# A CASE STUDY OF THE CONTRIBUTIONS OF PUBLIC HEALTH NURSES TO INFANT MENTAL HEALTH PROMOTION IN NEWFOUNDLAND AND LABRADOR©

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## Abstract

Promoting infant mental health or supporting the baby's healthy social and emotional development during the first year of life is critical for a child's healthy development and future mental health well-being. This knowledge has been slow to be integrated into the education of public health nurses, who provide key maternal-child services in Newfoundland and Labrador. This single instrumental case study explored public health nurses' education about infant mental health (IMH), and their work experiences in dealing with young families, in order to identify ways to better promote infant mental health. Data collected through key document review and semi-structured interviews with key informants and public health nurses indicate that public health nurses provide numerous maternal-child services. However, they have many other roles that limit their time and ability to promote maternal-infant mental health, as mothers and babies wellbeing are very much interconnected. Most nurses stated feeling under-prepared to effectively promote maternal-infant mental health when they first started in public health and reported having varying levels of education in this field. Furthermore, they declared mostly relying on experiential knowledge to supplement their education. Time, resource, and geographical barriers may impede nurses' access to education about infant mental health and its promotion. Effectively educating public health nurses about infant mental health promotion and addressing institutional barriers such as time, supportive infrastructure, and expanding scope of practice will aid in promoting lifelong mental wellness for these populations.



**Key words:** infant mental health, health promotion, public health nursing, case study

## General Summary

Infant mental health is a term used to explain the healthy socio-emotional development of babies and it is important for promoting lifelong mental wellness. This knowledge has been slow to be integrated into public health nurses' education and practice in Newfoundland and Labrador and elsewhere. The aim of this study was to explore how to better promote infant mental health by identifying ways to improve education and practice of public health nurses.

The findings showed that public health nurses provide many maternal-child services; however, other expectations limit their time to dedicate to maternal-child health. Nurses reported feeling under-prepared to effectively promote infant mental health when they first started. The nurses had varying levels of education about infant mental health and its promotion, and mostly relied on experience. Time, resource, and geographical barriers may hinder nurses' access to education. Improving public health nurses' education about infant mental health relies on addressing broader institutional issues that will in turn promote infant mental health.

## Authorship Statement

I, Emily Norton, hereby state that I have put a substantial amount of work during the four major steps of this research. First, I had to become familiar with the literature. This included reading all relevant background information and conducting a systematic literature review, which informed my research aim and questions and the overall research design. Second, I had to recruit participants and conduct interviews; I also completed some key document review. Third, I had to analyze the data and position it within the existing literature. Fourth, I had to create key recommendations based on the findings. I have also written the different drafts of this thesis until its completion.

This project has been accomplished in close collaboration with my supervisor and data custodian, Dr. Martha Traverso-Yepez, and co-supervisor, Dr. Diana. Gustafson. Dr. Traverso-Yepez provided me with a majority of the literature I used for my conceptual framework and helped guiding the systematic literature review, as well as the definition of the research aim and questions, methodology, and interview guides. Her contacts were instrumental in recruiting key informants with expertise and knowledge about infant mental health and its promotion and worked closely with me to complete the data analysis and representation. Dr. Gustafson has provided immense assistance in the writing, structure, delivery, and critical appraisal of this thesis.

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I would also like to thank my co-supervisor, Dr. Diana L. Gustafson. My first semester Memorial University, you gave me a book about overcoming the ivory tower in academia—this little token of support was the first of many as I navigated through my master's. Thank you for your encouragement and guidance. I also hope our friendship continues when I am finished.

Thank you to all the participants who took time out of their busy schedules to meet with me. Their knowledge and contributions were invaluable to the completion of this project. This project could not have been done without their perspectives, insights, and thoughtful responses.

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## List of Abbreviations

BABIES— Before Birth and Beyond: Information, Education, and Support

IMH— Infant Mental Health

KI— Key Informant

MI-AIMH— Michigan Association for IMH Endorsement System®

NL — Newfoundland and Labrador

PHAC— Public Health Agency of Canada

PHN— Public Health Nurse

PRISMA— Preferred Reporting Items for Systematic Review and Meta-Analyses

UNICEF— United Nations Children Fund

WHO— World Health Organization

## Chapter 1: Introduction

In the first three years of human life, millions of neural connections are made every second (Shonkoff & Phillips, 2000). Neural connections construct the brain architecture, which is the foundation for all future brain development (Shonkoff & Phillips, 2000). Brain architecture is determined by two factors: the infant's genes and, more decisively, the infant's environment (Berger, 2011; Center on the Developing Child at Harvard University, 2009). Together this interactive process makes up the phenomenon of epigenetics, which is the alteration of gene expression by environments and experiences (Marshall et al., 2004).Therefore, building critical neural connections requires a positive and nurturing environment early in an infant's life (Champagne, 2010)

Infants are not raised in a silo. The African proverb 'it takes a village to raise a child' is a more accurate way to describe child-rearing. Raising a child is not an easy task—instead, it is one of the most challenging roles people embark on. Positive experiences and healthy environments are critical to ensuring infants develop the brain architecture needed to meet their neurodevelopmental goals from birth into adulthood. Such neurodevelopmental goals include meeting physical, cognitive, and socio-emotional milestones. There is substantial evidence that suggests promoting infant mental health (IMH) is critical for healthy development and mental health for future well-being (Center on the Developing Child at Harvard University, 2010; Shonkoff, 2011; Shonkoff & Phillips, 2000).

As mentioned before, a positive, nurturing environment is necessary for optimal IMH development. Normally parents and caregivers, as key players in the family

environment, wish to do the best for their child, but their possibilities may be jeopardized when they lack financial, material, and psychosocial resources to provide high-quality care. In these cases, considering infants' vulnerabilities, there should be support and guidance from the community and government to create the best possible environment for all children (Irwin et al., 2007; Raphael, 2014). Positive environments for children build the foundation for lifelong physical and mental health that will, in turn, create a healthy and productive future generation.

Despite previous research pointing to the significance of IMH and its promotion and its impact on lifelong health, this knowledge has been slow to be integrated into everyday practice at the institutional and community levels (Kutcher et al., 2010; Traverso-Yepez, 2017; Traverso-Yepez et al., 2017). Although the Commission on the Social Determinants of Health (2010) emphasizes the relevance of nurturing early child development, a significant gap exists in upstream strategies at the public health level to recognize the relevance of IMH (Zeanah et al., 2005). The education that healthcare workers receive may be limited, despite its importance, especially for those working with young families. This lack of awareness about the relevance of IMH promotion is reflected in the slow uptake of new research being integrated into the education of healthcare workers.

In Newfoundland and Labrador (NL), public health nurses play a crucial role in helping caregivers meet their infants' developmental goals (Government of NL, 2019c). Such goals include physical, behavioural, cognitive, and emotional milestones (Scharf et al., 2016). However, based on existing literature in other provinces and countries, nurses

(in many areas) may lack sufficient education to promote IMH (Barrows & Bennet, 2000; Mcatamney, 2011; McComish et al., 2015; Zeanah et al., 2006).

Research about IMH shows two substantial issues on this respect: First, Canada's public health has not duly recognized the relevance of IMH in its policies or practices (Denny & Brownell, 2010; Kutcher et al., 2010; Marcellus & Shahram, 2017; Waddell et al., 2005). Second, although public health nurses have a relevant role in providing supports and services for maternal-infant health and wellbeing, research elsewhere shows they are not sufficiently educated during their undergraduate degree; neither do they have sufficient access to professional development about IMH and its promotion (Baradon & Bain, 2016; Barrows & Bennet, 2000; Bryant et al., 2016; Simpson et al., 2016). There is little published research that explores how to enhance education about IMH and its promotion for public health nurses. Moreover, there is no specific study conducted in NL about IMH promotion and public health nurses' education.

**Research Aim and Questions**

The aim of this single instrumental case study was to explore ways to better promote IMH in NL by identifying approaches to enhance the education and practice of public health nurses in the province. A single instrumental case study explores a one particular phenomenon with the goal to improve the understanding of the case (Mills, Durepos, & Wiebe, 2010).

This study seeks to address the following research questions:

1. What programs and supports that promote maternal-IMH are provided by public health nurses in NL?

2. What are the expectations for public health nurses' regarding IMH within the range of tasks that they have to deal with?
3. What is the level of preparation that public health nurses have to fulfill this task?
4. What are public health nurses' attitudes towards their ability to promote maternal-IMH?
5. What barriers prevent public health nurses from accessing educational opportunities about IMH and its promotion?

**What is the Relevance of Infant Mental Health?**

IMH involves the healthy socio-emotional wellbeing and development of infants and children (National Scientific Council on the Developing Child, 2004; Zero to Three Infant Mental Health Task Force Steering Committee, 2001). A healthy socio-emotional development for infant and toddlers develop in nurturing, responsive relationships with significant adults in their lives. As social creatures, from the early days young children are attuned to respond to positive social stimulation, through which they gradually learn to identify and regulate emotions. Through this responsive stimulation, they also become competent in social interactions, which will lead them to form secure relationships, and to feel confident in exploring their surroundings (National Scientific Council on the Developing Child, 2004).

From a public health perspective, IMH is how the socio-emotional health of infants is addressed by health promotion, prevention, and intervention efforts (Zeanah, 2019). Considering that children do not grow in isolation, it means that public health efforts are mainly focused on supporting parents through family-friendly policies and

interventions so that children can have the best start possible (Canadian Council on Social Determinants of Health, 2015; Canadian Council on Social Determinants of Health & Social Determinants of Health Framework Task Group, 2015; Public Health Agency of Canada, 2017; World Health Organization [WHO] United Nations Children's Fund [UNICEF], & World Bank Group [WBG], 2018).

While I will be mainly talking about IMH, understanding the close connection between infant and maternal mental health is a serious responsibility for current health promotion efforts. Maternal mental health and IMH are intricately connected because healthy socio-emotional development relies on a responsive relationship between the child and the primary caregiver(s). Maternal mental health disorders can interfere with the mother-infant relationship (Goodman et al., 2011). Two other capacities to promote socio-emotional development are (i) learning opportunities for the child to develop core life skills; and (ii) supportive parental coaching for the child to overcome short, temporary experiences of stress (National Scientific Council on the Developing Child, 2004). Research firmly supports the idea that positive and nurturing environments are critical for healthy mental and physical health throughout the life span, showing the relevance of supporting parents and infants through health promotion strategies (Shonkoff et al., 2012; Traverso-Yepez, 2017).

In the short-term, through caregivers' love and nurturing environments, the infant is more likely to be content, have increased ability to learn, and improved capacity to regulate emotions (Boivin & Bierman, 2013; Scharf et al., 2016). Furthermore, nurturing environments are also significant for life-long benefits of improved learning, self-regulation and stress management, mental and physical health, economic outcomes (e.g.,

employment rates), literacy, and relationships (Boivin & Bierman, 2013; Scharf et al., 2016; Shonkoff et al., 2012). Added benefits would involve a decreased risk of chronic diseases, illicit drug use, social isolation, and family adversity (Boivin & Bierman, 2013; Scharf et al., 2016).

There are conflicting definitions of "infant." The general public considers infancy 0 to 1 year old. However, the medical and academic community definitions of infancy range from 0 to 3 years (Simpson et al., 2016; Zeanah et al., 2005, 2006) and 0 to 4 years old (Children's Health Queensland Hospital and Health Service, 2014). For this research, I will define infancy as the developmental stage from birth until age three because this is when the most significant brain development is occurring (Zero to Three Infant Mental Health Task Force Steering Committee, 2001).

**Why Does IMH Promotion Matter?**

Since the turn of the 21st century, there has been increasing health promotion efforts focussed on IMH. Supporting early childhood development is a social and moral imperative. As previously mentioned, access to quality early childhood development builds critical social and emotional skills involved in future accomplishments (Heckman & Mosso, 2014). In particular, the ability to form safe relationships and manage emotions and behaviours can allow individuals to have more control over their lives. Even if they are born in low-income environments, they are better prepared to generate positive relations and social support networks by effectively dealing with their emotions. When adults, these parents are likely able to pass down these skills to the next generation.

Economics research suggests that for every one dollar spent on early childhood development, there is 13 cents returned on that investment (Heckman, 2018). Investment in early childhood development programs and services creates increased achievement at school, and more likely a positive transition toward adulthood. Furthermore, investing prenatally to age 4, as observed in Figure 1-1, provides the highest return on investment, in comparison to an investment at a later age (Heckman, 2018). Therefore, investing in early child development is key to promote populations' lifelong wellness.

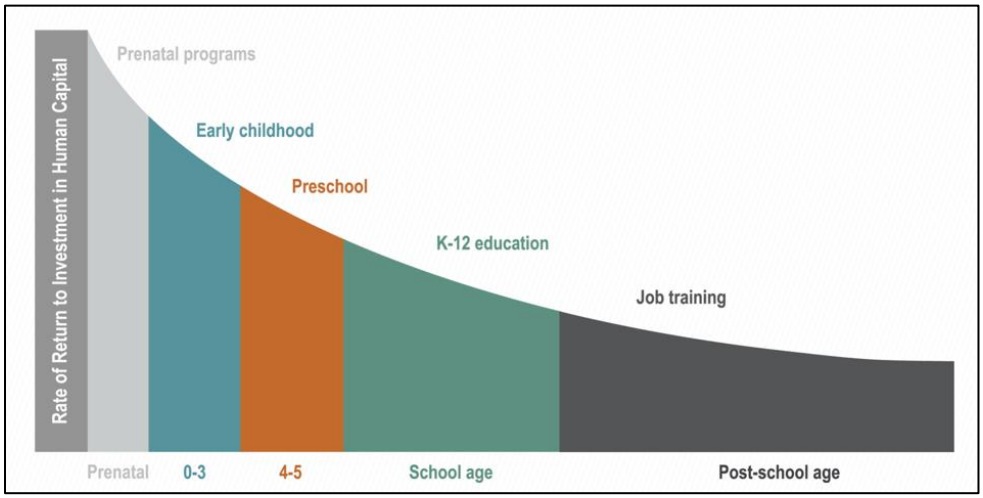


**Figure 1-1.** As age increases, the rate of return compared to investment in human capital declines. Figure used with permission of copyright holder (Heckman, 2018).

## The Current Role of Public Health Nurses in Maternal-Infant Health in NL

In NL, the two professionals in close contact with the maternal-infant dyad are family doctors and public health nurses (National Collaborating Centre for Determinants of Health, 2009; Traverso-Yepez et al., 2017). Public health nurses have a significant role in promoting maternal-IMH in NL. It is important to note that the term community health nurse may also be used within this study as they have very similar roles in this province.

The two terms are used interchangeably by some individuals; however, those working with mothers and infants tend to use the term public health nurse.

As I will explore in the Findings section, there are many tasks within public health nursing mandate dealing with young families and children. Prenatally, public health nurses provide prenatal education sessions. Postnatally, there are several programs facilitated by public health nurses: Before Birth and Beyond: Information, Education, and Support (BABIES), Healthy Beginnings, Child Health Clinics, Preschool Health Check, and Nobody's Perfect (Government of NL, 2019c). There are also supports available for breastfeeding, immunization, and screening. Public health nurses also provide supports through Family Resource Centres, which "provide a variety of community-based activities and resources for children that emphasize early childhood development and parenting support" (p. n/a). Public health nurses' role at the Family Resource Centres is to provide additional support and education to caregivers and infants.

Nevertheless, maternal-infant healthcare is only one of many roles and responsibilities that public health nurses have in NL. According to the Government of NL (2019), a public health nurse "provides all aspects of public health and/or continuing care nursing programs assigned within a region of the province" (p. n/a). These aspects include, but are not limited to, prenatal education and support, postnatal supports, preschool health check clinics, school immunization programs, communicable disease control, environmental public health services, adult immunizations, and Tuberculous testing (Government of NL, 2018; Thrive, 2018). The immense caseload for public health nurses may impede the ability of these professionals to properly address maternal-infant health—specifically IMH and its promotion—in their practice. Moreover, experts have

indicated that public health nursing faces a "looming crisis based on the rising disconnect between daily activities and ideal practice" (Cusack et al., 2017, p. 16). The authors are referring to the invisible, but increasingly broad scope of practice of public health nurses in Canada.

**Infant Mental Health Promotion within NL**

Increasing public health nurses' education, knowledge, and skills towards IMH and its promotion is a preventative approach. According to the Public Health Agency of Canada (PHAC) and the United Nations International Children's Emergency Fund (UNICEF), individualized, family-centred care is considered best practice for promoting caregiver, family, and infant wellness (PHAC, 2017; UNICEF et al., 2018). Public health nurses in close contact with caregivers and infants represent a crucial entry point for health promotion strategies, as they can provide the necessary support, referrals, and intervention services to ensure that infants have the best possible start in life. However, there needs to be access to quality services (e.g., mental health resources, social programs), to guarantee opportunities for building skills around positive/responsive parenting, and provide support to families to overcome adversity (Britto et al., 2017).

Extensive literature notes the centrality of public health nurses' role in maternal and child socio-emotional services (Borjesson et al., 2004; Bryant et al., 2016; Chitty, 2015; Cousins, 2013; Marcellus & Shahram, 2017; Mcatamney, 2011; Walker et al., 2008; Zeanah et al., 2006). They are in a critical position to promote maternal-infant socio-emotional health based on their significant contact with caregivers and infants. Therefore, it is essential to enhance the education of public health nurses in maternal-

infant socio-emotional health and guarantee that these professionals have the time, educational resources, and infrastructure to accomplish such a relevant task.

Considering that public health nurses, through their practices, are already following infants' health and development, this research will specifically investigate ways to promote infant mental health in NL, through the work that public health nurses are already doing. NL already has existing programs that support caregivers and infants through vaccination and physical development. Rather than creating new programs, there is an opportunity to up-scale existing programs to meet the gap regarding socio-emotional health in maternal and infant healthcare (Richter et al., 2017). Up-scaling existing programs is known as local adaptation; this stipulates that "services need to be adapted to the local context, address existing beliefs and practices, and be delivered through channels that are acceptable and feasible" (Richter et al., 2017, p. 114). Therefore, since public health nurses in NL have a trusted and established role in infant health promotion, they represent a critical professional group to promote IMH, as well.

This project aligns well with the Government of NL's action plan for mental health and addictions, *Towards Recovery: A Vision for Renewed Mental Health and Addictions System for NL* (2017). *Towards Recovery* specifically outlines increasing resources for improving parental skills in the province. Moreover, the action plan also calls for increasing the socio-emotional health in children (Government of NL, 2017). My project is one avenue to accomplish the goals for mental health set out by the Government of NL.

This research also contributes to knowledge in the growing field of IMH and its promotion. It will help to guide the development of policies and interventions that place

IMH as a central tenet of infant healthcare in NL. More importantly, the implementation of effective actions will likely reduce the need for downstream and reactive treatments for social and health impairments later in life.

## Outline of Thesis

This thesis consists of seven chapters including this introduction (Chapter 1). Chapter 2 provides the conceptual framework that guided the project. Chapter 3 is a systematic literature review about IMH and its promotion in Canada and other countries, as well as a synthesis of nursing education about IMH and its promotion. Chapter 4 describes the methodology and methods of this case study. Chapter 5 reports the findings of the case study based on the research aim and questions. Chapter 6 situates the findings within existing literature and provides recommendations based on participant feedback about how to improve IMH promotion in NL. Finally, Chapter 7 summarizes the relevance of the findings, lists key recommendations for action, and identifies study limitations and the future directions.

## Chapter Summary

This chapter explored the relevance of IMH, as well as the potential role of public health nurses in maternal and infant mental health promotion. As public health nurses play a central role in infant healthcare in NL, they are in a key position to promote IMH. To fulfil that aspect of their role, public health nurses need to have a solid education, as well as the time and resources to fulfill this responsibility. This chapter outlined the research aim and questions, and the significance of the study.

## Chapter 2: Conceptual Framework

This chapter describes the conceptual framework I used to guide the research design, data collection, data analysis, and data representation. Maxwell (2005) points out that the purpose of a conceptual framework is to outline the "system of concepts, assumptions, expectations, beliefs, and theories that inform research" (p. 33). Two separate, but related bodies of knowledge helped construct this conceptual framework: (i) understanding the contributors to IMH from an eco-biodevelopmental perspective; and (ii) the rationale for approaching IMH from this eco-biodevelopmental perspective.

### Understanding the Contributors to IMH from an Eco-biodevelopmental Perspective

The Center on the Developing Child at Harvard University (2010) developed an ecological model—the eco-biodevelopmental framework—to demonstrate how policies and programs could support early childhood development. Policies and programs that support early childhood development would in turn support IMH. The eco-biodevelopmental framework is an ecological model, as it emphasizes the different levels of influences affecting health and development across the life span. The eco-biodevelopmental framework's main emphasis is on the role that policies and programs have in supporting families with young children, which in turn, is key to building the foundations for future health. Policies and programs influence caregivers and community capacity which in turn determine the groundwork of a person's health.

Figure 2-1 illustrates the four interrelated levels of influence: (i) the biology of health; (ii) the foundations of health or the need for nourishing environments for children to thrive; (iii) caregiver and community capacities or requirements in the social-cultural

environment to generate appropriate supports; and (iv) the policy and program levers for innovation or macro-structural forces influencing all the other levels of influences.

