence-based public health policy</i> Journal Public Health	2018	Australia	Discussion examining common impediments to robust evaluation in public health policy	Public health

Author(s)	Title and Publication	Year	Country of Origin	Methodology	Setting
Adams, Neville	<i>Program Evaluation for Health Professionals: What it is, what it isn't and how to do it</i>	2020	New Zealand	To discuss "Easy Evaluation" and provide guidelines for its implementation. Discuss why evaluation is important.	Health - health care professionals
Sibblad, Jegatheeswaran, Pocok and Penney	<i>A National Survey of Educational and Training Preferences and Practices for Public Health Nurses in Canada</i> The Journal of Continuing Education in Nursing	2020	Canada	Canadian Public Health Survey conducted in 2015 by CPHA with PHAC. This article reports on a subsection of the survey participants, PHN's.	Public health - nursing

Table 7
Document Analysis, Documents for Inclusion

Document name	Source	Version date
Framework for the Practice of Registered Nurses in Canada	Canadian Nurses Association https://www.cna-aiic.ca/-/media/cna/page-content/pdf-en/framework-for-the-practice-of-registered-nurses-in-canada.pdf?la=en&hash=55716DC66A8C15D13972F9E45BE4AC7AE0461620	2015
Entry to Practice Competencies for Registered Nurses	College of Nurses of Ontario https://www.cno.org/globalassets/docs/reg/41037-entry-to-practice-competencies-2020.pdf	2018
Professional Standards	College of Nurses of Ontario https://www.cno.org/globalassets/docs/prac/41006_profstds.pdf	2002
Ethics	College of Nurses of Ontario https://www.cno.org/globalassets/docs/prac/41034_ethics.pdf	2019
Requisite Skills and Abilities for Nursing Practice in Ontario	College of Nurses of Ontario https://www.cno.org/globalassets/docs/reg/41078-skillabilities-4pager-final.pdf	2012
CCHN Professional Practice Model and Standards of Practice	Canadian Community Health Nursing https://www.chnc.ca/en/membership/documents?category=21	2019
Public Health Community Health Nursing Practice in Canada Role and Activities	Canadian Public Health Association https://www.cpha.ca/sites/default/files/assets/pubs/3-1bk04214.pdf	2010
Core Competencies for Public Health in Canada, Release 1.0	Public Health Agency of Canada https://www.phac-aspc.gc.ca/php-bsp/ccph-cesp/pdfs/cc-manual-eng090407.pdf	2008
Entry to Practice Public Health Nursing Competencies for Undergraduate Nursing Education	Canadian Association of Schools of Nursing https://casn.ca/wp-content/uploads/2014/12/FINALpublichealthcompeENforweb.pdf	2014
Competencies for Canadian Evaluation Practice	Canadian Evaluation Society https://evaluationcanada.ca/txt/2_competencies_cdn_evaluation_practice_2018.pdf	n.d.
Program Evaluation Standards	Canadian Evaluation Society https://evaluationcanada.ca/program-evaluation-standards	n.d.
Evaluation Code of Ethics	Canadian Evaluation Society https://evaluationcanada.ca/ethics	n.d.