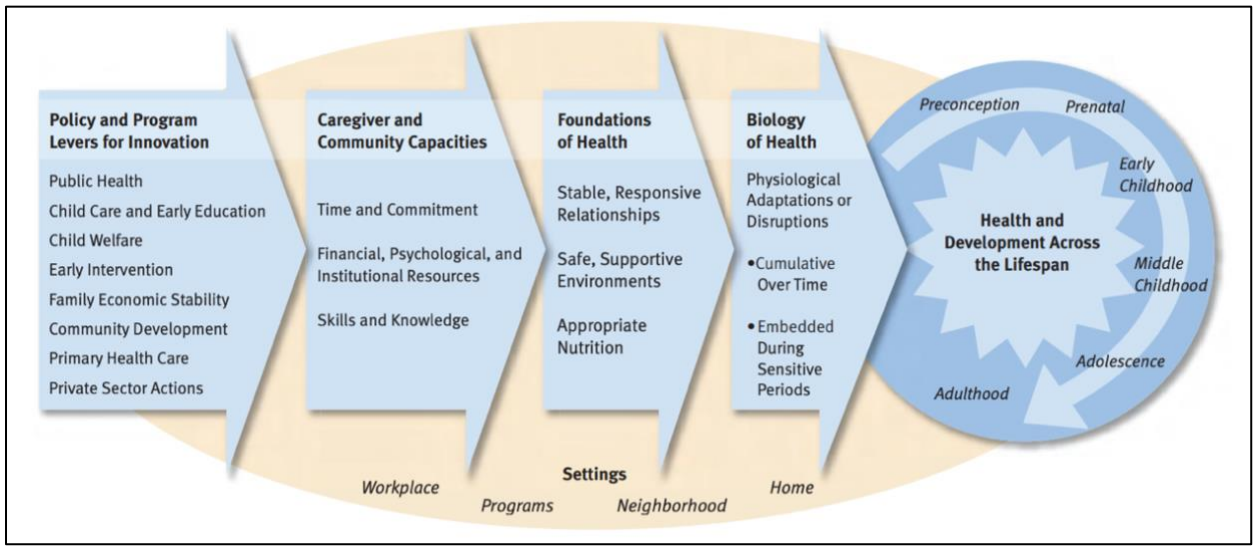


**Figure 2-1.** The Center on the Development Child at Harvard University's Framework (2010) for reconceptualizing early childhood policies and programs to improve lifelong health. Figure used with permission of copyright holder.

**The biology of health.** The eco-biodevelopmental perspective states that the development of the brain and body architecture is determined by two factors: the infant's genes and, more decisively, the infant's environment (Berger, 2011; Center on the Developing Child at Harvard University, 2015). Children's experiences and surrounding environments interact with their rapidly developing brains and biological systems. This dynamic has a powerful influence as the child develops into adolescence and adulthood. The experiences during the first three years of life affect the physical structure of the developing brain. Considering that brains are built in stages (more complex structures built on previous, simpler structures), disruptions in development can affect the bases for future development and cause significant problems later in life. The establishment of neural connections involved in social behaviour and self-regulation occurs rapidly,

allowing the child to develop skills such as judgement, situation analysis, and deal appropriately with stressful events (Center on the Developing Child at Harvard University, 2009). Neural connections construct brain architecture, which is the foundation for all future brain development. Therefore, nurturing environments in the early years are important as they are conducive to "establishing robust biological systems in early childhood [which] can help to avoid costly and less effective attempts to 'fix' problems as they emerge later in life" (Center on the Developing Child at Harvard University, 2010).

The eco-biodevelopmental perspective emphasizes the role of stress in early development. Stress during the first few years is a crucial factor in the development of physiological adaptations or disruptions. Stress is an inevitable part of life, however, learning to effectively deal with stress is an essential part of healthy socio-emotional development. The stress response system is known as the "flight-or-fight" response. During a stress response, the brain sends signals to the adrenal glands to produce stress hormones (i.e., cortisol, epinephrine, and norepinephrine). The stress hormones are what trigger the "flight-or-fight" response and physical reactions such as increased heart rate and breathing, elevated blood pressure, and tense muscles.

There are three different types of stress: positive, tolerable, and toxic (Center on the Developing Child at Harvard University, 2015). When the stress response is triggered, and the primary caregiver responds to the infant in a comforting way, the stress response will eventually subside. If a nurturing response from the caregiver is consistently present, the infant learns that they can rely on the caregiver in times of stress. The safe relationship encourages the infant to develop strategies to deal with stress—this is known

as positive stress (Center on the Developing Child at Harvard University, 2015). An example of positive stress is when the infant receives a bump or scratch, but the primary caregiver is present to help the infant overcome the stress response.

There is also tolerable stress, which is when there are severe and temporary stress responses that can also be mitigated by a trusted caregiver (Center on the Developing Child at Harvard University, 2015). For instance, a brief hospitalization for illness triggers a severe, but temporary stress response if a caregiver provides the appropriate support.

Last, there is toxic stress. Toxic stress is the "prolonged activation of stress response systems in the absence of protective relationships, such as physical or emotional abuse, chronic neglect, substance abuse, mental illness, or exposure to violence" (Center on the Developing Child at Harvard University, 2015, p. 5). In other words, toxic stress develops when the stress response system is overactivated by repeated negative experiences, without any buffers to release high levels of chronic stress. Toxic stress can have long-term consequences that begin in infancy and childhood and manifest in adulthood. Two separate, but related, concepts are used to explain these consequences: biological embedding and epigenetics. Biological embedding refers to a process where temporary responses alter the person's physiology in response to environmental stimulation (Hertzman, 1999). Epigenetics refers to how environments and experiences can alter the person's genes expression (Marshall, Fox, & Group, 2004). Together these two processes can create an unfortunate developmental trajectory if exposed to toxic stress for a prolonged period.

Toxic stress disrupts neural, endocrine, immune, and metabolic physiology in myriad ways. There is an altered neural structure and function from neural death and reduced number of neural connections (Berens et al., 2017; Bick & Nelson, 2016; Curley et al., 2011). The neuroendocrine stress response axes become over-responsive or under-responsive due to excessive activation of the stress response (Doom & Gunnar, 2015). The constant release of stress hormones causes disruption or dysregulation of the nervous system (Alkon et al., 2012). The immune system is suppressed by chronic inflammation within the body (Slopen et al., 2012). Dysregulation of metabolism is manifest in insulin resistance and altered fat metabolism (Berens et al., 2017; Maniam et al., 2014).

Together, these physiological disruptions result in increased risk of poor physical health. Extensive literature demonstrates the relationship between early adverse experiences and common chronic diseases, such as hypertension, obesity, diabetes, cancer, cardiovascular disease, and stroke (Boivin et al., 2012; Danese et al., 2009; Maniam et al., 2014). Aside from chronic diseases, toxic stress increases the risk for acquiring infectious diseases due to the suppressed immune system (Danese et al., 2009; Slopen et al., 2012). The long-term consequences of toxic stress also impact mental health with increased risk of anxiety, depression, and addictions, as the potential to deal with future stress is negatively affected (Boivin et al., 2012; Danese et al., 2009).

Most of what we know about abnormal childhood development is from studies exploring adverse childhood experiences. The *Centers for Disease Control and Prevention* and *Prevention-Kaiser Permanente* conducted a landmark research entitled the Adverse Childhood Experiences Study (ACES). In 1998, over 17, 000 people reported adverse childhood experiences clustered in seven categories: psychological abuse,

physical abuse, sexual abuse, substance abuse, mental illness, maternal violence, and criminal behaviour (Nores et al., 2005). The study found a strong relationship between the number of exposures to adverse experiences in childhood and the risk of adverse health outcomes later in life (Widom et al., 2004). This study was instrumental in connecting early experiences and lifelong health.

The main critique of the ACE study is that the data were based on longitudinal, retrospective reporting and recall of the participant (Boivin et al., 2012; Widom et al., 2004). Therefore, since the landmark adverse childhood experiences study, there have been concerted efforts to conduct cohort and random controlled trial studies (i.e., preventative random controlled trials that use intervention programs rather than assigning a child to a specific environment).

Another well-known randomized controlled trial is the *High/Scope (Perry) Preschool Preventive Intervention Program,* where children (between 3 and 4 years of age), deemed at risk for adverse childhood experiences were randomly assigned to high-quality preschool education beginning in 1962 (Heckman et al., 2010). These children were followed and assessed for 40 years thanks to a foundation led by one of the researchers, who has advocated in favor of early child development quality programming and adequate commitment of resources. This study also confirms previous evidence showing that a high-quality educational approach for children and parents was not only effective at the educational level, but also generated other positive outcomes in terms of participants' successful employment rates and improved living conditions. A more comprehensive description of these studies can be found in a report released by the Royal

Society of Canada in conjunction with the Canadian Academy of Health Sciences Expert Panel (Boivin et al., 2012).

**Foundations for lifelong health.** According to the eco-biodevelopmental perspective, the foundations for lifelong health are safe, supportive environments, stable, responsive relationships, and appropriate nutrition (Center on the Developing Child at Harvard University, 2010). Research has established that positive environments and experiences are foundational for infant development and lifelong health (Boivin et al., 2012; National Scientific Council on the Developing Child, 2004; Shonkoff et al., 2012; Siddiqi et al., 2007). These safe and supportive environments and experiences can support or impede the creation of neural connections that promote future mental well-being.

A description of a nurturing environment is "a stable environment that is sensitive to children's health and nutritional needs, with protection from threats, opportunities for early learning, and interactions that are responsive, emotionally supportive, and developmentally stimulating" (Britto et al., 2017, p. 1). Several inter-related concepts constitute a nurturing environment: having positive attitudes, forming emotional bonds, and facilitating consistent and responsive interactions (Britto et al., 2017; Britto & Engle, 2013). Additional studies to understand more completely the critical intents of nurturing environments are required.

One of the essential factors in the development of IMH is the relationship with a primary caregiver (Britto et al., 2017; Gerhardt, 2004; Shonkoff & Phillips, 2000; Zeanah et al., 2005). Attachment is the infant's ability to form secure bonds with trusted individual(s) (Briggs et al., 2014). This connection is critical because a secure, safe and trusted relationship provides a sense of belonging to the child (Bowlby, 1969; Center on

the Developing Child at Harvard University, 2015). A secure attachment helps foster the foundation to develop self-regulation and social competence (Sroufe et al., 2006). The bond formed between caregivers and the infant builds the foundation for the later attachment style with romantic partners and friends (Antonucci et al., 2004). Hence, attachment early in life can have lasting impacts on future relationships.

Maternal depression, or postpartum mood disorders, negatively impacts IMH because it interferes with the mother's ability to have a responsive relationship with her infant (Goodman et al., 2011). The symptoms of postpartum depression are trouble sleeping and concentrating diminished appetite and energy, and feelings of worthlessness and guilt (Steiner, 1990). Postpartum depression can cause the mother to become either hostile or withdrawn towards their infant (Center on the Developing Child at Harvard University, 2009). Together these symptoms and behaviours reduce the ability of the mother to have consistent positive and meaningful interactions with her infant (Barker et al., 2012; Goodman et al., 2011).

A concerning aspect of postpartum depression is the high prevalence among mothers. Based on a Statistics Canada (2019) survey of maternal mental health in Canada, an average of 23% of mothers reported feelings of postpartum depression or a related anxiety disorder. In NL the average is higher, as 28% of mothers reported feelings of postpartum depression (Government of Canada & Statistics Canada, 2019).

Preventing, managing, and treating postpartum mood disorders is a crucial step in promoting IMH because if the mother has more energy, interest, and positive feelings toward her infant, there is an increased chance of positive and meaningful interactions occurring (Center on the Developing Child at Harvard University, 2009). However,

families facing mental health issues, and who may lack psychosocial and financial resources to manage their suffering need robust institutional and community services and supports to provide their infants with the best start in life (Traverso-Yepez et al., 2017).

Relationships outside the caregiver-infant relationship play a significant role in development, as well. The immediate relationship environment is composed of sibling(s), grandparent(s), and other individuals with whom the infant comes in frequent contact. Dynamics within this immediate environment can influence the development of the infant. There may be familial, cultural and ethnic influences, as well (Zeanah et al., 2005). For example, there can be cultural expectations that influence beliefs about infant care or the role of caregiver(s) (Zeanah et al., 2005).

As mentioned before, socio-emotional development is the infant learning to manage and experience emotions (Berger, 2011). Socio-emotional development happens through parental coaching support in safe, nurturing environments and relationships. To build the critical neural connections involved in socio-emotional development and regulation, the infant needs to consistently have positive and meaningful interactions with their caregiver(s) (Gerhardt, 2004). The caregiver must be someone the infant interacts with consistently—mother, father or other guardians (Britto et al., 2017; Gerhardt, 2004). A positive and meaningful interaction is based on a "serve-and-return" dynamic (National Scientific Council on the Developing Child, 2004). For example, when playing peek-a-boo, the caregiver should engage the infant until the infant breaks eye contact. Factors that could inhibit the relationship may not be classified as overt abuse but as neglect, involving issues in the household socio-economic environment in which the child is developing (Gerhardt, 2004).

Socio-emotional regulation is similar, but it pertains more to a long-term ability to control and manage emotions (Berger, 2011). Evidence states that the most crucial socio-emotional development and regulation happen in the first few years of life (Berger, 2011; Zeanah et al., 2005). Socio-emotional development as an infant is crucial for future navigation of the social world. For example, when the child enters school, they are taught to raise their hands when they want to ask a question. The ability of the child to raise their hand and wait to be called on, rather than interrupting demonstrates self-regulation. Furthermore, the literature suggests that if an individual does not develop self-regulation this can lead to difficulty controlling emotions and actions, which can increase stress later in life.

**Strengthening the capacities of caregivers and communities.** To effectively promote IMH, policies and programs must build caregiver, family, and community capacities. There must be a concerted effort by programs and services to recognize that adversity occurs in all social strata. Nonetheless, those in low socio-economic situations are likely to have challenges in creating relationships and supportive environments conducive to healthy child development. Moreover, rather than blaming parents for not providing a nurturing environment for their child, we should acknowledge two factors: (i) it is likely these parents experienced adversity themselves growing up (Boivin et al., 2012); and (ii) Canada's neoliberal society does not support families in overcoming structural barriers (Raphael, 2010a, 2010b). The manner in which neoliberalism influences health is complex. Briefly, neoliberalism relies on market regulation rather than government policies to decide how to distribute resources. Consequently, this results

in inequities among social strata and policies favouring the wealthiest in Canada (Raphael, 2010a).

There is also a strong relationship between high income and better health and low income and poor health. Families classified as lower socio-economic status are less likely to have the resources to meet their basic needs (Raphael, 2010a). Women who become single parents are more likely to end up in a lower socio-economic situation post-separation (Brown & Moran, 1997; Mikkonen et al., 2016). So, children of separation or divorce can be plunged into a lower socio-economic status, as the mother does not have the resources to meet the household needs. Moreover, these mothers are more likely to experience depression, which as discussed earlier can impair the mother-infant relationship (Brown & Moran, 1997; Mikkonen et al., 2016).

The 2016 census reported 4.8 million people living in poverty in Canada, of whom 1.2 million were children (Campaign 2000 et al., 2020; Statistics Canada, 2017). The census also demonstrated that young children tend to be more negatively impacted by low income because mothers experience pay loss after having children (Statistics Canada, 2017). Single mothers in NL make up a large percentage of low-income families (Newfoundland and Labrador Statistic Agency, 2017), so evidenced informed policy needs to focus on structural changes that support caregivers and communities rather than blaming mothers for challenges in raising their children, which are beyond their control.

Supporting caregivers can be achieved by building capacities to promote healthy child development (Center on the Developing Child at Harvard University, 2010). There are three capacities that caregivers require to create a safe and nurturing relationship and environment: time, resources, and skills and knowledge. Time is the nature and quality of

time spent with children. Available resources must include financial resources to purchase goods and services and psychosocial resources to promote the physical and mental health of children (Shonkoff, 2011; Traverso-Yepez et al., 2017). The caregivers must also have sufficient skills and knowledge to promote the healthy development of their children, as well as the skills and knowledge to facilitate their own health. However, parenting is a complex task, much influenced by the kind of upbringing parents themselves have had. Thus parents who do not grow in a nurturing household may have more difficulties in providing a safe, nurturing environment for their children (Center on the Developing Child at Harvard University, 2010).

An important consideration relevant to this study is that those supporting caregivers must also know how to assess and improve the caregiver-infant relationship (Lieberman et al., 2011). However, assessment of the caregiver-infant relationship is difficult due to the high complexity of family structures and to the fact that available screening tools are limited, if they are not followed up by effective intervention (Bailey, 2009). Consequently, professionals working in close contact with parents and infants must have the relevant skills and knowledge to best assess and further support the parent-child relationship.

The community where children grow up also influences the family environment because it can determine their living conditions and the opportunities for services, support, and learning. Therefore, communities need to commit to promoting child health through legislation, policies and programs that support caregivers and infants. Such programs and supports include quality childcare facilities, playgroups, and mental health services (Shonkoff, 2011; Traverso-Yepez, 2017). As eloquently summarized by the

Center on the Developing Child at Harvard University (2010), "Healthy children are raised by people and communities, not by government and professional services—but public policies and evidence-based interventions can make a significant difference when caregivers and neighbourhoods need assistance" (p. 12).

**Health implications of public policies and programs.** The last piece of the Center on the Developing Child at Harvard University's Framework (2010) focusses on the importance of building capacity for a multi-sectorial approach to public policies to support early child development. There is "extensive and growing evidence that many of the major threats to the health of children cannot be addressed in a hospital or a physician's office…" (Center of the Developing Child at Harvard University, 2010, p. 13). Thus, the framework outlines areas where healthy child development policies and programs could be implemented. These policies and programs include not only public health, but also other systems responsible of family and child wellbeing, (e.g., childcare and early education), family economic stability (e.g., employment support, child support, parental leave, etc.), community development, housing, among others.

In addition to family economic stability, policies and programs that promote the parent-child relationship relevant to this study are: (i) parenting education and home visiting programs; and (ii) an expanded professional development for early care and education providers. Parenting education and home visiting programs are likely to improve the short- and long-term mental and physical health of children (Gerhardt, 2004; McAtamney, 2011; Shonkoff et al., 2012; Walker et al., 2008; Zeanah et al., 2006). Home-visitations by public health nurses provide an opportunity to intervene early to buffer the harmful effects of toxic stress by promoting a safe and nurturing relationship

between the caregiver and the infant (Garner, 2013). Home-visitations also provide an opportunity for public health nurses to support parents with building their knowledge and skill set.

For programs and services to be effective, professionals involved with infants and caregivers must have appropriate knowledge and skills. Expanding professional development for early care among public health nurses offers an opportunity for new knowledge about healthy child development to be translated and integrated to accessible, evidence-based programs and services (Garner, 2013; Center on the Developing Child, 2010).

The framework suggests innovative ways to increase public awareness around the connection between early experiences and adult-onset disease, emphasizing the need to invest on policies that keep people healthy from the early beginnings (Center on the Developing Child, 2010). Increased public awareness may "put pressure on citizens and government to take action" (Traverso-Yepez et al., 2017, p. 12). The eco-biodevelopmental framework recommends this multi-dimensional approach, where opportunities to improve health outcomes go beyond healthcare services to include the social determinants of heath when considering healthy child development policies and programs (Center on the Developing Child at Harvard University, 2010).

**The Importance of IMH Promotion from the Eco-biodevelopmental Perspective**

IMH represents an emerging area of importance for current health promotion efforts. The *Ottawa Charter* defines health promotion as the "process of enabling people to increase control over, and improve, their health" (WHO, 1986). Historically, health

promotion efforts have focussed on individual-level behavioural strategies. For instance, targeted awareness campaigns to decrease cigarette or alcohol use through marketing and advertising are behavioural health promotion strategies. The focus on individual-level, "risky" behaviours is misguided (Baum & Fisher, 2014; Marmot & Allen, 2014). Research demonstrates that these strategies do not work with individuals who have a low socio-economic status because they neglect to consider the underlying mechanisms or social determinants of health that influence behaviour. The ignorance of the underlying mechanisms has played a role in the emergence of high rates of chronic diseases within disadvantaged populations (Banks et al., 2006; Baum & Fisher, 2014). Hence, there must be consideration of how health is established to ensure the present and future health of the new generations.

Some determinants of health are age, sex, genetics and behaviours. However, the condition in which people are born, grow, and work has a greater effect on health. These conditions are known as the social determinants of health. Social determinants are the "economic and social conditions that shape the health of individuals, communities, and jurisdictions as a whole" (Raphael, 2016). The list of social determinants includes income and social status, employment and working conditions, education and literacy, physical environments, social supports and coping skills, healthy behaviours, access to health services, gender, culture, race/racism, and childhood experiences (Marmot & Wilkinson, 1999; Raphael, 2014, 2016).

**An overview to the social determinants of health.** Social determinants influence health at many levels (i.e., individual, population, geographical) with many complex interactions leading to health inequities. In conjunction with the World Health

Organization, Solar and Irwin (2010) released a framework that describes how two types of social determinants, structural and intermediary, interact with each other to influence health.

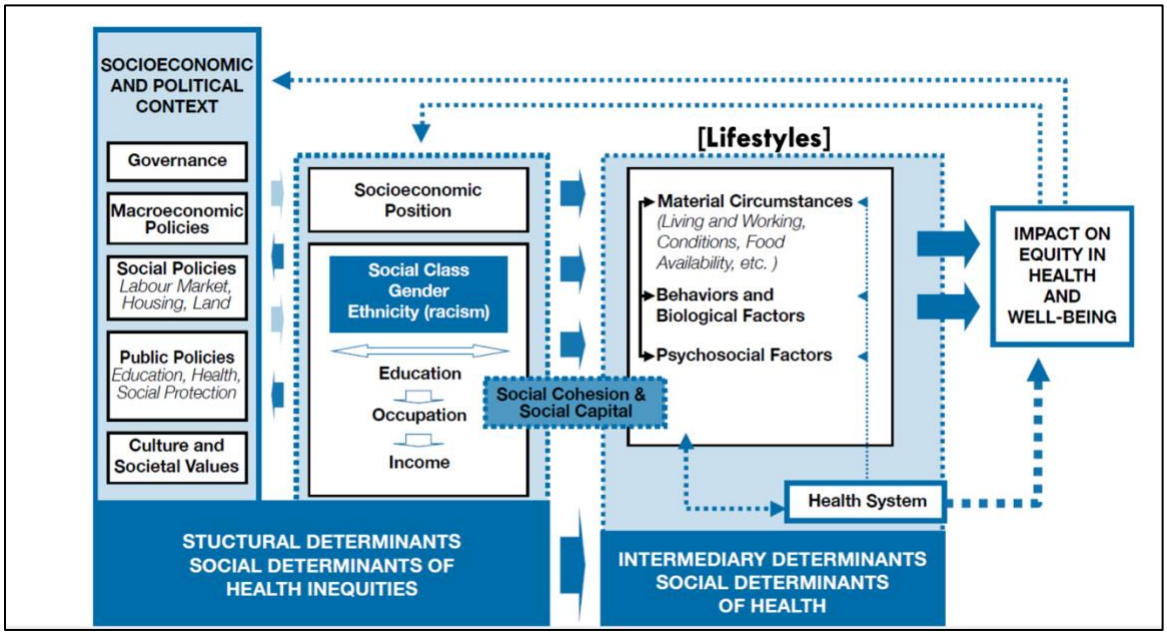


**Figure 2-2.** Solar and Irwin's (2010) Social Determinants of Health Framework. Figure used with permission of copyright holder.