Table 8
Document Analysis – Content Categories

Code	Theme	Alignment with CES Evaluation Standards	Description of theme	Overall frequency	# of doc's referencing
E	Generic Evaluation	NA	Describes any time evaluation is generally stated as a core skill, aptitude, or competency but no further description, context or related theories/practice specifics provided.	Total: 26	Total:10
E-1	Evaluation (Assessment)	<ul style="list-style-type: none"> • Propriety Standard • Accuracy Standard 	Describes reference to conducting a needs assessment or assessment of an issue using data (population health, qualitative and quantitative) to inform practice, conclusions, recommendations, or next steps.	Total: 8	Total: 5
E-2	Evaluation (Ethics)	<ul style="list-style-type: none"> • Propriety Standard • Accuracy Standard 	Describes any reference made towards ethical practice in relation to evaluation, data collection, quality or assessment planning. Describes the proper and ethical treatment of people as well as privacy, informed	Total: 8	Total: 5
E-3	Evaluation (Methods)	<ul style="list-style-type: none"> • Accuracy Standard • Evaluation Accountability Standard • Feasibility Standard 	Describes any specific theory, methodology or systematic approach referenced in relation to evaluation competencies and or practice. Includes mention of effective and efficient use of resources in relation to evaluation practice.	Total: 16	Total: 8
E-4	Evaluation (Use)	<ul style="list-style-type: none"> • Utility Standard 	Describes any specific mention of use or application of evaluation findings in relation to evaluation competencies and or evidence informed practice.	Total: 13	Total: 6
E-5	Evaluation (Stakeholder Engagement)	<ul style="list-style-type: none"> • Utility Standard • Propriety Standard 	Describes the engagement of the client and or stakeholders into the evaluation design, implementation, and reporting competencies.	Total:10	Total: 6
E-6	Evaluation – (Data Quality)	<ul style="list-style-type: none"> • Accuracy Standard 	Describes any competencies stated that address ensuring data sources are accurate, reliable, and nonbiased.	Total: 5	Total: 3
General Themes					
M	Multi-disciplinary	NA	Identifies evaluation in relation to multi-disciplinary practice	Total: 4	Total: 3
QI	Quality Improvement	NA	Links evaluation competencies with quality improvement	Total: 17	Total: 8
P	Evidence-Informed	NA	Identifies the use of evidence to inform practice decisions and practice. Evaluation may be	Total: 10	Total:9

Code	Theme	Alignment with CES Evaluation Standards	Description of theme	Overall frequency	# of doc's referencing
			directly or indirectly stated as a source of evidence.		
S	Self Regulation	NA	Discusses self-regulation and self-assessment as competency assessment mechanism for evaluation practice.	Total: 9	Total: 6
R	Regulatory Bodies	NA	Describes how evaluation quality and skill is assessed via existing nursing regulatory bodies. This can include the entry to practice RN exam.	Total: 7	Total: 5
T-1	Training – (Undergraduate preparation)	NA	Specifically describes undergraduate/ baccalaureate preparation mechanisms for evaluation.	Total:10	Total: 8
T-2	Training (Optional)	NA	Describes optional, voluntary, and advanced training/certification available related to evaluation.	Total: 6	Total: 4
C	Canadian Evaluation Society	NA	Specific mention of CES within the document	Total:0	Total: 0

Table 9
Document Analysis - Evaluation Competencies Included

Document name and source	Evaluation related competencies	Categories
Framework for the Practice of Registered Nurses in Canada. (2015) Canadian Nurses Association	<ol style="list-style-type: none"> 1. plays an active role in the selection, design, deployment and evaluation of information and communication technology solutions (E) 2. participates in continuous quality improvement initiatives (QI) 	<ul style="list-style-type: none"> • Quality Improvement
Entry to Practice Competencies for Registered Nurses. (2018) College of Nurses of Ontario	<ol style="list-style-type: none"> 3. evaluates the effectiveness of plan of care and modifies accordingly (E) 4. integrates continuous quality improvement principles and activities into nursing practice (QI) 5. evaluates effectiveness of health teaching and revises education plan if necessary (E) 	<ul style="list-style-type: none"> • Quality improvement • Use of findings • Interpretive decisions
Professional Standards (2002) College of Nurses of Ontario	<ol style="list-style-type: none"> 6. encourages the evaluation of practice through research (E) 7. critically evaluates research related outcomes and s for their application in practice (E) 8. identifies and evaluates information sources (E) 9. assesses the client situation using a theory, framework or evidence-based tool (E) 10. evaluates and describes the outcomes of interventions and modifies the plan/approach (E) 11. analyzes and applies a wide range of information (E) 12. evaluates theoretic and research-based approaches for application to practice(E) 13. articulates an evidence base for all decisions and measures the impact on practice (E) 14. critically analyzes and evaluates nursing practice and education (E) 	<ul style="list-style-type: none"> • Research and evidence • Credible sources/data • Theory based • Needs Assessment • Quality improvement • Use of findings • Interpretive decisions • Technical practice
Code of Ethics for Registered Nurses (2017) Canadian Nurses Association	<ol style="list-style-type: none"> 1. when using photo, video or other technology for assessment including evaluation obtains client consent and do not intrude on their privacy (E) 	<ul style="list-style-type: none"> • Transparency in practice • Accountability and propriety • Ethics
Ethics Practice Standard (2019) College of Nurses of Ontario	<ol style="list-style-type: none"> 1. references the 5-step nursing process that concludes with evaluation of outcomes (E) 	<ul style="list-style-type: none"> • Stakeholder engagement
Competencies for Entry-level Registered Nurse Practice (2014) College of Nurses of Ontario	<ol style="list-style-type: none"> 1. demonstrates critical inquiry related to new knowledge and technologies that change, enhance or support nursing practice. (QI) 2. continuously integrates quality improvement principles and activities into nursing practice. (QI) 3. collaborates with clients and members of the interprofessional team while conducting an ongoing comprehensive evaluation to inform current and future care planning (E) 	<ul style="list-style-type: none"> • Technical practice • Interpretive decisions • Quality improvement • Stakeholder engagement

Document name and source	Evaluation related competencies	Categories
	<ol style="list-style-type: none"> 4. uses a critical inquiry process to continuously monitor the effectiveness of client care (E) 5. uses the results of outcome evaluation to modify and individualize client care (E) 6. advocates for change where optimum client care is impeded (QI) 7. uses knowledge of health care systems to improve health care services at all levels (QI) 8. evaluates the effectiveness of strategies implemented to change nursing practice (E) 9. engages in interprofessional collaborative practice essential for improvement in client health outcomes (E)(QI) 	<ul style="list-style-type: none"> • Partnership development • Use of findings • Theory based • Collaborative practice • Ethics
<p>Canadian Community Health Nursing Professional Practice Model and Standards of Practice. (2019)</p>	<ol style="list-style-type: none"> 1. collaborates with client to do a comprehensive, evidence-informed holistic health assessment using multiple sources and methods to identify needs, assets, inequities, and resources (E) 2. evaluates and modifies health promotion activities in partnership with clients (E) 3. evaluates and modifies prevention and health protection activities in partnership with the client (E) 4. evaluation and modifies health maintenance, disease management, restoration and palliation intervention in partnership with the client (E) 5. evaluates the nurse/client and community relationships to ensure responsive and effective nursing practice (E) 6. evaluates the impact of capacity building efforts including both process and outcomes in partnership with the client (E) 7. evaluates and modifies efforts to increase accessibility to health and community services and to advance health equity (E) 8. seeks out reliable sources of available evidence from nursing and other relevant disciplines (E) 9. uses of a variety of information sources (E) 10. identifies and acts on factors which enhance or hinder the delivery of quality care (QI) 11. uses available resources to systematically evaluate the achievement of desired outcomes for quality improvement (QI) (E) 	<ul style="list-style-type: none"> • Stakeholder engagement • Needs assessment • Quality improvement • Collaborative practice • Technical practice • Credible sources/data • Use of findings • Resource management • Research and evidence
<p>Public Health Nursing Discipline Specific Competencies Version 1.0. (2009)</p>	<ol style="list-style-type: none"> 1. uses available resources to systematically plan and evaluate public health nursing practice (E) 2. integrates multiple ways of knowing into practice (E) 3. conducts comprehensive community assessment using quantitative and qualitative strategies (E) 4. analyzes information to determine appropriate implications, uses, gaps and limitations(E) 5. recommends specific action based on analysis of information - identifies outcome indicators, identifies research questions (E) 6. evaluates an action, policy, or program in a systematic and continuous manner by measuring its effect on individuals, families, groups or communities (E) 	<ul style="list-style-type: none"> • Resource management • Interpretive decisions • Technical practice • Use of findings • Stakeholder engagement • Needs assessment