Observing Figure 2-2, structural determinants are the socio-economic and political contexts in which people live. The socio-economic and political context shapes socio-economic positions (i.e., someone's place in society) that are determined by factors, such as income, education, job, and race. Socio-economic status affects the intermediary determinants of the person, such as material circumstances (e.g., housing), psychosocial circumstances (e.g., relationships) and behavioural or biological factors (e.g., genetic predispositions). Also, access to healthcare is an intermediary determinant. Lastly, social cohesion and social capital can determine how people will cooperate and their capacity to navigate systems to improve population health (Solar & Irwin, 2010). Together, this

framework explains how social determinants lead to the inequitable distribution of health outcomes.

**Early childhood experiences as a social determinant of health.** The early childhood period is considered to be the most significant developmental phase of someone's life (Hertzman & Power, 2003; Irwin et al., 2007). The first few years of life are when children are most susceptible to environmental influences (Britto & Engle, 2013; Shonkoff et al., 2012). Those years lay the foundation for "health, well-being, learning and productivity throughout a person's whole life, and has an impact on health and well-being of the next generation" (WHO, UNICEF, & WBG, 2018, p. 20).

The environment we are born into and grow in is a critical social determinant of health (see Figure 2.2). The way the environment influences the future health status of individuals is through three mechanisms: latency effects, cumulative effects, and pathways effects (Hertzman, 2000; Mikkonen & Raphael, 2010). Latency effects is when the environment where the child grows up will significantly impact health later in life regardless of the environment during the adult years. Cumulative effects are the phenomena that describe how more time spent in the environment will compound and influence health outcomes. Pathway effects is when experiences in early life determine social outcomes later in life (Hertzman, 1999; Mikkonen & Raphael, 2010). Together these three mechanisms can shape a person's future health outcomes. Therefore, supporting early childhood is an effective health promotion strategy to ensure more positive outcomes for our future citizens (Raphael, 2014).

Early childhood development is the umbrella term that includes the physical, cognitive, motor, and socio-emotional development between the age of zero and five

years (WHO, UNICEF, & WBG, 2018). Socio-emotional development occurs rapidly in the first few years of life when children are most sensitive to their environments and experiences. However, infant mental health (equivalent to positive socio-emotional development) is an often-ignored aspect of infant healthcare policies, programs, and services (Nelson & Mann, 2011), which tend to exclusively focus on the physical health of infants. Integrating IMH promotion as a central tenet of infant healthcare is imperative to improve the socio-emotional well-being of our youngest citizens. In order to integrate IMH into infant healthcare, public health nurses must have the necessary skills and knowledge to do so.

## Chapter Summary

This chapter presents the conceptual framework that I used to guide the research design including data collection (i.e., informed the interview guides), data analysis (i.e., informed results), and data representation. Discussing the framework sets out two important assumptions: (i) understanding the contributors to IMH from an eco-biodevelopmental perspective; and (ii) the importance of IMH promotion from the eco-biodevelopmental perspective. These two sections I presented the rationale for approaching and promoting IMH from this comprehensive eco-biodevelopmental perspective. The next chapter will focus on identifying the gap in the literature about public health nurses' knowledge on IMH and its promotion and how my research sought to fill this gap.

## Chapter 3: Literature Review

A positive, nurturing environment is necessary for optimal IMH development. Despite increasing research about the significance of IMH and its promotion, there is limited understanding of why a nurturing environment is relevant for children's socio-emotional development and their mental health throughout the lifespan.

Healthy child development tends to focus on physical health and meeting developmental milestones. Hence, health promotion efforts have concentrated on physical health promotion, such as vaccines and monitoring weight and height. Consequently, nurses may not have the knowledge to support infant and caregivers' mental health (Cusack et al., 2017; Newton et al., 2015). There is little published research that explores how to integrate new research about IMH and its promotion into the education of public health nurses. Moreover, there is no published literature on these issues in the NL context. Exploring this topic is an upstream strategy for promoting the life-long mental wellness of our future citizens.

Consequently, this chapter presents a search of the peer-reviewed literature and grey documents about best practices in the field of IMH and its promotion through the provision of the necessary education and professional development opportunities for healthcare workers. The purpose of this systematic literature search was to: (i) to search frameworks, strategies, and interventions related to IMH and its promotion; and (ii) to explore the knowledge translation relevant to healthcare providers, and more specifically nurses.

**Literature Search Strategy**

After consulting with a librarian, it was agreed that IMH is a new area of research in public health and in health promotion. We expanded the search to all health personnel to generate more articles related to IMH. Accordingly, literature was drawn from two electronic databases: CINAHL and PsychINFO and the MeSH terms used are described in Table 3-1.

Table 3-1. The electronic databases and MeSH terms used to generate articles for systematic literature review.

| Electronic Database | MeSH Terms |
|---|---|
| CINAHL | (MM "Attitude of Health Personnel+" OR MM "Professional Knowledge" OR MM "Education, Health Sciences+") AND (MM "Early Childhood Intervention" OR "infant mental health")<br><br>(MH "Community Health Nursing+" OR "public health nurs*") AND (TI infant* AND "mental health") |
| PsycINFO | (MM "Health Personnel Attitudes" OR MM "Health Knowledge" OR MM "Nursing Education" OR MM "Medical Education" OR MM "Medical Internship" OR MM "Medical Residency" OR MM "Psychiatric Training") AND (MM "Early Childhood Development" OR "infant mental health") |

The search was limited to English texts after 2000 to ensure the articles are applicable to the current education and knowledge about IMH promotion. Due to minimal research on IMH and its promotion, all primary, secondary, and grey documents that met the inclusion criteria were considered. After the filters were applied, the first CINAHL search produced 90 results; the second CINAHL search yielded 17 results, and PsychINFO produced 34 results. I screened and removed two duplicates resulting in 139 articles. The results of the search history are depicted in Figure 3.1 using the PRISMA model for reporting (Liberati et al., 2009).

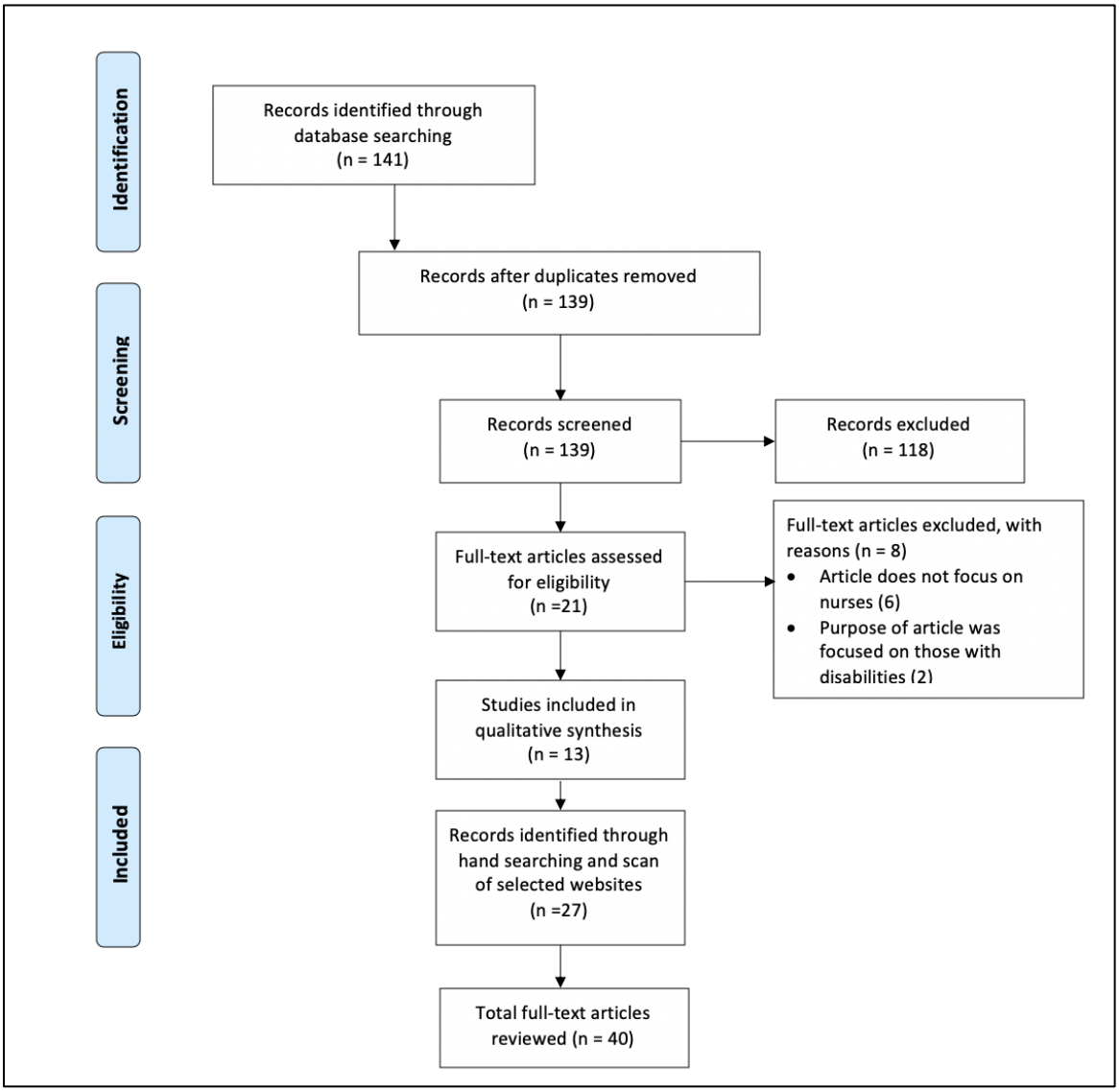


**Figure 3-1.** PRISMA flow diagram.

In the first of a three-step process outlined by Liberati et al. (2009), I screened the articles for eligibility by reading the title and abstract using the following inclusion criteria: (i) articles that investigated, explored, or discussed frameworks, strategies, and interventions related to IMH and its promotion; and (ii) articles researching nurses' IHM knowledge or any specific IMH training. Articles were excluded if they: (i) investigated mental health outcomes related to physical or mental disabilities; or (ii) were not directly

related to IMH or IMH promotion models. Of the total CINAHL results, 21 articles matched the inclusion and exclusion criteria. In PsychINFO, six articles matched the inclusion and exclusion criteria.

The second step involved a full-text review to determine their applicability, credibility, and reliability. A total of 13 articles met these criteria. The third step involved hand-searching the reference list of the included texts, which provided another 27 articles that matched the criteria for inclusion in the literature review.

**Results Literature Search**

A closer look at the literature on public health nurse knowledge of IMH reveals several gaps and shortcomings in the education of public health nurses. The results of my systematic review revealed two major themes in the literature: (i) a lack of a national concern for IMH and its promotion; and (ii) a lack of education at the undergraduate level and in professional development.

**Lack of a national concern for IMH and its promotion.** Although Canadian researchers and advocates have made significant progress in the field of IMH during the past decades, there have also been challenges to translate this work into operating frameworks and policies nation-wide. Compared to other countries, Canada lacks models, frameworks, and policies that promote lifelong mental wellness. As I will explore below, due to fragmentation in provincial and federal policies, while some provinces like Ontario, Manitoba, and Nova Scotia, have developed infant mental health policies or frameworks, other provinces have remained behind.

One explanation for Canada's lag in IMH promotion policies is a larger systemic issue with the weakening leadership and fragmentation of public and community health services (Guyon et al., 2017; Marcellus & Shahram, 2017; Schofield et al., 2011; The Canadian Foundation for Healthcare Improvement, 2014). For example, a report released by the Canadian Foundation for Health Improvement (2014) called for better collaboration between federal and provincial governments to enhance health promotion efforts. In a more recent report, Guyon et al. (2017)—a group of public health academics and physicians—identified four issues with Canada's public health system: (i) downgrading the status of public health within governments and health authorities; (ii) eroding the independence of Medical Officers of Health and their ability to speak out on matters of public health concern; (iii) limiting public health scope by combining it with primary and community care, without regard for the different functions and expertise involved; and (iv) decreasing funding for public health. Moreover, Marcellus and Shahram (2017) criticize public health response to mental health and note that "[it is] time we 'put out money where our mouth is' when it comes to infant and early childhood mental health promotion?" (p. 51).

For example, there is a growing number of IMH frameworks and models in Australia, Scotland, the United States of America, and England. In Australia, the Queensland Centre for Perinatal and Infant Mental Health focuses on supporting healthy socio-emotional health from the prenatal stages until adulthood (Children's Health Queensland Hospital and Health Service, 2014). The Centre allocates resources beyond the hospital setting to community-based services—resources such as parenting programs and counselling that utilize IMH promotion principles (Children's Health Queensland

Hospital and Health Service, 2014). Additionally, Australia utilizes the Early Development Instrument to monitor the health of their children. In 2018, Australia surveyed 96% of children using the Early Development Instrument (Commonwealth of Australia, 2018).

In Scotland, the government is creating targeted awareness campaigns about the benefits of promoting IMH in clinical practice (Geddes et al., 2011). The purpose of these campaigns is to encourage both nurses and caregivers to be concerned about socio-emotional health in Scotland. In the US, mental health services are being integrated into the primary care setting but these shifts are still in the early phases (Kolko & Perrin, 2014).

In England, there is the National Institute for Health and Care Excellence, whose mission is to "improve health and social care through evidence-based guidance" (National Institute for Health and Care Excellence [NICE], 2020, p. n/a). The Institute provides guides in multiple areas, but has specifics guide and flow charts for health professionals to help support the social and emotional well-being of infants (NICE, 2018, 2020). This document is an extensive report on how local health units and healthcare workers can effectively promote social and emotional health in their practice (NICE, 2018).

With some exceptions, Canada has very few frameworks or models that support IMH and its promotion. One example is SickKids (2004) which has a total environmental approach to promote IMH and childhood development. The literature suggests that the most substantial impediment to organizations and governments to adopt IMH frameworks and models is securing the funding to cover the costs (Children's Health Queensland

Hospital and Health Service, 2014; Geddes et al., 2011; Government of Nova Scotia, 2018; SickKids Center for Community Mental Health, 2004).

A second significant barrier is that clinics, community organizations, and the workforce will need to expand and be qualified to meet the increased demand (Geddes et al., 2011; Government of Nova Scotia, 2018; Kolko & Perrin, 2014). For example, Geddes, Frank, and Haw (2011) note that the nurse workforce would require a substantial number of new nurses to implement a home-visitation program. Other notable barriers include: (i) a lack of longitudinal data about children's mental wellness; (ii) duplicating small-scale models at the population-level can be difficult; and (iii) the lack of coordinated, multi-sectoral approach (Canadian Council on Social Determinants of Health, 2015).

Canada is making slow progress in creating policy and advocacy for IMH. For example, Charlotte Waddell et al. (2005) advocated for effective public policy goals to improve the mental health of Canadian children. Five years later, there were still no federal policy plans for a child and adolescent mental health strategy (Kutcher et al., 2010). Some researchers note a general neglect towards population mental health in contrast to physical health and the corresponding lack of funding arising from this kind of neglect (Denny & Brownell, 2010; Marcellus & Shahram, 2017; St-André et al., 2010). In 2015, the Canadian Council on Social Determinants of Health released an action plan identifying innovative initiatives to advance early childhood development. The three themes were to increase access to knowledge, engage communities, and improve research translation (Canadian Council on Social Determinants of Health, 2015). The authors stressed the need for a multi-disciplinary approach from governments, academia, non-

governmental organizations, and clinical services, to translate these initiatives into practice (Canadian Council on Social Determinants of Health, 2015).

The federal government demonstrates limited policy development and advocacy for IMH and its promotion. Eckersley (2011) explains that the lack of an action at the policy level regarding mental health in some developed countries can be attributed to factors related to the kind of priorities in healthcare systems. Population health tends to neglect the socio-emotional aspects of wellness (Eckersley, 2011). Additionally, when addressing mental health, the focus is on treating mental illness rather than promoting mental health (Eckersley, 2011).

Canada's reluctance to support early childhood development is reflected in UNICEF's Report Card 11, Child Well-Being in Rich Countries: A comparative review (2013) revealed Canada ranks 17$^{th}$ out of 29 industrialized nations for child well-being. The review also demonstrated that Canadian children are some of the unhappiest (24$^{th}$ out of 29), if "children's view of their life satisfaction is considered" (Adamson, 2013). Moreover, children's satisfaction regarding their relationship with their parents and peers is even lower (25$^{th}$ out of 29) (Adamson, 2013). A child's relationship with a primary caregiver is a critical aspect of the child's socio-emotional development.

There are no mental health policies that provide an equal amount of support, resources, and urgency for promoting mental health/wellness as compared to physical health/wellness. For example, the Early Childhood Mental Health Initiative has a guide for professionals and certificates offered through the Canadian Nurses Association (Canadian Nurses Association, 2019). However, to ensure equal access to early childhood

development resources, there needs to be more funding and attention from the federal and provincial governments.

Provincial governments across Canada are in the early stages of creating, implementing, and improving frameworks, policies, and programs involving IMH and early childhood development (Government of Manitoba, 2018; Government of Nova Scotia, 2018; Government of Ontario, 2017). Governments in Manitoba, Nova Scotia, and Ontario have similar goals to use a multi-sectoral approach to supporting early child development. Quebec and British Columbia are also making significant progress in promoting IMH (St-André et al., 2010).

Marcellus and Shahram (2017) explore how Canada undervalues the leadership role that public health nurses could play in further developing IMH promotion services. The authors note that this could be due to the "growing weaknesses and erosions in the Canada public health infrastructure" (p. 50). Other researchers have described community health nursing "in a crisis" (Schofield et al., 2011, p. 1054) because their roles are unclear and undefined.

**Undergraduate and professional development about IMH.** Researchers investigating nurses' knowledge about IMH have consistently found that there is a lack of available education. Of the nine articles in which nurses discussed their experiences in addressing IMH in their professional practice, there was explicit concern about the lack of education for nurses during their undergraduate education and professional development opportunities (Alexander et al., 2013; Barrows & Bennet, 2000; Bryant et al., 2016; Marcellus & Shahram, 2017; McAtamney, 2011; McComish et al., 2015; Schofield et al., 2011; Zeanah et al., 2006).

Moreover, in a study by Appleton et al. (2013), researchers interviewed home visitors and sought to describe how home visitors assess attachment. This research indicated that home visitors focus their attention on mothers, which suggests a gap in education about assessing the infant's mental health (Appleton et al., 2013). A second study conducted by Cousins (2013) also emphasized that home visitors lack the knowledge to evaluate infants' socio-emotional health. NL does not have specific jobs dedicated as "home visitor." Instead, it is part of public health nurses job expectation to conduct a postnatal home visit or more if the mother is considered "at risk," being this part of the Healthy Beginnings program (Government of NL, 2019c). Also support staff at Family Resource Centres do postnatal home visits (Government of NL, 2019b). The skills home visitors need versus the skills public health nurses need in evaluating IMH are the same. Therefore, literature about home visitors is useful for this study when there is limited literature about public health nurses and IMH.

The literature suggests that nursing students are not explicitly taught about IMH and its promotion and the topic may not be integrated into nursing curriculums for a few reasons. First, nurses have a significant amount of academic, clinical, and personal skills to master in four years. Studies have shown that nursing students are stressed from heavy course loads and expectations (Chernomas & Shapiro, 2013; Jimenez et al., 2010). Consequently, there may not be sufficient time to provide significant education about IMH and its promotion.

Second, curriculum development about mental health and mental illness, may not be a priority. A position paper released by the Canadian Federation of Mental Health Nurses (2016) issued a call for increased mental health and addiction content in

undergraduate nursing programs. The organization also cited an unpublished systematic review from 2006, which stated that almost 22% of nursing programs in Canada did not have a mental health theory course. Another systematic review from 2018 noted that one-third of nursing programs in Canada do not have a mental health clinical placement (Vandyk et al., 2018). The results of the systematic review were troubling because when compared with the unpublished systematic review, it revealed that mental health theory courses and clinical placements have decreased in the 12 years between the 2006 study and the 2018 systematic review (Kent-Wilkinson et al., 2016; Vandyk et al., 2018). However, the two reports did not note the centrality of promoting mental health in infants and children and its role in preventing mental illness.

The Canadian Association of Schools of Nursing (2015) provided mental health and addiction competencies for undergraduate nursing education to ensure a national, consensus-based approach to education about mental health. The report notes the importance of mental health promotion, but does not specifically address IMH promotion or early childhood mental health (Canadian Association of Schools of Nursing, 2015). There is an absence of the importance of IMH as foundational to mental health later in life.