Document name and source	Evaluation related competencies	Categories
	<ol style="list-style-type: none"> 7. evaluates program in relation to the determinants of health and health outcomes (E) 8. evaluates programs in partnership with individuals, families, groups, communities, and other stakeholders (E) 9. involves individuals, families, groups, and communities as active partners to identify assets, strength, and available resources (E) 	
<p>Public Health Community Health Nursing Practice in Canada Role and Activities Canadian Public Health Association</p>	<ol style="list-style-type: none"> 1. practice is guided by an assessment of health status that is determined through a community health assessment process (E) 2. integrates, analyzes, and interprets data (E) 3. plans for and evaluates the response to both natural disaster and man-made disaster to minimize illness, death, and social disruption (E) 4. evaluates effectiveness of health education interventions (E) 5. evaluates the impact of the public health response and identifies implications for future practice (E) 6. uses community assessment data to determined population health needs and design activities (E) 7. participates in implementing and evaluating policy (E) 8. helps to evaluate referral and follow up processes and strategies (E) 9. shares research and program evaluation information (E) 10. follows established protocols for surveillance and collects enough data from reliable sources (E) 11. identifies program areas which need to change and works with colleagues to alter programs (QI) 	<ul style="list-style-type: none"> • Needs assessment • Interpretive decisions • Technical practice • Collaboration • Accountability and Propriety
<p>Core Competencies for Public Health in Canada, Release 1.0. (2010) Public Health Agency of Canada</p>	<ol style="list-style-type: none"> 1. collects, stores, records, and uses accurate and appropriate information on public health issues (E) 2. analyzes information to determined appropriate implications, uses, gaps and limitations (E) 3. evaluates an action, policy, or program (E) 	<ul style="list-style-type: none"> • Evidence and research • Accountability and Propriety • Technical practice • Use of findings • Resource management
<p>Entry to Practice Public Health Nursing Competencies for Undergraduate Nursing Education. (2014) Canadian Association of Schools of Nursing</p>	<ol style="list-style-type: none"> 1. participates in group/community/population health assessment and analysis by using multiple methods and sources of knowing in partnership with the client (E) 2. recognizes the trends and patters of epidemiological data to identify gaps in service delivery, as well as opportunities for health (E) 3. participates in the planning, implementation and evaluation of programs and services with the community (E) 4. uses evidence to inform planning of population health programs and services (E) 5. participate in the monitoring and evaluation of the outcomes of population health programs and services (E) 	<ul style="list-style-type: none"> • Needs assessment • Interpretive decisions • Technical practice • Research and evidence