The literature discusses professional development education opportunities for nurses. In the United States, several professional development programs exist. The Michigan Association for IMH Endorsement System® (MI-AIMH) has an extensive credentialing system (MI-AIMH, 2019). This training is directed to a wide variety of professionals (e.g., early childhood educators, nurses, physicians, specialists, professors), because the goal of MI-AIMH is to have a multi-disciplinary approach to IMH and its

promotion. There are four levels of degrees offered: (i) infant family associate (degree in child health); (ii) infant family specialist (bachelor's or master's degree); (iii) infant mental health specialist (master's degree or Ph.D. with a clinic focus); and (iv) infant mental health mentor (master's degree or Ph.D. with academic/policy focus). The MI-AIMH Endorsement System® consists of guidelines and competencies required for licensing IMH professionals (MI-AIMH, 2019). The cost ranges from 40-425USD (MI-AIM, 2019). For example, a "Level IV: Infant Mental Health Mentor (Clinical)" costs $25 to register with the Endorsement System® plus a $400 processing fee (MI-AIMH, 2019). However, the onus is on the applicant to prove they have met the standards set out by the MI-AIMH Endorsement System® to receive their certification in IMH training. Additionally, California, Colorado, Florida, Illinois, Pennsylvania, Ohio, and Vermont have similar competency systems (identical to MI-AIMH) to support the education and credentialing of professionals (Safyer et al., 2014).

There are smaller-scale education programs that range in duration (Barrows & Bennet, 2000; Chitty, 2015; McComish et al., 2015). In South Leeds, UK, a one-day training program for social workers, foster carers, and nurses exists (Chitty, 2015). Another education program in London, UK, is a two-year intensive program for nurses or other community workers (Barrows & Bennet, 2000). In the US, Wayne State University (Detroit, USA) and the University of Washington (Washington, USA) offer professional development education in IMH that are a few weeks in duration (McComish et al., 2015).

In Canada, there are certificates available from the Canadian Nurses Association and the Infant Mental Health Promotion Network at the Toronto Hospital for SickKids (2019). The Infant Mental Health Promotion Network is a 15-part webinar series for

health professionals. The certificates available from the Canadian Nurses Association (2019) are related to perinatal health, infant health, and mental health: Certified in Community Health Nursing, Certified in Neonatal Nursing, Certified in Pediatric Nursing, and Certified in Psychiatric and Mental Health Nursing. In order to obtain a certificate, a nurse must find an endorser (i.e., a mentor in the field) and apply for initial certification. Initial certification is determined by the Canadian Nurses Association and based on experience and education. Next, the individual will prepare for a written exam based on the resources provided by the CNA. If the individual passes the exam, they receive the certificate in that specified field.

There is no specific certificate for IMH and its promotion, but there are elements built into other certifications. For example, a Certificate for Neonatal Nursing includes knowing how to "promote quality care for mothers, fathers, and newborns" (Canadian Association of Neonatal Nursing, 2019). The Certificate for Pediatric Nursing includes five standards that advocate, support, and encourage supportive environments for children to thrive (Canadian Association of Paediatric Nurses, 2019). I could not locate the learning outcomes related to the other three certificates.

Two barriers are impeding the development of professional development programs in IMH and its promotion. First, creating the programs is costly, as IMH education programs require significant funding (Korfmacher, 2014; Safyer et al., 2014). MI-AIMH Endorsement System® sells the framework to external organizations, such as other state governments. However, the cost is approximately 45,000 USD to purchase the Endorsement System®, which does not include the costs of maintaining the system. Other areas that have adopted the MI-AIMH Endorsement System® have voiced concerns about

the difficulty and time commitment of credentialing (Korfmacher, 2014; Safyer et al., 2014). There have been similar complaints from Wayne State University (Detroit, USA), the University of Washington (Washington, USA), and the Tavistock Clinic (London, UK) (Barrows & Bennet, 2000; McComish et al., 2015). Almost all of the articles reported that minimal resources are available for initiating and sustaining education programs in their area.

Second, the financial, emotional, and time resources required to complete this education is a deterrent for nurses. For instance, individuals need to complete written examinations required to be awarded a Level III and Level IV credentialing of the MI-AIMH and with the CNA certificates. Barrows and Bennet (2000), Bryant et al. (2016), and McComish, Caringi Barron, and Stacks (2015) explored how lack of money and time is a deterrent for nurses to complete further education. Moreover, credentials are not typically recognized (Bryant et al., 2016; McComish et al., 2015). The studies noted that the lack of recognition diminishes nurses' desire to complete the special IMH education if it will not aid in meeting their professional and career goals.

The most apparent implication of the lack of undergraduate and continuing professional education is the diminished ability of nurses to guide caregivers in promoting IMH so that the infant can reach their potential for socio-emotional development. The consequence of a lack of education is that nurses report low self-confidence in addressing the socio-emotional health of caregivers and infants (Alexander et al., 2013; Bryant et al., 2016; Zeanah et al., 2006). For instance, nurses revealed that nurses revealed that they were unclear about the different expressions that mental illness can have (Zeanah et al., 2006).

## Chapter Summary

This literature review highlights nurses' lack of formal education about IMH and its promotion. There are two contributing factors: First, systemic issues in the Canadian public health context result in limited emphasis on IMH and its promotion. Second, nurses are not educated during their undergraduate degree, nor do they have sufficient access to continuing professional development education. Overall, the research points to a significant gap between the educational preparation nurses receive and the knowledge and skills they need to effectively influence all components of health for their target population. If this gap between research and practice can be bridged, nurses' promotion of IMH can be an effective upstream strategy in improving the mental wellness outcomes of future generations.

# Chapter 4: Methodology and Methods

Literature review suggests that there is a lack of national concern about IMH and that nurses may lack education about IMH and its promotion. There is an apparent gap between the kinds of supports caregivers and infants may need versus the education public health nurses currently receive to fulfill this role. To explore this issue, I conducted a case study to investigate ways to better promote infant mental health in NL, by identifying approaches to enhance the education and practice of public health nurses in the province. The underlying assumption is that increased education may improve the IMH knowledge and skills of public health nurses, which can then be transferred to caregivers, which will promote IMH. A case study approach was chosen because I was interested in studying the phenomenon (IMH education of public health nurses) within the NL context.

This chapter begins with a discussion about the theoretical and methodological assumptions, which guided this study. It includes a discussion on the philosophical underpinning of the research, the importance of reflexivity, and the reason for choosing a case study methodology. This chapter also includes a discussion of the document review and the in-depth semi-structured interviews. Next, there is an explanation of methods for data collection, analysis, and representation. I conclude with a discussion about the ethical considerations relevant to this study.

## Philosophical Assumptions

Quantitative and qualitative researchers both have philosophical assumptions that guide how they design and conduct research. A researcher's philosophical assumptions

influence how we evaluate the existing research, how we construct the research questions, how we choose to answer those questions, and how we make sense of our findings (Green & Thorogood, 2014). However, qualitative researchers tend to be more explicit in their reports about their philosophical assumptions and interpretive frameworks (Creswell & Poth, 2017; Kirby et al., 2006). Moreover, the philosophical assumption "is the link between our data and a robust explanation of what is going on" (Green & Thorogood, 2014, p. 31).

Understanding the role of philosophical assumptions within my study requires a brief discussion of three sub-disciplines or conceptual assumptions within philosophy, which are ontology, epistemology, and axiology. First, ontology examines the "nature of reality" (Creswell & Poth, 2017, p. 20) and includes "assumptions about what is real and what is knowable" (Kirby et al., 2006, p. 10). Epistemology is what "counts as knowledge and how knowledge claims are justified" (Creswell & Poth, 2017, p. 19) and includes "assumptions about how we come to know what we know" (Kirby et al., 2006, p. 10). Axiology is "all the values the researcher brings to the study" (Creswell & Poth, 2017, p. 21).

The combination of these three conceptual assumptions formed how I understand the nature of reality, what is knowable, and what types of knowledge I value. They also shaped my approach to research knowledge (Kirby et al., 2006; Lincoln et al., 2011). Therefore, my over-arching interpretive framework is social constructivism. Within this paradigm, the ontological stance is that multiple realities are co-constructed between the researcher and the participants in the study (Collin, 2013; Lincoln et al., 2011). The epistemological stance assumes that the realities are unique to each person and defined by

their subjective experiences (Collin, 2013; Lincoln et al., 2011). The axiology stance demonstrate the kind of values the researcher has, both in the selection of the topic and on the way the study is conducted (Collin, 2013; Lincoln et al., 2011).

Making explicit philosophical assumptions informed the decision of my methodology. Philosophical considerations guide the development of the research question, of the theoretical framework, of the data collection, and data analysis methods (Kirby et al., 2006). These considerations also led to me to clarify my positioning as a researcher.

**Reflexivity and situating myself.** Reflexivity was an essential part of my research process. Rather than minimizing my role as the researcher, I acknowledge, examine, and reflect on how I fit into my research (Lincoln et al., 2011). To put this research into perspective, I will provide a short background summary of my life, education, research, and values and how it has impacted my research journey.

I was born in a small fishing community on the eastern seaboard of Prince Edward Island, Canada. My small community had a total of 50 members; however, my family was large by Canadian standards with five siblings. Living in a small community has taught me the importance of community in celebration and in crisis. My large family has built me an extensive network of support that I have only begun to appreciate how this has shaped me.

The relevance of IMH and its promotion in lifelong wellness was somewhat new to me when I began working towards my master's degree. IMH immediately captured my attention as a timely and relevant research topic. During my first two semesters, I began to read about IMH, adverse childhood experiences and environments, and the social

determinants of health. I became increasingly aware of the support I received from my family and community is not something every person has the privilege to experience. The recognition of my privilege instigated my interest in exploring how we can improve the support to caregivers and infants to encourage lifelong mental wellness.

My undergraduate degree is a Bachelor of Science (Honours) in Biology. During this training, I worked in two different but related laboratories. For two summers, I worked in a coastal ecology laboratory working on research related to green crabs and their impact on PEI coastal ecology. I also worked in an immunology and genetics laboratory where I studied the effects of fish vaccines on kidney disease in Arctic charr, where I completed my honour's thesis. My honour's thesis was on fish immunology, and I concentrated on finding a relationship between different vaccines and gene expression against a bacterial disease.

The skills, tools, and methods used during my undergraduate degree were much different from what I learned during my master's degree. For example, for my honour's thesis, I had an exact study design with most variables controlled for the different study groups. The purpose of controlling variables is to prevent researcher bias and to remove the researcher's influence from the results. The experiences in my undergraduate led me to subconsciously assume that quantitative science is the only valid method to discover new knowledge.

When I began learning about qualitative research, I struggled with reconciling what I had learned during my undergraduate and what I was learning in my master's. I first noticed my struggle when I began to ponder a research design and write my research proposal. I was writing the methodology section on my proposal and conducting

interviews and document review did not seem like a sufficient amount of data to produce valid results. I also became aware that my writing tended to be schematic and rigid from the feedback I received from my supervisors, professors, and peers. Last, I struggled to understand how research can still be valid without objectivity practices built into the research design.

As I continued on my research journey, I established my ontological and epistemological stances. At this point, I began understanding what subjectivity in research truly meant. I was slow to accept that my values are an inevitable part of the research process. I strived to restrict preliminary judgements, have respectful interactions, and be an overall kind person. A researcher must acknowledge, understand, and address how their research can "perpetuate, create, and re-create" unequal power relationships (Finlay, 2012, p. 40). The results of my research could perpetuate unequal power relationships between public health nurses and caregiver(s). An essential tenet of my research was acknowledging the broader social and political contexts concerning infant mental health. To further expand on how social and political contexts influence IMH is implicit in the understanding that an infant's experiences and environments are more decisive than its genes in determining mental (and physical) health. Therefore, I had to be mindful of the inequities in our society that can directly influence the infant's experiences and environments, such as employment and social status of the caregivers, access to quality childcare, and access to quality healthcare.

It is impossible to disentangle the threads of my life, education, research, and values. All the rich accounts produced by my research have also woven a story themselves. These two pieces – me and my research – came together to create something

much beyond my expectations. As noted earlier, with qualitative research, objectivity is not the goal. Instead, as qualitative researchers, we strive to embrace subjectivity and the human condition, where new ideas flourish.

## Case Study Methodology

Robert Stake (1995) states that a case study is about "a choice of object to be studied" (p. 86), which provides an in-depth overview of social forces in a particular setting, context, and time. He also asserts that the epistemology question that drives case study research is "what can be learned about a single case?" (Stake, 1995, p. 443).

Case studies are categorized by either the number of cases or the goal of the case study. Case studies can include several cases as in a collective case study (Creswell & Poth, 2017). Case studies are also categorized by the goal of the researcher: intrinsic or instrumental. The purpose of an intrinsic case study is to describe a particular case based on the interest of the researcher (Stake, 2005); the goal of an instrumental case study is to provide "insight into an issue or to redraw a generalization" (Stake, 2005, p. 445). According to Yin (2009), a single instrumental case-study approach is appropriate when the research: (i) poses exploratory questions; (ii) studies a current occurrence within a social-context; (iii) has no control over the occurrence; and (iv) the context is inseparable from the occurrence (Yin, 2009). The essential characteristics of a case study are: (i) the clarification of a phenomenon under investigation within the context in which it occurs; and (ii) the utilization of multiple sources of data (Creswell & Poth, 2017).

For this research, the appropriate choice was a single instrumental case study. I choose one issue—public health nurse education about IMH and its promotion—and

selected one bounded case to illustrate this issue—bounded by participants, time, place, and location.

Second, I utilized multiple sources of data during my data collection and analysis. My two types of data were key document review and semi-structured interviews. The key document review was bound to documents related to public health and community health within Canada and NL. For key informant interviews, the case was bound to those with over ten years of experience working in the public health field. These participants held senior position within public health or in areas related to public health. For example, such individuals would include public health managers, administrators, or educators with knowledge and expertise related to IMH and its promotion. For public health nurses' interviews, the case was bound to those whose job specifically requires community contact with infants and their caregivers. The case was also limited to the data collection phase of September 2019 to November 2019 and within NL province.

## Methods

**Interviews.** I completed two sets of in-depth interviews. I interviewed key informants and front-line public health nurses. Purposeful sampling guides the number of participants selected for a study and its needs. In this case, it meant choosing key informants and front line public health nurses who provided me with the information relevant to my research questions (Creswell & Poth, 2017). The key informants were five nurses with long-term (i.e., ten years or more) experience within public health in NL. The purpose of selecting key informants with long-term experience is to seek the knowledge

of people with significant roles in public health who have a complex understanding of the situation.

The purpose of interviewing key informants was to provide expert information about the research topic (Maxwell, 2013). The key informants provided higher-level analysis about public health nursing in NL for the following reasons: (i) they had field experience, mentorship experience, community experience, academic experience, or government experience as it relates to IMH and its promotion; (ii) they were familiar with the policy, programs, and activities related to IMH and its promotion in NL; (iii) they informed the questions for my interviews with front line public health nurses; and (iv) they aided in describing the context of my case study regarding policies, programs, or activities currently taking place in NL in the field of IMH and its promotion.

The front-line public health nurses were individuals who were currently working with caregivers and infants in NL. The purpose of interviewing these public health nurses was to gain their insight as current front-line workers. Public health nurses hold a valuable position within the care of infants (Government of NL, 2019a). In NL, a public health nurse is assigned to the infant after birth and provides basic health services and support/guidance to the caregivers (Eastern Health, 2013). Moreover, literature identified public health nurses as the dominant point of contact for caregivers and infants with the healthcare system (Borjesson et al., 2004; Marcellus & Shahram, 2017).

There were two different recruitment strategies in this study. First, an arm's length approach was used to recruit key informants. I gave a flyer with the relevant information for my study and my contact information to Dr. Martha Traverso-Yepez, who distributed it to community members who may have been interested in participating in the study.

Second, I recruited the public health nurses through Eastern Health. I e-mailed a flyer to the Regional Director of Population and Public Health at Eastern Health. The flyer contained relevant information about the study and my contact information. In both cases, if someone was interested, they contacted me for further details about their participation.

Individuals involved with public health in NL provided me with information, descriptive accounts, and interpretations, feelings, and opinions. The participants offered rich, experiential knowledge to help answer my research questions (Stake, 2005). First, I conducted five face-to-face-interviews using a semi-structured interview guide (Appendix A) The guide addressed four broad topics: (i) participant's socio-demographic information; (ii) knowledge about supports, programs, and policies on IMH and its promotion in NL; (iii) types of education and professional development that public health nurses receive about IMH and its promotion; and (iv) specific areas of education/professional development related to IMH and its promotion. The relevant socio-demographic information is detailed in Table 4.1.

Table 4-1. Socio-demographic information of key informants

| | | Number of Participants |
|---|---|---|
| Total years working in public health | 10 to 20 years | 3 |
| | 30 to 40 years | 2 |
| Institutional working experience (may have more than one) | Government | 3 |
| | University | 2 |
| | Non-profit/community work | 2 |

One key informant on her own initiative conducted a focus group with public health and population health coordinators and consultants across NL before our scheduled meeting. The reason she gave for doing this because she considered this a relevant topic for NL and wanted to provide an informed testimonial account not limited to Eastern

Regional Health Authority when responding to the research questions. The key informant used the interview guide I prepared and shared with all key informants. The individuals who participated in her focus group were from Eastern, Central, Western, or Labrador Regional Health Authorities, as the NL health system is divided into four main regional health authorities. The key informant then participated in the semi-structured interview with me, after we revised and discussed the collated answers from the focus group.

My interviews with key informants informed the public health nurse interview guide. The key informants provided me key issues facing front line public health nurses in NL and Canada in terms of education and IMH promotion supports, and programs. The key informants also noted that experiences working with families would be best understood from current frontline workers. To follow, I conducted six face-to-face, semi-structured interviews with front line public health nurses in St. John's, NL. That interview guide covered four broad topics: (i) the participant's socio-demographic information; (ii) the types of education or professional development that participant received about IMH and its promotion, as well as experiences from working with infants and caregivers; and (iii) supports, programs, and policies about IMH and its promotion (Appendix B). Also, at the end of the interview, the participant was allowed to provide recommendations regarding how research about IMH and its promotion could be integrated into the education of public health nurses in NL. Lastly, they were also given a chance to provide any additional comments or questions. The relevant socio-demographic information is detailed in Table 4.2.

Table 4-2. Socio-demographic information for frontline public health nurses

| | | Number of Participants |
|---|---|---|
| Job Class Profile | Public Health Registered Nurse I | 5 |
| | Community Health Registered Nurse I | 1 |
| Total years working in public health | 1 to 5 years | 2 |
| | 10 to 20 years | 2 |
| | Over 20 years | 2 |

Both sets of interviews followed a similar protocol outlined by Rubin and Rubin (2011). The interviews took place by phone or in a quiet, distraction-free location convenient for the participant (e.g., at their workplace or at Memorial University). Before the interview, I obtained informed consent. Interviews were audiotaped using a voice recorder and stored the data on a password-protected computer. The voice recordings were transcribed verbatim.

The general principles for data saturation in qualitative research are when there are no new themes, no new coding, and the capacity to replicate the study has been reached (Guest et al., 2006). I followed two strategies described by Fusch and Ness (2015) to reach data saturation. Fusch and Ness (2015) recommended asking participants the same questions during interviews. I used different interview guides for key informants and public health nurses, but all participants in each group were asked the same set of questions. A second strategy I used was data triangulation, meaning that I collected data from multiple sources, in this case, key informant interviews, public health nurse interviews, and key document review (Fusch & Ness, 2015). Data triangulation was useful to explore the varied perspectives and issues within the education of public health nurses in NL.

**Key document review.** To complete my document review, I first located and screened the documents through a broad Google search about public health nursing and infant healthcare in NL. To select the document, I used purposeful sampling (Bowen, 2009; Creswell & Poth, 2017). Table 4.3 details the documents I selected to include in my data collection/analysis and their reason for inclusion in my study.

Table 4-3. Titles of documents for key document review and their reason for inclusion.

| **Document** | **Reason for inclusion** |
|---|---|
| 1. Government of NL websites | Multiple sources on the Government of NL's websites had information relevant to the context of this study. The website included Job Class Profiles for public health nurses. |
| 2. *Registered Nurses Regulations* under the *Registered Nurses Act, 2008* | This document details the regulations that nurses must follow to maintain licensing in NL. It states the requirements for Continuing Competence Program. |
| 3. *Public Health/Community Health Nursing Practice in Canada: Roles and Responsibilities* | This document outlines the roles and responsibilities of public health nurses in Canada. |
| *4. 2017 Memorial University Faculty of Nursing Curriculum* | This document details the course requirements for a Bachelor of Science in Nursing at Memorial University. |

This document review had two purposes. First, the documents were a source of background information on IMH and its promotion in NL; it aided in the development and description of the case context (Bowen, 2009; Creswell & Poth, 2017). Second, the documents generated supplemental data to gain more insights into my research questions and to corroborate the interview data (Bowen, 2009; Creswell & Poth, 2017). The selected documents provided an in-depth understanding of the context and history of public health nursing in Canada and NL (Miller & Alvarado, 2005).

**Data analysis and representation.** I used holistic analysis, which refers to analyzing the entire case for themes within the context of the phenomena (Creswell &

Poth, 2017). The holistic analysis process had four steps (Creswell & Poth, 2017). First, I organized the interview data files. Each in-depth interview was transcribed verbatim in a Word document. Second, as a verification strategy, I listened and cleaned the files to confirm the transcripts' accuracy. I then imported the transcripts and selected key documents into ATLAS. Ti, a qualitative data software application. Next, I thoroughly read each interview transcript and document, writing memos in the margins and forming initial codes. Third, I described the case and its context by forming preliminary themes that emerged from the interview and document data. Fourth, to further advance my preliminary interpretations, I utilized categorical aggregation. Categorical aggregation refers to searching for similar themes across the data and then identifying the themes used to validate the issue (i.e., education of public health nurses about IMH and its promotion in NL) within (?) the case study (Creswell & Poth, 2017; Stake, 1995).

I used naturalistic generalizations to represent the data. Naturalistic generalizations refer to what can be "learned" from the case study, how it can be applied to another population, or how to transfer the findings of the case study to another context (Creswell and Poth, 2017). Sherri Melrose (2010) states that the goal of naturalistic generalization is so that "readers can gauge how and in what ways particular details and stories presented in case studies may apply to their situations" (p. 3). In other words, the data presented as naturalistic generalizations apply to readers' subjective experiences within their experience with public health nurses' education about IMH and its promotion in NL.

**Challenges with data collection and analysis.** During the collection phase of my study, there were issues with recruitment and scheduling interviews. The recruitment of

key informants was not challenging because of my arm's length approach by Dr. Traverso-Yepez reaching out to the potential participants. However, recruiting public health nurses was slightly more complicated. Only seven front-line nurses responded to the recruitment flyer after three months; six agreed to participate.

During the analysis phase of my study, I struggled with "learning the ropes" of qualitative research analysis. I underestimated the amount of time I needed for the first step of analysis—I had allotted approximately one week to read and listen to my interviews. In reality, it took me about a month to complete that step. I re-adjusted my analysis timeline to a more realistic completion date.

**Validation Strategies**

To ensure that the study's findings were trustworthy, I followed five validation strategies as outlined by Creswell and Poth (2017). First, I verified evidence through looking at the three different sources of data (triangulation dynamic). Second, I included "negative case analysis or disconfirming evidence" (p. 261) as this evidence added meaningful commentary to my study (Creswell & Poth, 2017). Third, I utilized reflexivity, recognized my position as the researcher, and how that influenced the design and conduct of my research. The purpose of this was to ensure I correctly interpreted the meanings of the participants' responses. Fourth, I assured my writing was "rich and thick" to allow readers to consider if this study's findings are relevant to another setting or context. Last, upon the completion of my thesis, I submitted to external reviewers with no connection to the study to check for authenticity and completeness (Creswell & Poth, 2017).

## Ethical Considerations

This study received ethics clearance from two boards: The Health Research Ethics Authority (HREA) and the Research Proposals Approval Committee (RPAC) (Appendix C and D, respectively). RPAC was required because I was interviewing individuals with the Eastern Regional Health Authority and not the other three regional health authorities. I conducted this study following the *Tri-Council Policy Statement: Ethical Conduct for Research Involving Humans* (TCPS2). The core principles of the TCPS2 are "respect for persons, concern for welfare, and justice" (p. 8) and these principles guided the protocols used in my project.

Human participants are exceptional participants because they bear the most risk even though it is voluntary participation (Canadian Institutes of Health Research et al., 2018). Therefore, for the in-depth interviews, I used the informed consent process as per Article 3.1 of TCPS2. Article 3.1 stipulates that consent should be voluntary and can be withdrawn at any time. The consent form provided the participants with an overview of the project and a description of what activities the individual participated in. It also described the right to withdraw from the project at any time. This process ensured that the participant understood the potential risks of participating in the study so that they could make an informed decision about their participation. The main risk was that participants may feel upset if they perceive knowledge or skill deficits.

To obtain informed consent, I followed a series of steps: (i) I read through the document with the participants, carefully and slowly; (ii) I answered any participant questions prior receiving a signature; (iii) the participant and I signed the informed consent; and (iv) reminded the participant again that their participation is voluntary and

could be withdrawn at any time. After the interview, the participant received a copy of the informed consent for their records. I kept a copy for my records.

The primary concern for my research was maintaining the privacy and confidentiality of the participants. Privacy refers to "an individual's right to be free from intrusion or interference by others… an important aspect of privacy is the right to control information about oneself" (p. 55-56) (Canadian Institutes of Health Research et al., 2018); confidentiality is the researcher's duty to protect the participants' privacy from "unauthorized access, use, disclosure, modification, loss or theft" (p. 56).

To mitigate risks to the participants' privacy and confidentiality, I followed a series of safeguards: I de-identified data and assigned a numeric code to each of the participant's documents; paper-files were secured in a locked cabinet in a locked office; electronic files were stored on a password-protected computer; only myself and one supervisor knew the names of the participants; names were not used during the reporting of the results; and recordings, transcriptions, notes listed the participant's code rather than the participant's name. The participant codes followed a numbering system: key informants (KI) began with (01-05) and public health nurses (PHN) began with (11-16).

## Chapter Summary

This chapter provided a detailed description of theoretical and methodological approaches which guided this study. I discussed how I positioned myself as the researcher within my study. I included a discussion about the case study methodology. I explained the methods I used for data collection with my in-depth interviews and key documents analysis. I then reviewed my data analysis, representation, and validation strategies. Last,

I discussed the ethical considerations. The next chapter details the findings generated by this case study by merging all data and presenting and discussing the research questions one at a time.

# Chapter 5: Findings

This chapter highlights key themes and sets the stage for further discussion and theoretical engagement with the literature on public health nurses' education and practice about IMH and its promotion in NL. This chapter focuses on answering the research aim and questions through key document review and interviews with key informants and frontline public health nurses. In total, there were four documents used for establishing the case context and supplementing the interview data. Five key informants and six public health nurses were interviewed. When describing results, "participant" refers to someone who took part in a semi-structured interview.

This chapter will begin by describing the case context of IMH and promotion and public health/community health nursing in NL. Second, this chapter will address the research questions: (i) What programs and supports that promote maternal-IMH are provided by public health nurses? (ii) What are the expectations regarding IMH within the range of tasks that public health nurses have to deal with? (iii) What is the level of preparation that public health nurses have to fulfill this task? (iv) What are public health nurses' attitudes towards their ability to promote maternal-IMH? (v) What barriers prevent public health nurses from accessing professional development opportunities about IMH and its promotion?

## Case Context: IMH and Public Health/Community Health Nursing in NL

Nurses have been instrumental in public health programs since the early 20$^{th}$ century (Rutty, 2010). In Canada, public health nurses have four key roles: health

promotion, health protection, health surveillance, population health assessment, and emergency preparedness and response (Canadian Public Health Association, 2010).

The Canadian Public Health Association created a document titled, *Public Health~Community Health Nursing Practice in Canada: Roles and Activities* (2010). This document describes public health/community health nursing practice in Canada and clarifies there is no substantial difference between community and public health nursing. Moreover, this document provided essential contextual and historical elements to understand the roles and responsibilities of public health nurses in Canada and NL. However, as the Canadian Constitution of 1867 determined that healthcare was the responsibility of the provinces (Health Canada, 2011), provincial rules govern what is required by public health nurses, and it varies between provinces.

Key document review did not clarify specific preferences in NL for one term or the other. The Government of NL website lists Community Health Registered Nurse I and II and Public Health Registered Nurse I and II in the Job Class Profiles. Moreover, there is little difference between the two Job Class Profiles. In comparison, a key informant noted that most individuals who work in the community (i.e., not in acute care settings) use the terms interchangeably. However, she continued explaining that community health nursing is the umbrella term for all community supports (e.g., home and community care).

In NL, Public Health is part of the Department of Health and Community Services. As such, a public health nurse's role is primarily connected to working in communities to support vulnerable populations. A key informant noted that most individuals working with caregivers and infants would label themselves as public health

nurses. In the socio-demographic information I collected, five out of the six frontline public health nurses interviewed said their job was Public Health Registered Nurse I.

In NL, public health nurses (and community health nurses) play a vital role in promoting healthy infant development. However, the role of public health in maternal-infant health is unclear in NL. Understanding the relationship between IMH and public health/community health nursing requires an examination of institutional aspects of public health and community health in the Canadian and in the NL context.

**Definition of public health/community health.** Public health is challenging to define in a few sentences. Novick and Morrow (2005) define public health as "*organized* efforts to improve the health of *communities*" (p. 1). Conversely, South et al. (2014) prefer to use the term "public health system" than public health; the authors believe that thinking of public health as "an open system helps demonstrate the complexity and interrelated nature of issues involved" (p. 3). These two definitions are complementary to each other rather than contradictory. Novick and Morrow's (2005) definition stresses the operative terms *organized* and *communities* within their definition because the efforts are "*directed at communities* rather than to individuals" (p. 1). South et al. (2014) stress the intricate relationships that must be considered when navigating public health. Together, these two definitions demonstrate the complex task of describing public health.

Public health is better understood through the range of activities that it endorses. Historically, public health efforts have focused on controlling transmissible diseases, reducing environmental hazards, and providing safe drinking water (Novick & Morrow, 2005). The introduction of sanitation measures and vaccines were the global focus of public health during the latter part of the 19th century and the first part of the 20th century,

which significantly contributed to the control of communicable diseases. However, the 20th century also saw the gradual increase of chronic disease, and during the second part of the 20th century until now, public health additionally focuses on the prevention of chronic diseases through health promotion efforts. Thus public health can prevent chronic diseases through intervention targeting both behavioural and environmental factors (Novick & Morrow, 2005). More radical public health reformers seek to address the social determinants of health to improve the health of communities; for example, local governments establishing safe and affordable housing for low-income families (South et al., 2014). Housing is just one of the social determinants of health and a result of more relevant determinants like income and social status. The WHO's Commission on the Social Determinants of Health published a report in 2010, emphasizing a social understanding of health, and the need for public health to adopt "more complex forms of intersectoral policy action" (Solar and Irwin, 2010, p. 11).

Like public health, community health is challenging to define. Baisch (2009) used an evolutionary concept analysis approach to provide a clear definition of community health, a "condition in which a community identifies its criteria for evaluating whether it is healthy. Thus the definition of health for a community will vary from community to community" (p. 2472). Goodman et al. (2014) define community health in hopes of improving the meaning, scope, and science:

> Community health is a multi-sector and multi-disciplinary collaborative approach enterprise that uses public health science, evidence-based strategies, and other approaches to engage and work with communities, in a culturally appropriate manner, to optimize the health and quality of life of all persons who live, work, and or are otherwise active in a defined community or communities (2014, p. 5).

Baisch (2009) also identified the core attributes of community health as "participatory action, empowerment, a population-based focus, community development, social-ecological determinants of health, health promotion and disease prevention, cultural competence and social justice" (p. 2472). Somehow, these attributes show a more descriptive, value- laden definition of community health.

**Structure of public health services in NL and the role of public health nurses.** Public health is part of the Department of Health and Community Services in NL. This Department "provides a lead role in policy, planning, program development, and support to the four regional health authorities (Eastern, Central, Western, and Labrador-Grenfell) and other mandated health and community service agencies." (Government of NL, 2019a, p. n/a). The Department of Health and Community services is divided into five main branches to meet the healthcare needs of NL: (i) executive; (ii) corporate services; (iii) regional services; (iv) policy, planning, and performance monitoring; and (v) population health.

Health promotion is included as a core function of public health, together with population health promotion assessment, surveillance, disease and injury prevention, and health protection (Public Health Agency of Canada & Workforce Development Division, 2007). However, the NL Government website does not provide a clear organizational structure to locate where IMH and its promotion would fall as a public health priority, neither is clear how community-based services connect with population health/public health. What the provincial website shows is that health promotion and wellness is part of community-based services, which also include the following activities: community correction, health protection, childcare services, mental health and addiction services,

intervention services, community support program, residential services, medical and community clinics, and community health nursing services (Government of NL, 2019a).

According to the Government of NL website, "Public Health" is responsible for health protection in the six following areas: emerging diseases, communicable disease control, environmental health, health and emergency planning, pandemic planning and awareness, and zoonotic diseases (2019a). Child and youth wellness are located within health promotion and wellness. The website lists the following wellness priorities: healthy eating, physical activity, mental health promotion, child and youth development, and environmental health (Government of NL, 2019a). At this point, the Department of Healthy and Community Services directs the user to the Department of Children, Seniors, and Social Development.

Overall, the Department of Health and Community Services defines public health and community health programs, protocols, and policies. This department also hosts the four regional health authorities (Eastern, Central, Western, and Labrador-Grenfell). However, other departments seem to be operationally co-responsible in delivering community programs and services related to maternal-infant health.

**Programs and Supports that Promote Maternal-IMH that are Provided by Public Health Nurses in NL**

In addition to front-line services, nurses also work as consultants under the umbrella of the Department of Health and Community Services. This Department directs people to two departments providing services for families: (i) the Department of Children, Seniors and Social Development for prenatal and postnatal resources, services, and

benefits; and (ii) the Department of Education and Early Childhood Development for Family Resource Centres. I followed the thread of programs and supports in these two departments to trace programs related to maternal-infant health and the role of public health nurses.

**Department of Children, Seniors, and Social Development.** There are eight branches within this department: Corporate Services, Disability Policy Office, Healthy Living, Policies and Programs, Poverty Reduction, Recreation and Sport, Seniors and Aging, and Service Delivery and Regional Operations. The Healthy Living Branch "provides leadership, guidance, collaboration and support for Health Promotion and Wellness initiatives in the home, school, community and workplace settings in collaboration with national, provincial and regional partners" (Government of NL, 2019c, p. n/a). Therefore, the Healthy Living Branch and the Health Promotion and Wellness branch (Department of Health and Community Services) collaborate to some degree.

Child and Youth development is under the Healthy Living Branch. It lists the several prenatal and postnatal programs and services that regional health authorities facilitate within NL. Families are referred to these programs by healthcare professionals, and services are provided primarily by public/community health nurses. The Department of Children, Seniors, and Social Development labels all services for childbearing families or families with young children as "Parent and Child Health Programs" (Government of NL, 2019c, p. n/a). The website also notes that these programs are available to all families in NL through their regional health authority (Government of NL, 2019c).

Public health nurses provide education and support during pregnancy. One program noted is the Before Birth and Beyond: Information, Education, and Support

(BABIES). This program offers prenatal education to expecting mothers and supports during pregnancy, birth, and early parenting (Government of NL, 2019c).

Some participants also mentioned that regional health authorities recently started administering tetanus, diphtheria, and pertussis vaccines to pregnant women around the 24$^{th}$ week of pregnancy. The prenatal vaccination appointment presents an opportunity for public health nurses to build a trusting relationship with their clients before the infant is born. Additionally, it allows the public health nurse to connect the mother with support and services during her pregnancy, if needed.

Postnatally, there are several programs facilitated by public health nurses: Healthy Beginnings, Child Health Clinics, Preschool Health Check, and Nobody's Perfect (Government of NL, 2019c). There are also nursing supports available for breastfeeding, immunizations, and screening.

Key informants and frontline public health nurses both frequently mentioned Healthy Beginnings and Child Health Clinics. These two programs represent the main point of contact that public health nurses have with caregivers and infants in NL. The Healthy Beginnings program starts when the mother and the infant are discharged from the hospital. Before discharge from the hospital, a labour and delivery nurse complete a risk assessment (Helen Parkin Priority Assessment for Follow-Up Tool) to decide the level of follow-up required. The evaluation will rank mothers either low, moderate, or high priority for follow-up by an assigned public health nurse.

Healthy Beginnings and Child Health Clinics both provide postnatal supports to give infants the best start to life. The Government of NL (2019c) website discusses the purpose of Healthy Beginnings:

> Healthy Beginnings assists public health nurses in identifying families and their children who require specific follow-up in the time after birth. The goal of the program is to promote optimal physical, cognitive, communicative and psychological development in all children. Included in this program is a plan for screening and follow-up of priority families (p. n/a).

Frontline public health nurses noted Healthy Beginnings is for families based on their assessment for follow-up. Participants recognized that any risk factors identified in the client's history (e.g., illnesses, drug history, socio-economic status) are followed up during home visitation and/or through screening tools. Based on the client's history, new mothers are offered short-term or long-term Healthy Beginnings, which are 18 months or 5 years, respectively. The long-term Healthy Beginnings program is designed for caregivers and infants who require additional support. For example, some caregivers may not have a robust support system to manage their roles and responsibilities. In these cases, the caregiver(s) and infant frequently meet with the public health nurse (e.g., an extra postnatal visit with additional Child Health Clinic visits) in the first eighteen months and then have yearly visits until the child reaches kindergarten. Participation in long-term Healthy Beginnings is the parental decision, which means that parents and their infants who may benefit from the program may opt-out.

Aside from the Healthy Beginning program, after the infant is born, public health nurses may conduct a wellness check at home, only if the mother wishes to have one. As the service is provided only to parents who opt-in, some parents may not have this postpartum wellness check by a public health nurse. During a wellness check, the child is weighed, measured, and assessed to determine if they are meeting physical and developmental goals.

After the home visit, the infant and caregiver(s) attend appointments at Child Health Clinics at 2, 4, 6, 8, 12, and 18 months to receive vaccines, be weighed and measured, and assessed every visit for physical and developmental goals. The public health nurse can also refer mothers and infants to other needed services (e.g., mental health, addictions, pediatrician). Although mothers expect to continue seeing the same public health nurse assigned to them after their childbirth, participants acknowledged that this is not always the case. For example, mothers will see a different nurse if the family moves from the public health nurse's area, if a public health nurse is covering for an absent nurse, or if cases are shifted to distribute workloads. These clinics are crucial for identifying the mental health needs of the mother and infant:

> *And so, if depression is assessed in that early stage, then there's nurses… are aware that, okay, these are the resources that we can refer to, and get your help right away kind of thing. But Healthy Beginnings long-term, it's there to help and, you know, the mom and all that support, but the whole purpose of it is to make sure that that the child's development is not affected by [the mother's] depression.* (KI 01)

Practically all public health nurses expressed being familiar with the Edinburgh Postpartum Depression Scale to assess if a mother is experiencing postpartum depression. This screening tool is an opportunity to address the mother's mental health and how that may affect the infant's socio-emotional development. However, this tool is not applied in a systematic way. For a example, a participant described a situation with a new family who has already undergone a risk assessment, and they have already met two or three times postnatally:

> *… they come to your clinics…. Six-month-old baby, family come in. Dad's real happy, baby's real happy. Mother is flat. And, so I've done the assessment [of the infant], everything is fine. The baby's father that handles the baby and I'm thinking you know [about the mother], then linger a little longer after getting*

> *things done. And she comes out and says, "uh, what do you know about postpartum depression?"* (KI 01)

It is only at six months that the mother, who would have had regular contact with the public health nurse during the home-visit, at two months, and four months could open with the nurse during the Child Health Clinic visit. During these three previous meetings, the public health nurse worked to build a trusting relationship with the mother:

> *So, then bells are going off in my head then. You know, because before she would kind of like, you know, kind of vague, but not really. And then so between all of that, I just, we, we deal with it right away. So, we talked about, you know, where she needs to go for help. So, go to your doctor right away. If you're showing signs, because she's telling me, uhm, this was only recently, so it's clear my head, 'I don't enjoy him. I have six months.' And she never said a word to anybody about 'I'm not happy, and I don't need to enjoy my baby. And I should.' And she had all this guilt.* (KI 01)

It is only when the mother feels comfortable with the nurse that she can open up and confide about her mental health issues. The key informant noted that the mother was then referred to the appropriate mental health services in the community.

Without a home visit by the nurse and consistent follow-up through Child Health Clinics, an opportunity to develop a therapeutic relationship with the mother is missed and address any critical issues the mother may be experiencing within the first few months after birth. One key informant described how important it is giving positive feedback during visits with families:

> *And even you know, in this world of chaos that this family is in… so often, people are focused on for their negatives. And not focused on for their strengths… but if you find one thing that that parent is really doing well… [say] 'You're really doing well with that.' And, you know, it's probably for the first… the first time that parent even heard anybody say anything positive.* (KI 02)

The key informant then continued to say that positive feedback helps build the relationship between the mother and the public health nurse; the public health nurse

focussing on the mother's strengths is a place to begin building that critical relationship. However, there needs to be a chance for this relationship to develop.

**Department of Education and Early Childhood Development.** This department is responsible for another significant source of prenatal and postnatal support. Specifically, Family Resource Centres play a critical role in maternal-infant health in NL. Although there are a number of Family Resource Centres in urban areas, Family Resources Centres are especially crucial for rural areas of NL, which may lack other community assistance. According to the Government of NL (2019b) website, Family Resource Centres "provide a variety of community-based activities and resources for children that emphasize early childhood development and parenting support" (p. n/a).

Family Resource Centres across NL facilitate a prenatal program, Healthy Baby Club. Healthy Baby Club provides a safe, non-judgmental, and supportive environment to promote maternal and IMH. The program is funded by the Department of Education and Early Child Development through the Canada Prenatal Nutrition Program (Public Health Agency of Canada). This program offers prenatal education, hospital tours and nutritional information (Government of NL, 2019b). One key informant explained the difference between Child Health Clinics and Healthy Baby Club, *"They [mothers] need just a safe place to go and talk. And to ask a question that they might not be able to ask their husbands or their partners or if they don't have anybody here to be able to do that"* (KI 05). Healthy Baby Clubs fulfill a relevant need in the healthcare system for parental and family support, especially if parents lack the support from extended family or friends.

Family Resource Centres also offer postnatal supports. The Baby and Me support group is for parents and children (0 to 12 months) and provides a safe, non-judgmental

environment to discuss any concerns parents may have. Programming covers various topics (e.g., infant massages, mindfulness, positive parenting, the importance of play, and feeding). Nobody's Perfect is another parenting program with a significant component of maternal and infant mental health to support parents beyond the first year. Besides, there are weekly playgroups (children up to age 5), home-visitations by Family Resource Centre support staff upon request, and breastfeeding support groups.

Some participants talked extensively about the relevance of Family Resource Centres. Public health nurses are responsible for some of the prenatal and postnatal programs at the Family Resource Centres. They collaborate with the Family Resource Centre coordinators and staff to provide additional support to caregivers and infants. They may also facilitate special topic sessions at weekly support groups for mothers and infants at the request of the Family Resources Centre coordinators. Participants described their involvement in community-based programs and services such as the Healthy Baby Club, the Baby Steps (similar to Healthy Baby Club in Labrador-Grenfell), Mother Goose, Nobody's Perfect, home visitations, playgroups, and breastfeeding support groups.