Figures

Figure 1
Conceptual Model: Evaluation Practice Capacity Continuum

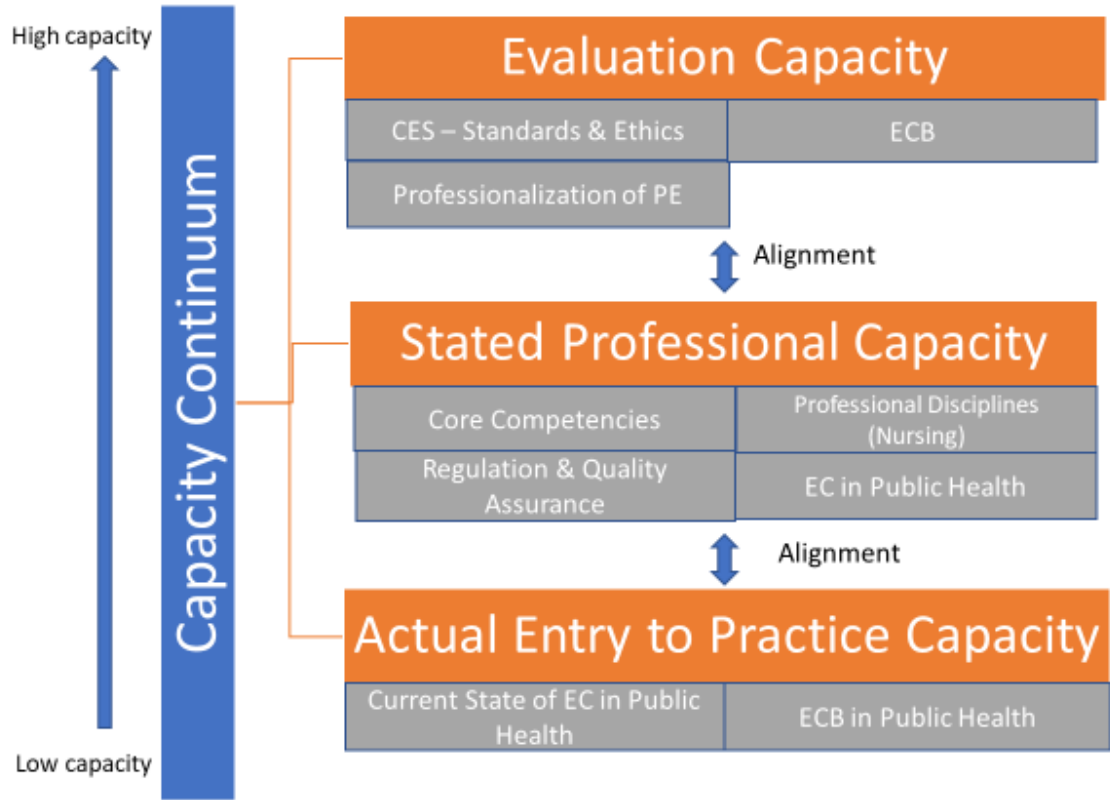
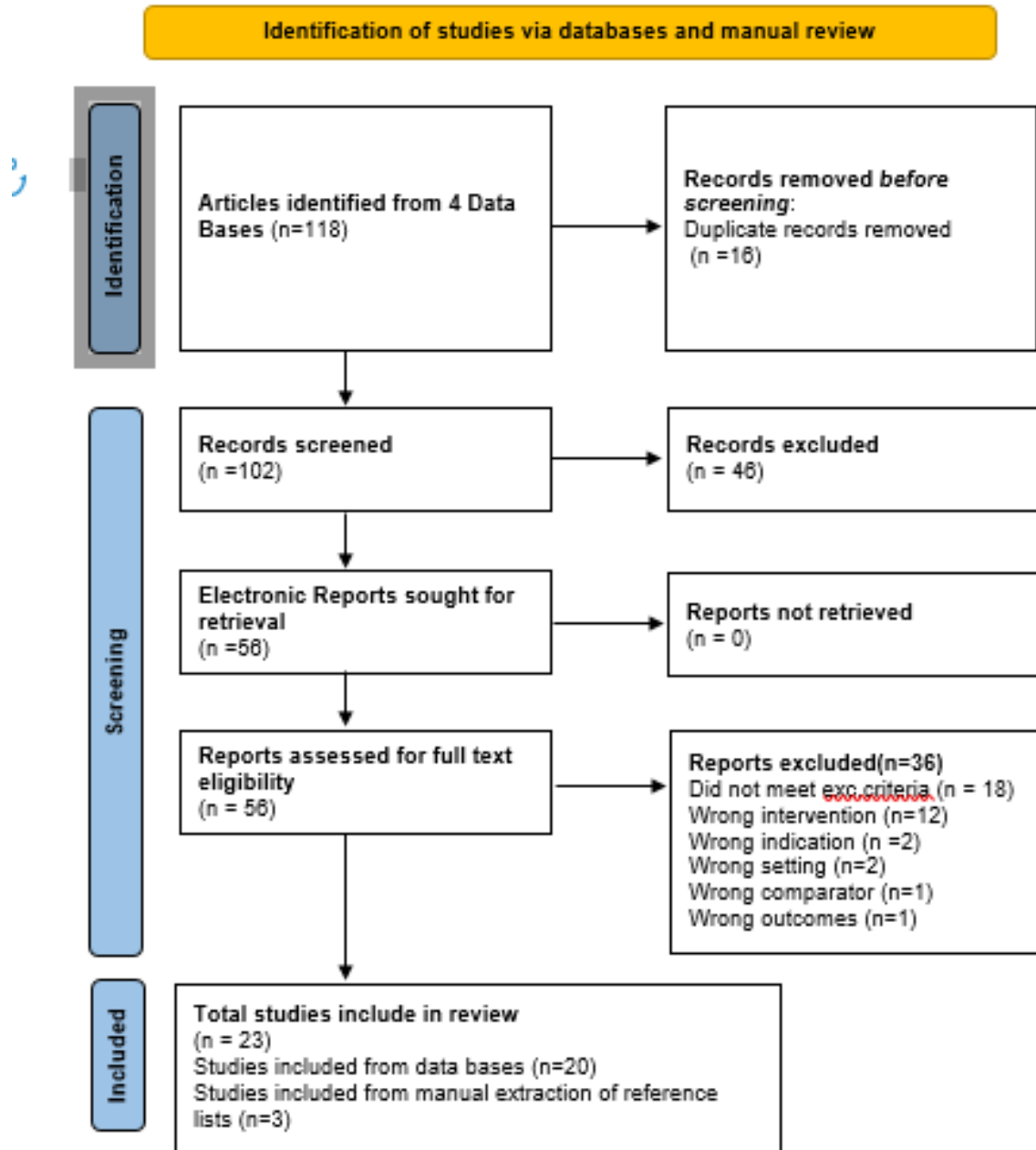