**Expectations for Public Health Nurses in NL**

The Government of NL (2020) outlines public health nurses' roles, responsibilities, and activities in Job Class Profiles for Public Health Registered Nurse I and II. Job Class Profiles "are designed to be general summaries… They are completed by a representative sample of employees within each job class" (p. n/a). Public Health Registered Nurse I *"…provides all aspects of public health and/or continuing care nursing programs…"* In contrast, Public Health Registered Nurse II *"…provides*

*advanced professional nursing work in coordinating and overseeing public/community health nurse work…"* Public Health Registered Nurse II has a similar key and periodic activities, skills, knowledge, and interpersonal skills, but has more of a supervisory role for frontline public health nurses. For example, the work of Public Health Registered Nurse II includes "*providing assessment, planning, development, coordination, implementation and evaluation of community programs, and may oversee activities of community health nurses…*"

The Job Class Profiles also list "*key and periodic activities"* for public health nurses, which have been summarized in the list below: (i) plans, develops, implements, and evaluates client-focused programs; (ii) travel to various communities and schools as required to deliver public health programs; (iii) child health/immunization; (iv) preschool checks; (v) healthy lifestyle; (vi) adult immunization; (vii) delivers school health programs; (viii) provide childbirth education; (ix) involvement with Healthy Baby Club; (x) partners with Family Resource Centres; (xi) provide support/counselling; (xii) participate in research, work-related committees, and policy development; (xiii) perform administrative duties; (xiv) maintains continuing education; and (xv) acts as a preceptor for nursing students (Government of NL, 2020). The list of key and periodic activities demonstrates the significant number of roles and responsibilities placed on public health nurses in NL, which goes well beyond infant and mother care. For example, one participant said in response to the number of roles and responsibilities: "*because there's so much work [that] has to go on, too. You know its flu season. The schools are starting*" (KI 03).

The interviews with key informants and public health nurses revealed the expectations for public health nurses regarding IMH and its promotion. The expectations were divided into two broad categories during analysis: general and specific expectations.

**General expectations.** General expectations are the requirements that public health nurses perform as part of their job: community participation and development, navigating the system, independent decision-making, and acknowledging the significant role of social determinants of health.

Community participation and development is an essential role for public health nurses (Canadian Public Health Association, 2010). Community participation is *"the process of involving the community in the identifying and strengthening aspects of daily life"* (Canadian Public Health Association, 2010, p. 32). Community development is *"actions that involve members in direct decision-making that affect the community"* (Canadian Public Health Association, 2010).

Key informants described how they are involved in community participation and community development. For example, a key informant explained how within her public health practice, she "*creates space*" for community participation and development:

> *…setting the stage that there's a supportive environment, for the family to share that shared wisdom, and listening to the stories, and creating that environment, whether that be creating a community program in which people feel comfortable participating, like in Family Resource Centers, or Healthy Baby Clubs, you come to the family versus them coming to you.* (KI 02)

Moreover, this key informant notes the personal advantages of community participation and development:

> *I often talk about having the opportunity and privilege to work with parents that were on the boards of the Healthy Baby Clubs and the Family Resource Centers.*

> *And what I learned from a couple of them around financial management and resourcefulness… Unbelievable.* (KI 02)

Another participant drew an analogy locating public health nurses at the centre of a wheel, and community participation and development are needed to construct links from public health to the community for programs and services: "*public health is like you think of a wheel, public health nurses are the hub. And… all of those spokes that go out are all the linkages we can make to that broader community"* (KI 03).

Frontline public health nurses also noted the importance of community participation and development as the foundation for a collaborative environment to form with other health and social service providers. A collaborative environment can help address the issues of learning needs around maternal-infant health:

> *But also, being entrenched in the social work world and being able to feed off other collaborative partners has definitely increased my confidence in being able to deliver information to people as well. Like working with all the girls at Daybreak, the social workers that are here with [name of institution she works for], my other nursing partners, the people that trained me, the doctors that I work with now and nurse practitioners. It's really like learning is a collaborative effort.* (PHN 16)

Another general expectation of public health nursing is "*navigating the system*." Participants used the term "*system*" to describe governmental and community resources available to them and their clients. For example, one key informant said, *"… we aren't actually providing the service. We're connecting them with the [other services in the] community"* (KI 03). She continued to emphasize that there are many services available, and the public health nurse must know how to access these services, refer clients to them, and determine if the service is appropriate for their client and their needs: *"… it's*

*important that nurses really know their community so that they can link people to the right service"* (KI 03).

Another participant reiterated the importance of linking clients to services: "*You need to have a list [of community services and programs] at your fingertips at all times… you need to be able to show people where the information is online right away"* (PHN 16). The public health nurse must be able to *"know how to refer adults and children"* (PHN 16) to all the programs and services available.

Independent decision-making is another crucial role for public health nurses. The day-to-day work is independent, and the public health nurses are managing their clients, schedule, and time: "*It is some type of an autonomous job"* (PHN 13). The nurses are faced with many challenges and must make the best decision based on their knowledge, especially in the realm of screening. Screening "*is a method to identify risk factors or non-symptomatic disease states within a population*" (Canadian Public Health Association, 2010, p. 37).

One critical tool that public health nurses may use in their practice is the Edinburgh Postpartum Depression Scale. This tool helps to evaluate the mother's perinatal mental health and aids in identifying mothers in need of extra support. However, as this is a relatively new practice for public health nurses and there is not yet a clear, official protocol of when and how to use it province-wide. This lack of clear guidelines explains this public health nurse's confusion surrounding the timing in the application of the Edinburgh Postpartum Depression Scale:

> *I spoke to someone the other day, and they completed the Edinburgh [Postpartum Depression Scale]. Someone is completing that at 12 weeks, right? So, like, I don't think that's the time that we were supposed to be completing that based on*

> *the fact that I was at this little committee one time, and they said, like up to 20 weeks, people might be having all these mixed feelings anyway. So really don't do [Edinburgh Postpartum Depression Scale] until after 20 weeks. But what people were doing it in 12 weeks, and of course, we're getting scores that are higher because number one were unplanned pregnancies.* (PHN 12)

The participant had received contradictory information. The Edinburgh Postpartum Depression Scale can be applied prenatally or postnatally when it is considered clinically necessary (Cox et al., 1987). Prenatally, it is usually recommended between the 28$^{th}$ and 34$^{th}$ week of pregnancy. The universal postpartum screening is recommended between the sixth and the twelfth weeks. However, it can be applied at any time depending on the clinical assessment (Healthy Human Development Table, 2018). This recommendation may vary from region to region; for example, the Centre of Perinatal Excellence in Australia recommends conducting a re-assessment during the fourth month and the sixth month (Austin et al., 2017).

The screening distinguishes between the so-called "Baby Blues," which usually happens during the first month but does not persist beyond two or three weeks, and other range of postpartum mood disorders (depression, anxiety, anger, PTSD, or combination of them) that may affect the mother for months if not treated. Only 1 or 2 in 1000 women may suffer Postpartum Psychosis, which is a far more serious condition. According to Statistics Canada (2019), 1 in 4 women in NL may experience a perinatal mental health issue, which is higher than the Canadian average of 1 in 5 (Traverso-Yepez & Porr, 2020).

Public health nurses also must consider the role that the social determinants of health play in their clients' ability to meet their infant's needs. For instance, one public health nurse discussed the complexity of situations when meeting with a client and her

infant. Some mothers may have an unstable housing condition, little or no social support network, and precarious employment, so their living conditions may be dire. If the client is relying on NL Housing, they do not have control over where they live: "*We run into that quite a bit, where it's like [a mother tells us] I had to move to Mount Pearl and I'm like this sucks cuz [because] all my support is here in the city"* (PHN 16). Therefore, based on the client's housing situation, she/he has now lost major social support networks. Without stable employment, the client cannot buy formula, diapers, and *"literally the basics of life"* (PHN 16). In these unstable housing situations, a key informant even suggested that public health nurses should meet at a coffee shop (e.g., Tim Horton's) instead of a home visit if that makes the mother feel comfortable.

Additionally, some clients do not have a car, but are expected to attend their appointments. This, itself, may be a problem if they have other children. Transportation-wise options, public transit or taxi, are costly. Bus passes and taxis are only covered if social workers follow the client:

> *As long as you have an open file and you're being followed by a social worker for something negative, you'll get a cab, you'll get a taxi voucher. But…unless you're got CSSD [Children, Seniors, and Social Development] rapping on your door. You're expected to get to your appointments into the Janeway and all this for your appointments by yourself and that can be really hard… we expect one-week-old babies to get to family doctors' appointments and wait three hours in the waiting area.* (PHN 16)

Consequently, the infant may miss critical Child Health Clinic appointments for vaccines, assessment, and intervention. The mother, as well, misses the support that a public health nurse provides in terms of mental health and service referrals.

**Specific expectations.** These expectations were related to providing care to caregivers and infants within the context of mental health and its promotion by utilizing

relational skills and evaluating socio-emotional health. The specific expectations include using relational skills, evaluating socio-emotional health, and identifying other developmental milestones.

Using their relational skills to engage in therapeutic relationships with clients is especially necessary if a mother is experiencing a postpartum mood disorder; therefore, the mother may feel more comfortable speaking about their mental health struggles. A participant described how a public health nurse uses their relational skills to support mothers:

> *It's all about finding a way to build that trusting relationship to the point that people feel comfortable sharing their stories, their wisdom of their lived experience. And it's through that lived experience… That's where we enter that conversation.* (KI 02)

The stigma of experiencing mental illness may pose challenges for mothers. Many nurses reported the need to ask about their client's mental health a few times or through different prompts during their visits:

> *I find some people might say to them, "How are you coping emotionally? How are you coping mentally?" And they'll say, "Oh, fine." And then, you know, later on in the conversation, I might say, "so are you enjoying your time off and enjoying your baby?" And then they might give me a completely different answer. Because you kind of take it away from you know, the stigma of mental health… I think moms appreciate that.* (PHN 14)

Within the relational context, the range of mental health and social support needs vary so much that the public health nurse must be prepared to address the situation and identify the kind of referral and supports the mother may need. This could be a referral to a peer support group at a Family Resource Centre because the mother is too isolated; to a social worker if the mother is suffering violence or doesn't have the basics of life; to a family doctor if she's having health issues. A mother may also need a referral to a

counsellor if she may need therapy or to a psychiatrist, if there is a suspicion of postpartum psychosis (i.e., risk of harming herself or the child).

Evaluating socio-emotional health—and IMH—relies more on subtle cues between the caregiver and the infant, displayed during the visit. Most participants noted that learning the subtle cues between caregiver and infants was gained with experience. Many nurses discussed how a mother might be "*flat*," which indicates postpartum depression and that the attachment between the mother and infant may be in jeopardy. Additionally, nurses may notice the infant is displaying unusual behaviour "*… babies come in, and you're like, they're not crying, and you go get the vaccine, right? Like, oh my god, that's not normal"* (PHN 12). Within infants' experiences are the environments in which they live and grow, which determine their health status later in life. As colloquially summarized by a participant, infants' experiences can impact future health:

> *As infants, we are wired, the wires are all there. And it's our infant experience that delivers the future health, mental health for our children… if your infant needs are not being met… it can affect people for the rest of your life*. (PHN 15)

For example, the eco-biodevelopmental model (Center on the Developing Child at Harvard University, 2010) suggests one way that health professionals can help prevent the development of toxic stress by demonstrating to the primary caregiver how to have positive and meaningful interactions with their infant. As one public health nurse stated:

> *And I think that we have to be very child-focused in our clinics and in our spaces where we work with kids, not parents, not as much parents focused. Because I think that you are being parent, you are being parent focus, by doing things with the child because the value that the parent gets from seeing… That interaction getting down to their level smiling at them and saying how are you today but like, at their level, talking to the child first. Things like that, really promote that*. (PHN 16)

Furthermore, the Job Class Profiles stipulate that public health nurses must be able to evaluate physical, cognitive, and socio-emotional developmental milestones of infants to "*identify children with high risk factors*." For example, a key informant described that if an infant is considered high risk for poor developmental outcomes, the parents are offered the long-term Healthy Beginnings:

> *[because of] either because of socio economic conditions… because of congenital condition or birth trauma… could be mental health of either of the parents, anything that could place them at risk for developmental outcomes. Those families are offered to be followed more intensively under long term Healthy Beginnings program… So, they'd automatically be seen at 2, 4, 6, 12 and 18 [months of age]. They'd be seen more frequently a couple of visits within that period, again at eight months, again at 14 months, and then the development will be screened each of those times and supports are being provided.* (KI 03)

**Increasing complexity when dealing with maternal-IMH.** Research participants, especially key informants with decades of experience practice as public health nurses, were adamant that they are currently seeing an increase in more challenging family environments, especially where addictions and newcomers are involved. One participant said that the labour and delivery nurse at the Maternity ward would deem 15 to 20% of these families a high priority for follow-up. However, within that 15 to 20%, the complexity of the cases is increasing. Thus, a major issue is that while the number of families with complex needs is on the rise, there are no extra nurses to provide the necessary support.

Participants expressed that navigating the parent-infant relationship can be challenging because there is a spectrum of relationships, rather than a binary good parent-infant relationship versus a bad parent-infant relationship. Public health nurses have to navigate these relationships to best support both the parent and the infant. They must also

be aware of parenting difficulties, especially in difficult social and economic circumstances, as parents are likely trying their best. One participant said, "*Fundamentally, parents want to be the best parents possible"* (KI 02).

Participants also noted that there might be a lack of time and resources to develop trusting relationships with clients, which is especially important if a parent is experiencing mental health issues. For example, a participant noted the challenge in helping clients open up:

> *That's the other challenge when they don't want to tell you, because who am I? I am the brand-new public health nurse going into your home, and I'm asking you questions about your mental health. Right? …you have to be very careful*. (PHN 13)

Moreover, if the client does not trust the public health nurse, the client may be hesitant to accept the public health nurse's advice: *"… probably a bit of resistance. They may not necessarily want what I got to offer"* (PHN 12).

One public health nurse describes the number of factors she must consider before a postnatal visit: "*If there was a complex issue… you have to gather your facts, gather your thoughts, and look at the chart, go through your file, figure out how I'm going to address this… go through everything in your head*" (PHN 13).

Public health nurses are also dealing with the effects of the current socio-cultural environment on parenting. Some of the expressions heard from participants were that social media (i.e., Facebook, Instagram, Snapchat) has created "*competitive parenting*" and is "*so fake."* One public health nurse noted that "*social media puts a lot of emphasis these days on the perfect mom and baby with these pictures [on social media]. And that drives me batty because you know, it's not always perfec*t" (PHN 12). She asserted that

this kind of attitude is very damaging to the client's self-esteem. She starts wondering why their baby is not progressing as quickly as another baby on social media. When discussing a mother with a low mood issue, one participant said that social media could cause the mother to think that they are *"…the only one [only mother] who is depressed, and I am not coping*" (PHN 13). The fake reality of social media has created a false sense of how other mothers are coping in parenthood. However, some nurses also praised social media when discussing Facebook support groups. The Facebook support groups significantly help with feelings of loneliness:

> *I think that they can be a great source for support for a lot of moms who are struggling… having that network when you're off on maternity leave and people to connect with and kind of, you know, share similar experiences with and garner support is really, really important.* (PHN 13)

**Evolving role of public health nurse in IMH and its promotion.** Public health nurses are in a critical position to promote maternal-IMH in NL. Participants said that when public health nurses perform prenatal immunizations after the 26$^{th}$ week of pregnancy, the relationship building starts before the baby is born. The participants noted that the purpose of vaccination during pregnancy is for immunity to be transferred from mom to baby during breastfeeding, as infants do not receive tetanus, diphtheria, and pertussis vaccine until they are two months. This is a key time to discuss any concerns/needs parents may have and talk about mental health. One key informant noted the new recommendation that nurses apply the Edinburgh Postpartum Depression Scale to screen for mental health issues at the time of the vaccination (between the 26$^{th}$ and 32nd week of pregnancy):

> *We offer them the Edinburgh Depression Scale prenatally and then we offer them a screening around their needs maybe, you know, there's any connection with*

> *smokers helpline or with mental health and addictions or with wherever they may need to be connected, hopefully, so that, you know, there they'll have a better, healthier outcome for their pregnancy and their baby. So, it's lovely that that immunization component piggybacked on that.* (KI 03)

In addition to the Edinburgh Post-Partum Depression Scale, there are screening tools that public health nurses can use to assess the mother and the baby. Other screening tools participants mentioned were the Helen Parkin Priority Assessment for Follow-up Tool and the Ages and Stages Questionnaire [ASQ3]. The Helen Parkin Priority Assessment for Follow-up Tool is used to determine the priority of follow-up before the mother and infant are discharged from the hospital. The ASQ3 is a tool used to assess and follow up the infant's physical, cognitive, and socio-emotional development progress between the ages of one month to five and a half years.

Participants reported that using the ASQ3 screening tool has posed some challenges. The participants discussed how the ASQ3 could be difficult to use because the mother is supposed to fill it out. The screening tool is wordy with long questions: *"…reading levels and things like that. There's quite a lot of questions in there, so I go over it with parents"* (PHN 15); another participant emphasized that, *"It's like 12 pages. Awful"* (PHN 16). Considering the already heavy workload, long screening tools create problems for the nurse, as well as for the mother.

**Level of Preparation Nurses Have for Promoting IMH**

Educational opportunities for learning about IMH and its promotion can happen during: (i) undergraduate nursing education; (ii) public health orientation; (iii) professional development; and (iv) practical clinical experience. However, the amount of

education participants received about IMH—and mental health, in general—varied considerably.

**Undergraduate nursing education.** While undergraduate nursing programs across Canada differ, they all must meet the Canadian Association of Nursing's basic curricular requirements. A review of the current NL School of Nursing curriculum provides some insight into the exposure that nursing students may have had to public/community health and maternal and infant mental health. The required courses included: *Health Promotion, Care of Childbearing* (theory and practice), *Community Health Nursing* (theory, practice, and practicum), *and Mental Health* (theory and practice). Another two courses were electives meaning that this content was available to interested students: *Nursing Practice with Children, Adolescents, and Young Adults, and Nursing Care in Community and Mental Health Settings*.

Some participants recalled "*very little"* education about mental health. Some recalled some education about postpartum depression during their obstetrician-gynecology clinical placement, while others recalled a mental health course and a clinical placement in a psychiatric hospital. However, no participants recalled any formal academic or clinical work regarding IMH: *"No, not specifically to infant mental health, lots towards maternal, but not necessarily infant"* (PHN 15).

**Public health nursing orientation.** Participants noted they completed either a four- to six-week orientation or an eight- to ten-week orientation after they accepted a public health nurse position. The orientation introduced nurses to the fundamental concepts relevant to public health practice, including perinatal maternal-infant care. New nurses were paired with and shadowed an experienced nurse for three to four days before

beginning the formal orientation. The purpose of shadowing was to help the new public health nurse understand what a typical day entailed. The nurses then reflected on their experience with their mentors and orientation leaders. The reflection allowed new public health nurses to identify any misconceptions or biases they had about public health nursing. The reflection was also critical for identifying the specific knowledge and skills they needed to practice effectively.

There were diverging responses from participants regarding the quality of their orientation. Some frontline workers felt the orientation *"did not prepare them to deal with caregivers and infants effectively"* (PHN 12). Other participants noted they did feel prepared after orientation, stating that it was *"very thorough orientation to public health, like eight or nine weeks of classroom and clinic, back and forth"* (PHN 13).

**Professional development.** Participants also mentioned opportunities to participate in professional development workshops, seminars, or other forms of training. Public health nurse managers organize approximately six professional development workshops days a year based on the need or the request of the frontline public health nurses. For example, Eastern Health offered two infant mental health programs. Both were e-modules: The first was entitled *Journey to Perinatal Well Being*, developed in British Columbia. The purpose of this module was to educate health providers about ways to support mothers and families struggling with postpartum depression and anxiety. The second e-module, *Infant Mental Health Promotion Network* was developed at SickKids Hospital in Toronto and focused more on IMH and its promotion. Faculty at Memorial University and other community groups also offer educational sessions to public health nurses on special topics, such as maternal and IMH.

In NL, the *Registered Nurses Act, 2008*, stipulates that every Registered Nurse—which includes public health nurses—must complete the Continuing Competence Program every year to be eligible to renew their license (*Registered Nurses Regulations* under the *Registered Nurses Act, 2008*, 2013). It is the nurses' responsibility to maintain competent nursing practice. Employers should support their staff in continuing education, but this is not required. Based on the website for the College of Registered Nurses of NL (CRNNL), the Continuing Competence Program requires that the nurse develops a learning plan, implements the learning plan, completes at least 14 hours continuous learning hours, and evaluates the impact of their learning plan on their nursing practice (CRNNL, 2014). The learning activities can be formal learning (e.g., academic courses, orientations, or certificates) or self-directed learning (research, volunteering, or reading academic journals) (CRNNL, 2014).

All frontline workers recalled some professional development about maternal or infant mental health, either from webinars or in-person sessions. Sources of the professional development were the Newfoundland and Labrador Public Health Association, regional health authorities, *Infant Mental Health Promotion Network, Journey to Perinatal Well Being*, Best Start from Ontario, and Memorial University (e.g., *Engaging Mothers & Professionals Deliberative Workshop*). The topics they learned about were mainly centred around postpartum depression, mother-infant attachment, and infant brain development: *"it was related to brain development and bonding."* One public health nurse completed a lactation consultant program, and it had a strong focus on attachment: *"within that course for sure there were a lot of things about maternal-infant attachment…that opportunity let me have some access to particular topics"* (PHN 15).

**Experiential knowledge.** Public health nurses discussed the importance of gaining experiential knowledge to feel confident in their public health practice. For instance, a key informant said, *"I feel [that] in my public health nursing practice, I learned as I was going"* (KI 01). The key informant also noted that a critical piece of building experiential knowledge relies on those with more experience to guide the new public health nurses: *"I learned from them [mentors] and a whole group of nurses mentoring… and then we worked our way through the [public health] system before there were more [nurses] coming in" (KI 01).*

Participants emphasized the importance of experience to promote maternal-infant mental health: *"... the thing is [that] nursing school is such… a such [like] a permit to drive the car, you know what I mean? Like you have to learn about all facets of nursing [in practice]"* (PHN 16). She followed with a story when she first began her public health job and was vaccinating a baby of first-time parents:

> *I freaked them out to the point that they almost didn't want to vaccinate her. And I realized that like I really wasn't meeting them where they're at in terms of being able to provide the information in a way that was really appropriate for them, that I was basically just going by the book, and I didn't have enough experience to really realize that I needed to kind of break this down in a different way for them. And they basically by the time I was getting ready to vaccinate their daughter, they thought she was going to have a reaction.* (PHN 16)

She continues to discuss her internal monologue when she could not identify why the new parents were feeling overwhelmed:

> *… I didn't quite understand like, "Why? What was going wrong with the session?" I just knew that like; I was really freaking them out. And it was, I think, because I was inexperienced in terms of how not often anaphylactic reaction happens… and I had to overwhelm the crap right out of them and... Anyway, it was bad. But that was my fault.* (PHN 16)

She concludes that she did not have the experience necessary to explain the risks of vaccination without frightening parents.

Participants discussed the importance of mentorship in gaining confidence in their public health practice: *"I'll talk to my manager right…. I have a very challenging situation that I feel I don't have the right answer. Their doors are always open for us"* (PHN 13). However, due to seniority rules for hiring, which I will explain in the next section, public health is *"losing critical expertise."* In other words, recruitment to any nursing position is based on seniority and not on education, knowledge, or experience related to the position. If nurses do not start public health practice until 10 to 20 years into their careers, they are only 10 years from retirement. This leaves new hires without the needed mentors with significant long-term experience and knowledge to develop their practice.

**Public Health Nurses' Attitudes Towards their Ability to Promote Maternal-IMH**

Two basic comments that participants made related to: (i) feeling unprepared and (ii) seniority prevailing over qualifications.

**Feeling unprepared.** Participants discussed feelings of unpreparedness and the challenging learning curve they faced when entering public health practice. Participants said that their undergraduate nursing education and professional development education had not adequately prepared them for public health nursing practice, and even less for maternal-infant mental health promotion. One participant gauged her preparedness numerically as "*…like on a scale of 1 to 10, I was a 2 or 3*" (PHN 16). Another nurse felt

the same way: "*when it comes to mental health and maternal mental health, again, [was I] feeling prepared? I don't know if I was ever given the right skills"* (PHN 13).

Frontline public health nurses already working with clients in the community identified gaps in their knowledge and skills. One participant discussed the experience with one of her first clients. She explained how she misinterpreted the client's postpartum depression signs as typical teenager behaviour:

> *I didn't see. I wasn't recognizing, you know. You've got an 18-year-old that's got a baby. Who is now tied down to the house…? So, the thing is, how come I didn't pick up that she was developing postpartum depression? As opposed to, she's an 18-year-old is just angry at the world. I felt I must have been ill-equipped even though I was an experienced nurse with all of, you know, a lot of other surgical nursing experience. I had a lot of experience with different things. I feel bad now that I didn't pick up that she was experiencing depression.* (PHN 12)

She lamented that all the acute care experience she had was not enough in providing the necessary care and guidance to that teenage mother.

Another participant described the process of practicing public health as a "*learning curve*" (PHN 11). Some participants also asserted that going into public health nursing practice was a difficult career change, requiring significant effort to learn the relevant skills and knowledge.

**Seniority prevailing over qualifications.** Participants thought that the number of years in acute care practice is valued. However, participants also noted that having a lot of acute care experience does not necessarily translate into success in community practice. The knowledge and skills required for each setting are very different, and that is what key informants observed as the problem. Key informants explained the process of hiring public health nurses in NL is based on the number of years they have worked in nursing overall. Consequently, no recently graduated nurses are eligible for public health

nursing jobs because they cannot compete with the applicants who have been working for over ten years already in other fields. The key informant noted that the hiring of nurses is a "*union contract issue*" (not limited to public health nursing jobs). In other words, the Registered Nurses' Union has a collective agreement that outlines the terms and conditions of employment for nurses in NL. Within the collective agreement, a key factor in the hiring of nurses for an open position is which applicant has the highest seniority.

The key informant noted that the number of years of experience does not indicate that this person is adequately prepared: *"seniority doesn't make a fit. And that's the hard part"* (KI 03). Instead, new nurses begin their careers in areas that directly hire nurses upon completion of nursing school (e.g., acute care careers).

Another issue highlighted by the key informant was that working in acute care is very stressful. Consequently, when there are openings in other areas—such as public health—it is believed it is less stressful with better hours: "*for nurses who were, you know, have had families and who are even, you know, getting older, it's not the same wear and tear so in theory, that's why it [public health] is attractive."* Therefore, older nurses have priority over younger nurses who may have an interest or education in public health. However, there is now a ratio agreement being created within public health that will change how nurses are hired for public health jobs that will use other hiring criteria:

> *Eighty percent of the staff have to have two or more years of public health experience, or, I don't know, was two years or five years or whatever, before seniority will count for hiring somebody new. So, it's in the works.* (KI 03)

The ratio agreement has not been put in place yet, but the key informant noted that it should be implemented soon.

Nurses may have worked in acute care careers for 10 to 20 years before deciding to move to a public health nursing position. The nurses become experts in their acute care position, but upon entering public health practice now have to become orientated to differences between acute care nursing and public health nursing. One key informant noted that *"... if nurses are used to machinery and equipment and all of that, they don't understand that this… they're looking for 'What I can get done to 'tick, tick' [check off] things?'"* (KI 03). Another key informant reiterated how clinically competent public health nurses are, but are not educated about public health practice:

> *They're [public health nurses] clinically gifted. Obviously, they know their stuff, and they are clinicians, but they are then put in the roles of doing groups with no educational background. So, they've never been given a facilitator training or educational training. They don't know the principles of adult education, and they don't know how to look at different learning styles, or how to best approach the youth or if it's a newcomer to look at their language or their language skills*. (KI 04)

Frontline public health nurses discussed their feelings about leaving acute care and starting a public health practice. For example, one public health nurse stated, *"This was the biggest challenge I had ever come across… is going into public health"* (PHN 12). She continued specifically discussing working with caregivers and infants, "*I had never assessed the baby physically before. I never done vaccines... go visit postnatal mom and talk about all the areas in which we have our core elements cover"* (PHN 12). Another nurse felt the same way: "*when it comes to mental health and maternal mental health, again, [was I] feeling prepared? I don't know if I was ever given the right skills"* (PHN 13).

**Barriers That Prevent Public Health Nurses from Accessing Education about IMH and its Promotion**

Participants expressed different kinds of existing barriers that prevented them from accessing education about IMH. In order of frequency, some of these barriers follow:

**Time and human resource limitations.** Participants discussed the time limitations that can impede their ability to attend professional development opportunities about IMH and its promotion. The time barrier was used in two different contexts. First, the nurses feel they do not have enough time to complete necessary work tasks and attend educational sessions. They expressed, they have many duties and responsibilities not limited to maternal-infant care as discussed previously in the Job Class Profiles:

> *It's getting busier. I punch a full day… [I] manage to get my work done, but it is busy. When I came here five years ago, I would have thought not as busy, but with the prenatal program coming on board…like last month, we had 37 referrals… So that program itself has increased our workload.* (PHN 12)

Participants reported activities such as influenza vaccines, postnatal home-visits, preschool health checks, prenatal programs, breastfeeding support groups, group facilitation at Family Resource Centres, adult immunizations, and Tuberculous testing. For example, a participant talking about school health expressed how they are assigned to a school to keep vaccines up to date. The busyness of her days is reflected in her words:

> *Monday to Friday, like some days later than that [later than regular work hours], right? Yeah, just to catch up and get everything done. We have a huge caseload, and I do two clinics a week, and I do Healthy Baby Club. And I also do like, and I do postnatal and then we do flu clinics, and like there's just lots of things.* (PHN 13)

When asked if they felt they had time to do professional development, a frontline public health nurse said:

> *I got a life, too. To get the course that we're supposed to do, we're supposed to finish by next August. I'm sure I'm not getting it done here [at work]. It's going to be hard to be done at home in order for me to get it done.* (PHN 12)

The Job Class Profile's listing of key and periodic activities of public health nurses confirms participants' reports. Due to their busy schedules, finding time to attend professional development or complete self-directed learning is a barrier to education about IMH and its promotion:

> *It's difficult from time to time to kind of just even take the time to sit and focus, you know. Carve a section of your day or this kind of stuff. Because even when you do have a little bit of downtime, and there's nobody in… you know, schedule in to be in and you feel like there's so much else you could be doing. Taking the time for that is difficult.* (PHN 14)

Second, time was also used when educational sessions were offered to public health nurses. One participant noted that they would attend more sessions if they were offered outside typical work hours because they could be more engaged with the learning. For example, sessions offered in the evening may be more accessible for some public health nurses.

**Geographical limitations.** The participants discussed that geographical limitations are a barrier to receiving education about IMH and its promotion. Participants that worked within or close to St. John's regions noted that most sessions occur in St. John's. Therefore, they must account for an additional travelling hour to attend professional development, aside from the time needed to participate in the session: *"anything that's not offered by webinar or an online thing… it's harder just because of travel. I mean, it could take a half-hour to get to St. John's depending"* (PHN 11). The

extra hour of travel required to attend the session can be a barrier for an already busy workday. Participants in Central and Western Newfoundland and Labrador do not have the option to travel for professional development in St. John's because of the large geographic size of NL. If a session is not offered in the community or online, there is no opportunity for those nurses to attend professional development about IMH and its promotion.

Additionally, there are no extra nurses to cover their duties if they want to attend an educational session offered in their community:

> *Well, I guess, living in a rural community is definitely a barrier. One of the biggest things is that getting time off from your employment because we don't be replaced when we're when we're off work for a holiday or whatever and we have to cover for the other nurses that are in the office.* (PHN 15)

**Lack of leadership around education.** The frontline workers emphasized the lack of institutional engagement to provide robust programs for IMH education. The lack of leadership is reflected among frontline workers being unsure of who could provide evidence-based information about IMH and its promotion. For example, a nurse stated that *"I don't even know who would provide that information"* (PHN 15).

However, key informants noted several programs for education about IMH and its promotion that is available to public health nurses. For example, public health managers encourage the attendance of professional development sessions and the completion of webinars about IMH and its promotion. Family Resource Centres and the NL Public Health Association have been offering educational sessions as well.

**Lack of IMH support and awareness in NL.** Some participants mentioned a lack of awareness and support related to infant mental health, as an additional barrier,

arguing that they are closely related to policies and protocols put in place by governments. A few nurses said that they did not believe that there is a good understanding about the relevance of IMH at the government level. For example, a participant expressed that the government is "*paying lip service to infant and child mental health*" (KI 03). Another participant asserted that at the provincial and federal government level, there is a *"…loss of leadership"* (KI 02). Here the participant is referring to the fragmentation of public health in Canada. She noted that there used to be federal, provincial, and territorial committees dedicated to preparing a unified response to public health issues in Canada. The loss and fragmentation of leadership will be discussed further in the discussion chapter.

**Specific Demands and Recommendations to Support IMH Promotion in NL**

At the end of the interviews, participants provided suggestions to better promote IMH in NL. The recommendations are grouped into three main categories in order of frequency.

**More professional development and education about IMH promotion.** First, participants requested *more accessible* education-professional development about IMH and its promotion. Participants remarked about different ways to create more accessible education and professional development. One way would be to address the time and human resource limitations; therefore, allowing nurses to have time to complete education is relevant: *"these webinars you know, sign up for on your own time so, [what] if people don't have the time to sign up for them"* (PHN 11). Accessibility also means "*money and budget"* because participants noted that seeking out their own educational opportunities

would be costly for them (e.g., starting a master's program) (PHN 12). Allocating more funds toward education-professional development is another key area to increase knowledge about IMH and its promotion.

Second, participants discussed that a key part of IMH and its promotion is developing and refining relational skills. There needs to be more education and skill-building for relational skills. For example, a key informant noted that *"you know, become not only familiarity but know how to carry out those conversations. As I said, tools are only one thing"* (KI 01). Public health nurses addressing mental health concerns of their clients must be able to have difficult conversations.

**Establish links between research, practice, and policy.** Beyond the scope of educating public health nurses, there were also recommendations about establishing links between research, practice, and policy to address IMH and its promotion.

Participants expressed the need to strengthen the link between screening and clinical follow-up. Specifically, in the context of having available community clinical services for maternal and IMH, a key informant noted that:

> *…because the issue public health nurses have is I… if I do a screening with a mother, and there's an issue identified through the scale, what do I do, then? Who do I refer to the mother too? How do I continue to support the mother in an evidence-based way? So, we fall short in the area of providing good clinical advice to community health nurses. In the absence of being able to refer immediately to an infant mental health specialist, we're not going to have that.* (KI 02)

Consequently, in the absence of an IMH specialist available, there must be other supports that public health nurse can consult:

> *So is there a way to have consultants identified that community health nurses can consult within the same way that they currently have community nutritionist they can consult with, speech-language pathologist they can consult with, then. And we*

> *even talked about developing a manual or some form of a document that could help community health nurses in some of those initial phases or a broad assessment.* (KI 02)

Another key informant reiterated the need for community consultants in these terms:

> *But then also being able to know that we have the infrastructure to support that [infant mental health consultant]. So, they're going to be trained and how to support to the best of their skills, so then where do they refer? So, [there is need]to start having that infrastructure within the health field.* (KI 04)

In terms of the policy, participants stressed the need for more leadership at provincial and federal levels.

> *Nowhere our children are held to the level of importance that they need to be in… children's, you know, and then to support children, we have to have the policies, and we have to support the parents. Children don't appear on their right. So, we have to support [parents(?)], absolutely we do.* (KI 03)

Considering the complexity of the issues at stake, participants also emphasized the need for a multi-sectoral approach, which entails networking and better collaboration between stakeholders:

> *Who else needs to know? I mean, that's the basic question is, who else needs to know? Who else needs to be involved? Who else needs to know? And knowing for public health nurses to understand and to know their role in the collaboration is the biggest piece, and the importance of collaboration is huge.* (KI 03)

**Increased community participation and development for mental health promotion.** Public health nurses have a significant role in community participation and development concerning maternal-IMH and its promotion. To accomplish this role, participants emphasized the need for more collaboration between all health and social service workers. One purpose of increased collaborations within mother and infants' circles of care is to encourage consistent prenatal mental health screening by public health nurses. If they screen more mothers during pregnancy, then public health nurses can refer

mothers to resources and supports in the community before a problem develops or worsens:

> *The prenatal piece, they seem to invest nicely into that TDAP [tetanus, diphtheria, and pertussis vaccine], which brings us into the Edinburgh [Postpartum Depression Scale]. So, I mean, I think the program itself. It's definitely all about health promotion, disease prevention. So, let's bring it back prenatally to way back where it needs to be.* (PHN 13)

Early detection of mental health needs is critical to help mothers cope with pregnancy and birth.

Participants also asserted about how there needs to be more public education about maternal-IMH and mental health in the general public. The public health nurses can have sufficient education about maternal and IMH. However, if caregivers feel a stigma attached to postpartum depression, they may not want to disclose their struggles. Hence, most participants stressed the importance of increasing awareness about maternal and IMH mental health. One nurse said that *"helping families recognize it in their life too so that they can open the conversation"* (PHN 14). Or "*it's all about getting the message out. That it's okay to talk about it, and I think this will help that will help women"* (PHN 13). She gave this example for using social media to deliver messages:

> *I think they need to do public relations, use social media to deliver some of their you know, we see I see commercials on TV that talks about the importance of families we've been, you know, they've done their research on that. I don't see anything that specifically talks about [maternal and IMH].* (PHN 11)

**Chapter Summary**

This chapter highlighted the key themes and set the stage for further discussion and theoretical engagement with the literature on public health nurses' education about IMH and its promotion in NL. This chapter concentrated on answering the research aim

and questions through document analysis and interviews with key informants and frontline public health nurses. A number of programs and supports provided by public health nurses promote maternal-IMH. However, the organizational structure and public health nurses' location in maternal-IMH is unclear. Moreover, public health nurses are overwhelmed with roles and responsibilities, which have impeded their ability to take advantage of professional development opportunities related to IMH and its promotion. The next chapter will focus on positioning these research findings in the existing literature.

## Chapter 6: Discussion

This case study explored ways to enhance the education and practice of public health nurses in the province, in order to better promote IMH in NL. A review of key documents and interviews provided rich, descriptive data on public health work, public health nurses' practices, and their experiences with IMH and its promotion in NL. The findings clarified the organization of public health in NL and the programs and support provided by public health nurses in NL in the areas of maternal-infant health. Findings also revealed general and specific expectations for public health nurses. Public health nurses reported their attitudes towards promoting IMH and a low level of preparation for fulfilling their role. The findings also revealed the barriers that prevent public health nurses from accessing education about IMH and its promotion. Finally, the findings provided recommendations to enhance IMH promotion in NL.

This research was informed by the eco-biodevelopmental framework, which notes that lifelong physical and mental wellness begins at conception (Center on the Developing Child at Harvard University, 2010), through pregnancy and the first years of life. The quality of the relationship between the primary caregiver(s), who is usually the mother, and the infant will significantly influence the infant's physical, cognitive, and mental wellness (Irwin et al., 2007; Shonkoff, 2011; Shonkoff & Phillips, 2000). For this to happen, both caregiver(s) and the infant need stable, safe, and physically and emotionally nurturing environments, which are the foundations of health throughout the lifespan (Center on the Developing Child at Harvard University, 2010; Garner, 2013; Shonkoff, 2011; Shonkoff & Phillips, 2000).

As the framework proposes, caregivers need support, and to do so there must be robust community and institutional resources. For example, in the community, there must be financial, psychological, and institutional resources (e.g., parental support groups, access to mental health services) to help parents fulfill the health and developmental needs of their offspring. Assuring that the family's needs are met is the best way to guarantee the infant's wellness. This research indicates that opportunities for early intervention— either prenatally or postnatally—by public health nurses may address potential sources of toxic stress before they develop (Center on the Developing Child at Harvard University, 2010; Garner, 2013). This chapter begins by revisiting the topics explored through the research questions, summarizing key findings, and interpreting the findings using existing knowledge.

**Unclear Structure of Public Health/Community Health Nursing in NL**

The description of the case study demonstrated a lack of clear organizational structure of public health/community health services in NL, which makes harder to define clear guidelines for dealing with maternal-infant mental health in this context. For example, the identification of which department was responsible for what program or support for maternal-child services was challenging. There were three departments identified that are involved in maternal—child health: the Department of Health and Community Services, the Department of Children, Seniors, and Social Development, and the Department of Education and Early Childhood Development. The structure of public health/community health services was gathered from the Government of NL website and

interviews. Although a clear organizational structure might exist, I was unable to locate this information in publicly available documents.

The unclear organization may be an indication of a more significant problem of fragmentation of public health services and public health leadership in NL and Canada (Eckersley, 2011; Guyon et al., 2017). The programs and supports are assigned to multiple departments rather than concentrated in one department where maternal-infant mental health could have a relevant place.

## Current Programs and Supports Related to IMH and Public Health Nurses' Engagement

This study clarified that the two primary institutions providing infant-maternal health programs and supports in NL are: (i) regional health authorities; and (ii) Family Resource Centres. The regional health authorities are under the direction of the Department of Health and Community Services and the Family Resource Centres, under the Department of Children, Seniors, and Social Development. Regional health authorities provide BABIES, prenatal immunizations, Healthy Beginnings, Child Health Clinics, Preschool Health Check, and Nobody's Perfect. The Family Resource Centres, under the direction of the Department of Education and Early Childhood Development, provide Healthy Baby Club, Baby and Me support group, postnatal visits, and playgroups.

**The expanding leadership role of public health nurses in promoting IMH in NL.** The findings revealed that public health nurses' leadership role in promoting IMH in NL is increasing. Specifically, public health nurses are responsible for more and a broader scope of programs for IMH and its promotion, complementing the many services they

already provide to promote physical health for infants and caregivers. In addition to providing services, key informants and front-line public health nurses fulfill a significant role in developing and providing community- and population-based programs (e.g., Nobody's Perfect, Healthy Baby Club) that promote maternal mental health and mental health during infancy and the early years.

The findings of this study affirm literature that asserts the role of nurses in the active promotion of IMH in their professional practice (Borjesson et al., 2004; Bryant et al., 2016; Marcellus & Shahram, 2017). The recognition of public health nurses' leadership is instrumental to drawing attention about their significant work within the field of IMH promotion. Therefore, acknowledging the leadership role of public health nurses in IMH promotion in NL is essential to encourage more supports and education to conduct this relevant work.

**The provision of supports to caregiver(s) and infants.** Participant accounts highlighted the importance of the opportunity to address maternal mental health during pregnancy as the first step in promoting IMH. The prenatal vaccine program (tetanus, diphtheria, and pertussis) is an opportune time to establish a positive therapeutic relationship with pregnant mothers and address mental wellbeing. The prenatal vaccine program also provides a gateway allowing the public health nurse to refer the mother to other supports and services that promote a healthy pregnancy. However, I heard that not all expectant mothers receive this support. A family doctor or obstetrician-gynecologists must refer pregnant women to public health nurses to receive the prenatal vaccine, but this may be limited to mothers who expresses the will to breastfeed, suggesting the need to have a more consistent approach to this PHN-mother encounter. A key informant noted

that the long-term plan is for all expectant mothers to participate in this public health program, showing that this is still "work in progress." It would be an innovative way to connect people with public health early and provide an opportunity for nurses to get to know who they are seeing post-delivery.

Participants also described their role in following up with women who have recently given birth. The labour and delivery nurses evaluate mothers to assess their level of priority for follow-up by public health nurses. However, participants indicated that the mother could decline a home visit with a public health nurse. Meaning that if the mother is also lacking physical and socio-emotional supports at home in the form of partner and extended family, the baby may be deprived of different levels of this nurturing interactional environment required for thriving.

Addressing postpartum mood disorders is a foremost concern of public health nurses in NL. The participants discussed the importance of reading the mother's report from the hospital and using the Edinburgh Postpartum Depression Scale but also relying on their nursing experience to detect how well a mother is coping mentally. For example, a common phrase used was "*flat*," meaning the mother is not showing much interest in the meeting or in her infant. Equally, a mother crying throughout a visit was also an indicator of mental health issues. However, participants indicated that mothers might be hesitant to disclose if they are experiencing any postpartum mood disorders. The hesitancy highlights the need for a trusting relationship to form early (i.e., during pregnancy) between the public health nurses and the mother, and that relationship can support the critical caregiver-infant relationship. It is known that some of the barriers mothers report to accessing care include lack of information, experience of judgement,

shame and stigma, a dismissive reaction from professionals, and the prevailing focus on physical health over mental health (Traverso-Yepez & Porr, 2020).