Figure 2
PRISMA Flow Diagram



Appendices

Appendix A

Scoping Review Steps (Arksey & O’Malley, 2005)

Steps	Purpose/ Description	Instruments
1. Identify the Research Question	<ul style="list-style-type: none"> • Clearly define the scoping review question • Identify parameters • Ensure definition of terms • Stipulate the outputs that will be the result of the review 	Glossary of terms
2. Identify Relevant Studies	<ul style="list-style-type: none"> • Develop a plan of where to search, which terms to use, sources, time span and language • Justify decisions for limiting the scope of review • Acknowledge potential limitations 	Search Plan Summary
3. Select Studies	<ul style="list-style-type: none"> • Identify criteria to include and exclude studies • Identify second reviewer to apply inclusion and exclusion criteria to all citations selected 	Inclusion and Exclusion Criteria
4. Chart the data	<ul style="list-style-type: none"> • Employ a descriptive-analytical method • Develop a data charting form based on original literature review to extract data from each study • Update data charting form as part of iterative process • Pilot the charting form with 5-10 studies and validate data extracted aligns with my research questions • Apply qualitative analysis approach to contextual or process-oriented data. 	Data Charting Form (Excel)
5. Collate, summarize and report the data	<ul style="list-style-type: none"> • Develop a thematic construction of the literature available. • Thematic and descriptive analysis. • Report the results including the outputs defined in step 1 • Present a narrative account of findings • Apply a consistent approach to reporting findings • Identify research gaps in my study 	Thematic map of literature (ongoing and iterative process)

Appendix B

Scoping Review Data Extraction Form (for Part 1)

Author(s)	Publication date, Type	Aims, purpose	Methodology	Key findings/ themes	Gaps and areas for future research

Appendix C
Data Extraction Form (for Part 2)

(PE) = Program Evaluation

Document name	Author(s), source	Publication date, type
Stated PE competencies for practice		
Training and preparation related to PE		
Competency assessment Mechanism		
QA in practice		
State PE theory		
Mention/alignment with Canadian Evaluation Society		

Appendix D
Glossary of Terms

Term	Description
Capacity	Someone’s ability to do a particular thing. Source: https://dictionary.cambridge.org/dictionary/english/capacity
Competency	Skill, talent and ability. An important skill that is needed to do a job. Source: https://dictionary.cambridge.org/dictionary/english/competency
Evaluation capacity	The capacity to do evaluation studies as well as the capacity within the organization to use evaluation results (Bourgeois, Chouinard & Cousins, 2008).
Nurse	Registered nurse with a defined governing body or college and a baccalaureate 4-year degree from a registered post-secondary institution. For the purposes of my review, Registered Practical Nurses (RPN’s) and Nurse Practitioners (NPs) will not be included in my definition of a nurse.
Public health nurse	Registered nurse employed and working within the field of public health.
Public health	Public health is the science of protecting and improving the health of people and their communities. This work is achieved by promoting healthy lifestyles, researching diseases and injury prevention, and detecting, preventing and responding to infectious disease. Source: CDC Foundation accessed https://www.cdcfoundation.org/what-public-health
Public health professionals	Professionals employed within the field of public health who are also affiliated with a professional discipline or college.
Program evaluation	The systematic gathering, analysis, and reporting of data about a program to assist in decision-making” (Ministry of Health and Long-Term Care, 2018, p. 24)
Professional discipline	Professional disciplines refer to a a branch or domain of knowledge, instruction, or learning Source: https://medical-dictionary.thefreedictionary.com/disciplines#:~:text=All%20rights%20reserved.-,discipline,are%20examples%20of%20academic%20disciplines.