Extensive literature affirms the benefits of home-visiting for IMH promotion (Garner, 2013; National Collaborating Centre for Determinants of Health, 2009; Olds, 2006; Walker et al., 2008; Zeanah et al., 2006). The importance of home-visiting emphasizes the possible need for mandatory, but scheduled, non-intrusive visits by public health nurses. This is to ensure that caregivers and infants have sufficient support and knowledge of available supports during the first few weeks postpartum. A key informant noted that mothers might opt for not visitation for personal reasons. Still if a home visit is declined, public health nurses should offer to meet in an alternate location (e.g., Tim Horton's), if the mother feels that is a better option than visiting the home. However, research also shows that some nurses might not have the time or feel comfortable doing home visits (Traverso-Yepez et al., 2020).

Implementing mandatory, but scheduled and non-intrusive home visits by public health nurses would require complex and major changes to the existing framework for postnatal visits. Mandatory home visits from a public health nurse within the province would also require a delicate balance between maintaining someone's autonomy/civil liberty versus the collective good of promoting IMH within the province (Gostin, 2007). Therefore, a realistic recommendation from these findings is to encourage conversations between frontline workers, managers, and other key stakeholders about improving home visiting within the province.

Prenatal and postnatal contact with a public health nurse presents an opportunity to take an upstream approach to mental and physical health. It is also an opportunity to

address environments in which the infant lives to address potential sources of toxic stress in caregiver(s) and babies (Center on the Developing Child at Harvard University, 2010). As suggested by a participant, a public health nurse has the opportunity to model a positive interaction with the infant during Child Health Clinic visits or at home during the postnatal visit. There are also opportunities to provide positive feedback, encouragement, and other tokens of support that families need. However, nurses must have time and the appropriate skills to do this in ways that the mother does not feel criticized, but instead supported. Nurses should also have the ability to show genuine interest in the mother's well-being, as one main complaint from mothers is that all the attention of the health service providers appeared to be focused on the infant and their physical health (Traverso-Yepez et al., 2020).

Addressing caregiver(s)' mental health is an avenue to promote better IMH within NL, as mental health issues can affect infant development and future wellbeing (Goodman et al., 2011). Considering these concerns, there is a need to link mothers and families with other community support, services, and resources to address not only mental health concerns, but potential sources of toxic stress (Barker et al., 2012; Center on the Developing Child at Harvard University, 2009; Goodman et al., 2011; Traverso-Yepez et al., 2017).

**Public Health Nurses Job Expectations**

This study identified the roles and responsibilities that NL public health nurses have within maternal-infant health and the local community. A few of the expectations listed in the Job Class Profiles were planning and evaluating public health programs,

travelling to various communities to deliver programs, providing education and programs to caregivers prenatally and postnatally, partnering with Family Resource Centres for mother-infant educational activities and programs, and participating in screening processes. However, during the interviews, participants discussed expectations that were not emphasized in the Job Class Profiles. Participants described that they are not prepared for the complexity implied in working with communities or in many of the other key and periodic activities of the Job Class Profiles. For example, considering the role that social determinants of health play in their client's health, working with populations with complex needs is a demanding and time-consuming task. Furthermore, the expectations of public health nurses are not limited to maternal and infant health, but also includes immunization to all age ranges (e.g., adult immunizations, preschool immunizations), tuberculous testing, delivering professional services to clients discharged from hospital, and other responsibilities (e.g., administrative duties) that increases their caseload. On top of the broad roles and responsibilities, public health nurses see more complex cases that may require more time and resources (e.g., people living with addictions and newcomers to NL).

**Broad expectations and increasing complexity.** The primary consequence of the broad range of expectations in public health nurses' work tasks, coupled with the increased complexity in cases, is less time to devote to mothers and infant's mental health, which itself demands time and psychosocial knowledge and skills. The eco-biodevelopmental framework emphasizes the need for robust institutional and community supports to promote IMH (Center on the Developing Child at Harvard University, 2010). However, public health nurses' ability to promote IMH may be impeded if they feel

overextended by the complexity of cases and the increasing roles and responsibilities required.

A Canadian study highlighted the issues with public health nurses' broad range of expectations and offered a professional practice model to aid in clarifying public health nurses' roles (Cusack et al., 2017). In collaboration with public health nurses, the purpose of this study was to "support PHNs [public health nurses] in the health authority to practice to their full scope, particularly in relationship to promoting healthy childhood development and reducing inequities in health outcomes" (Cusack et al., 2017, p. 17). The professional model was an avenue to bridge the disconnect between expected roles and responsibilities of public health nurses and their daily activities and is focused on five key areas: (i) delivery and structure process; (ii) professional relationships and partnerships; (iii) values and principles to consider; (iv) management practices; and (v) recognition and awards. The authors reported favourable results with participants, especially in terms of fully appreciating the significant role that public health nurses fill. This study highlights the benefits of clarifying public health nurses' roles. Moreover, it establishes the benefits of collaborating with public nurse health to generate these findings and recommendations.

**Maternal mental health issues and IMH promotion.** My research findings reflect on public health nurses' role in maternal-IMH in the broader context of their work in the NL community. The broad range of key and periodic activities that public health nurses are expected to perform and the increasing complexity of cases they deal with compete with their ability to build positive therapeutic relationships with caregiver(s). Without a positive therapeutic relationship with the mother, it impedes the nurse's ability to promote a positive caregiver-infant relationship.

There are Canadian documents that clarify the roles of public health nurses. (Canadian Public Health Association, 2010). However, it was unclear what role public health nurses have in promoting maternal-infants' mental health. Through the data collection phase, it became clearer the significant role that public health nurses in NL could play in promoting IMH. This finding is consistent with the literature that studies the role of public health nurses on IMH promotion, especially through home visitors programs (Appleton et al., 2013; Baradon & Bain, 2016; Cousins, 2013; Walker et al., 2008; Walsh et al., 2020; Zeanah et al., 2006). Although public health nurses are not considered "home visitors" (a specific approach in other developed countries), the kind of responsibilities with young families and being a key contact within the healthcare system is similar.

## Public Health Nurses' Level of Preparation for Promoting IMH

**Inconsistent nursing education.** A significant finding from this study was that the level of education participants received about IMH—and mental health, in general—varied considerably even though all participants completed their undergraduate nursing education in NL and have practiced in NL for their entire careers. The variation in undergraduate education about mental health may be related to the different time frames when participants completed nursing education. Several participants completed a Bachelor of Nursing degree before it evolved into a Bachelor of Science in Nursing. None of the participants recalled any formal academic or clinical work regarding IMH and its promotion before entering public health practice.

There was no literature comparing the level of education nurses have about IMH and its promotion. I was not able to evaluate the levels of education that nurses in NL compared to nurses in other provinces or countries may have. But the literature notes a lack of education about IMH and its promotion for nurses, which will be discussed further in the next section. This points to a need for further inquiry into how much and what type of education nurses receive about IMH and its promotion within Canada and abroad.

**Frontline public health nurses depend on experiential knowledge.** Another significant finding not found in the literature—is how much public health nurses depend on experiential knowledge to supplement education for maternal-IMH and its promotion. All participants discussed how they felt unprepared to deal with the roles and responsibilities as public health nurses—especially in the realm of mental health. The findings indicate that the current formal undergraduate education covers the broad facets of nursing, preparing them to be generalists. The nurse specializes after graduation when they begin working. In contrast, other healthcare professions, such as physicians, have a four-year formal undergraduate education and a formal post-graduate education where they learn a specialty. The increasing complexity of science and technologies generates the need for further education as reflected in the number of post-graduate educational and residency programs for physicians. They provide the necessary knowledge and skill in the number of existing specializations.

The literature reflects the importance of expertise and mentors for new nurses (Barrows & Bennet, 2000; Canadian Nurses Association, 2019; McComish et al., 2015; MI-AIMH, 2019). For example, the Michigan Association for IMH Endorsement System® (2019) stipulates that applicants must have a mentor to receive the various

credentials available through the system. A program offered in the United Kingdom has a work discussion seminar (Barrows & Bennet, 2000). The seminar consists of a "small group—maximum of five participants—[that] gives students extensive opportunities to discuss their work" (Barrows & Bennet, 2000, p. 559). Moreover, an experienced child psychotherapist facilitates educational seminars (Barrows & Bennet, 2000). The Canadian Nurses Association also requires mentorship for completing certificates (Canadian Nurses Association, 2019).

The NL public health nurses' reliance on experiential knowledge highlights an opportunity to increase undergraduate or post-graduate educational opportunities or to add a more intensive mentorship program, at least during the first couple of years of new nurses' public health practice. For example, in the United Kingdom, there is a two-year diploma course offered for home visitors. Reports from this training program have been positive and noted an improvement in home visitors' confidence working with young families and children (Barrows & Bennet, 2000). This would ensure all public health nurses' have the opportunity to develop their skills related to IMH and its promotion.

**Public Health Nurses' Attitudes towards Their Ability to Promote Maternal-IMH**

Frontline public health nurse accounts indicated a low level of preparedness concerning IMH and its promotion in NL. While some participants felt that their previous experiences adequately prepared them for public health nursing, most public health nurses indicated they were not adequately prepared. Key informants noted that an issue in NL is that public health nurses are hired based on seniority (i.e., number of years worked), usually in acute care; however, acute care and public health are quite different specialties.

Key informants noted that individual strengths and level of commitment played a role in how well suited a nurse was for public health nursing.

**Concerns about a lack of knowledge.** There are some possible explanations for the varying levels of education that public health nurse had received. First, each participant had a different learning experience. For example, one participant worked in oncology for ten years, while another worked in labour and delivery. Also, the participants completed their degrees at different times, and curriculums change over time. None of the participants had the same educational experience, which indicates a possible lack of consistency in how public health nurses—and nurses in general— are educated in NL. Alternatively, it could mean that the levels of education about mental health have been evolving and increasing during the past years. Moreover, those who completed their nursing degree more recently may recall more education about mental health.

The results of this study confirmed outcomes of previous studies that demonstrated that nurses have concerns about a lack of knowledge on IMH and its promotion, either from a recollection of their undergraduate degree or professional development educational experiences (Alexander et al., 2013; Barrows & Bennet, 2000; Bryant et al., 2016; Marcellus & Shahram, 2017; Mcatamney, 2011; McComish et al., 2015; Zeanah et al., 2006).

This finding implies that public health nurses may feel unprepared to properly deal with mental health issues arising in their professional practice. Some participants noted that they misinterpreted signs and symptoms of postpartum depression in mothers. One public health nurse discussed her confusion around the Edinburgh Postpartum Depression Scale guidelines and how she sometimes used Google® to clarify her

questions. However, she would have preferred this information be provided by those in charge of educating public health nurses. In studies conducted by Alexander et al. (2013), Bryant et al. (2016), and Zeanah et al. (2006), they also noted that nurses reported low self-confidence in addressing the mental health of caregivers and infants.

Public health nurses' reports highlighted a lack of consistent education during undergraduate education, public health orientation, and professional development opportunities. A need for a more standardized approach to public health nursing education was evident in the accounts of public health nurses and key informants. While these reflect some shortcomings in the education of public health nurses in NL, it highlights clear opportunities for improving the knowledge around IMH and its promotion. The creation of standardized professional development requirements will, in turn, increase public health nurses' confidence in addressing the mental health needs of caregivers and infants.

**Issues in the recruitment of public health nurses.** A significant challenge identified by frontline public health nurses and key informants was the current recruitment practice (moving from acute care to public health practice) in public health nursing. However, both groups of participants talked about this in different ways. Front line public health nurses noted how difficult it was to move from acute care to public health. Most nurses described it as one of the most challenging things they have ever done in their nursing careers. In comparison, key informants noted that since the hiring of public health nurses is reliant on seniority, they may not necessarily be hiring individuals best suited for public health. These reports indicate a need to begin hiring nurses much earlier in their careers and, more importantly, to use different criteria for the hiring of

public health nurses (i.e., not based solely on the number of years worked and clinical competencies).

Nursing literature has indicated a need to hire nurses based on other qualities, more than just based on clinical competency (Newton et al., 2015). Nurses' selection (and the selection of other allied health professionals) tends to ignore the assessment of personal attributes that may indicate someone's fit for a specific position (Highhouse, 2008; Newton et al., 2015). In the UK, the healthcare system has begun testing values and competency-based assets through interviews (McGuire et al., 2016). Within this interview, there are 16 competencies addressed, prompted to be responded with examples from the applicant's past. Some of the competencies are care and compassion, technical skills, communication, person and people development, health, safety, and security, service development, quality, and equality, and diversity (McGuire et al., 2016). McGuire et al. (2016) demonstrated that using values and competency-based interviews are "robust and more rigorous methods of selecting the best candidates" (p. 13).

Changing how nurses are hired in NL is beyond the scope of this thesis. The process of hiring nurses in NL involves long established union-employer debates, which would be complex to modify. Nonetheless, based on responses from key informants, it is worth noting their desires to see a change in how nurses are hired within the province.

**Barriers That Prevent Public Health Nurses from Accessing Education about IMH**

In NL, the barriers that may prevent frontline public health nurses from accessing education about IMH and its promotion were time limitations, resource limitations, and geographical limitations. Aside from these barriers to education, a more significant

systemic problem is around awareness and leadership about the relevance of IMH and its promotion, at higher levels of government decision making. The problem around leadership and awareness is more significant because it decreases the value stakeholders are likely to put on regulating the education of public health nurses about IMH and its promotion. For example, several authors have pointed to the lack of government policies that support infant and child mental health, which may have a downstream effect on how health professionals are educated (Eckersley, 2011; Waddell et al., 2005). A similar downstream effect might reasonably be expected in NL.

**Barriers to accessing education.** In general, all healthcare workers are busy and overwhelmed with responsibilities in their everyday practice. Participants expressed how the range and complexity of tasks generates a heavy workload. These tasks may likely increase. For example, public health nurses having to administer prenatal vaccines, after which pregnant women can opt to complete the Edinburgh Postpartum Depression Scale. Although a very important responsibility, without a proportional increase in the number of public health nurses, the current ones are becoming overwhelmed with workloads. Bryant et al. (2016), Barrows and Bennet (2000), McComish et al. (2015) reached a similar conclusion about individual and systemic barriers to accessing education, noting that the available time and resources impede access to education about IMH and its promotion.

Geographical barriers were a novel finding of this study, specifically related to NL geography. Public health nurses in many rural areas rely on transport, telecommunication, or online opportunities for education. One public health nurse who was located approximately 30 minute-drive outside of St. John's noted that if she wanted to attend an

in-person education session, she needed to account for travel time out of her already busy schedule.

Identifying the barriers that may prevent frontline public health nurses from accessing education and professional development about IMH and its promotion is essential. These findings indicate the need for better ways to translate education to frontline workers. First, public health nurses need to have specifically dedicated time in their weekly or monthly schedules for professional development. Second, there is a need for robust online education programs that can be accessed from anywhere in NL and completed at any time at the public health nurses' convenience.

There are issues, though, with relying on digital, social, and mobile technologies in health professional education. One study demonstrated that there are many benefits to online learning. However, limited evidence exists to show their effectiveness at "higher evaluative outcomes with HPE [health professional education]" (Curran et al., 2017, p. 202). Similarly, in this study conducted in NL about adult learners' perceptions of self-directed learning and digital technology usage described that this learning mode might be challenging (Curran et al., 2019). Specifically, participants reported that identifying important information in a timely matter was difficult in self-directed learning and digital technology usage (Curran et al., 2019). These reports highlight the need to utilize online education programs but also a need to acknowledge the inherent limitations of digital and self-directed learning.

**A need for more collaboration between key stakeholders around IMH and its promotion in NL.** In the context of NL, advocating for a multi-sectoral approach to early childhood development is beyond this study's scope. However, in addition to pointing out

the need to unify the mission of key stakeholders involved in the areas of IMH and its promotion and subsequent education, the results of this study will provide recommendations on this respect. Key stakeholders in NL are Regional health authorities (Eastern, Central, Western, and Labrador-Grenfell), Family Resource Centres, the Department of Children, Seniors, and Social Development, the Department of Education and Early Childhood Development, and Memorial University's Faculty of Nursing. Other possible stakeholders are the Newfoundland and Labrador Public Health Association, the College of Registered Nurses of NL, and the Registered Nurses' Union of Newfoundland and Labrador.

The interviews revealed several educational opportunities for public health nurses. However, there were varying responses to what programs the frontline public health nurses were aware of, which indicated there might be lack of consistent knowledge about what education is available. For example, the Infant Mental Health-15 Part Series from the Infant Mental Health Promotion Network at SickKids Hospital in Toronto is only offered to 20 public health nurses within the Eastern Health Region because of financial limitations. A participant noted that the program offered through SickKids Hospital is $750 per participant; however, this program is being offered for $50 a person through a partnership with SickKids Hospital, which is a significant saving and would allow all public health nurses to participate. Another educational opportunity was the Journey to Perinatal Well-Being from British Columbia, a maternal mental health program. One key informant noted that they were encouraging 20 nurses a month to complete the learning program and then participate in a half-day workshop to discuss and reflect on the concepts. Nevertheless, a public health nurse mentioned that she did not have time to

complete the learning program within her working hours, and it would have to be completed on her own time, which would also be challenging.

The Continuing Competence Program information states that nurses are solely responsible for completing competency requirements to renew their licenses each year, which is a minimum of 14 hours. It also specifically states that employers have no responsibility to facilitate opportunities for the Continuing Competence Program (CRNNL, 2014). Therefore, increasing the employer's responsibility to provide or encourage educational opportunities may improve knowledge about IMH and its promotion.

**A need for unified federal and provincial supports and policies.** Many participants discussed the fragmentation of public health in NL. Literature from across Canada also recommends a change to address the fragmentation in federal and provincial supports and policies in public health (Adamson, 2013; Canadian Council on Social Determinants of Health, 2015; Denny & Brownell, 2010; Guyon et al., 2017; Kutcher et al., 2010; Marcellus & Shahram, 2017; St-André et al., 2010; Waddell et al., 2005). The eco-biodevelopmental framework recommends these policy and program levers for innovation to effectively promote lifelong health through a multi-sectorial approach. This demands some kind of coordination between public health, childcare and early education, child welfare, early intervention, family economic stability, community development, primary healthcare, and private sector actions. By the same token, the Center on the Developing Child at Harvard University (2010) and the Canadian Council on the Social Determinants of Health (2015) stress the importance of a collaborative approach to improving early childhood development.

These findings highlighted the established need to develop healthy public policies related to infant and child mental health (Garner, 2013; Kutcher et al., 2010; Richter et al., 2017; St-André et al., 2010). Healthy public policy is an explicit concern for health and equity in all areas of policy design and must include accountability for the health impact of government decisions in the different sectors (WHO, 1986). The healthy public policy approach uses an ecological approach to health (Milio, 1987; WHO, 1986). The ecological approach means that healthy public policy will help create supportive physical and social environments for people to thrive. Friel (2014) explains that the lack of equity in power and resources that many Canadian families face and that children are born into is unacceptable. These issues need to be addressed in public health policy and reflected in healthy public policy about labour, education, and social welfare.

Healthy public policy aids in addressing the social determinants of health. Literature suggests that it is essential to address the social factors shaping health and health behaviours to improve overall population health (Canadian Council on Social Determinants of Health & Social Determinants of Health Framework Task Group, 2015; Maggi et al., 2010; WHO, 1986). When addressing social factors, there must be an emphasis on mental health—not just the physical health of infants (Denny & Brownell, 2010; Maggi et al., 2010). Again, an evidence-based approach to promoting mental wellness is made by supporting IMH and its promotion (UNICEF et al., 2018; WHO, 1986).

Aside from nurturing the caregiver(s)-infant relationship, a nurturing socio-economic and cultural environment is also necessary (Britto et al., 2017). Participants noted that psychosocial and material limitations are barriers beyond the caregiver's

control and might prevent a nurturing environment among some of the most affected NL families. Many participants noted the critical role of social determinants of health (e.g., income, housing, social support networks, employment, race) in the decision-making process when assessing infants and caregivers and how best to support them. Consequently, there needs to be sufficient community and government supports that focus not only on individual-level behaviours to improve IMH, but there must also be strategies to improve IMH that account for social determinants of health.

According to the conceptual framework for action on the social determinants of health, there are two main types of social determinants: the structural (i.e., socio-economic and political context) and the intermediary determinants (i.e., material circumstances, behavioural factors, and psychosocial factors) of health (Solar & Irwin, 2010). Addressing the structural determinants of health is beyond this study; however, themes arose from the data related to early childhood experiences as a relevant intermediary determinant of the health of caregivers and infants.

One avenue where public health nurses can address social determinants of health is through facilitating the creation of safe and nurturing environments. The creation of safe and nurturing environments can help mitigate toxic stress at home (Britto & Engle, 2013; Garner, 2013; Shonkoff, 2011; Shonkoff & Phillips, 2000). A study of *Healthy Steps*, a home-based early intervention program in the US, focussed on promoting the caregiver-infant relationship, demonstrated that it could moderate the intergenerational effects of trauma (i.e., if the parent experienced trauma) (Briggs et al., 2014). However, information about this kind of intervention is still very limited in the NL context.

## Chapter Summary

The findings revealed heavy caseloads with numerous roles and responsibilities that may hinder completing educational opportunities for public health nurses. The findings clarified programs and support provided by public health nurses in NL in the areas of maternal-infant health, identified the organization of public health nursing and job expectations, explored public health nurses' level of preparation and their attitudes towards promoting IMH, and revealed existing barriers that prevent public health nurses from accessing professional development about IMH and its promotion. The results of this research study highlighted clear avenues to better promote IMH in NL. The next chapter will discuss specific recommendations to achieve this goal.

## Chapter 7: Final Considerations

> "There is nothing more important in this world than children and their future. There's no better investment we can make than giving babies and children the very best start in life" (Loughton, 2020).

Giving infants the best start in life relies on positive experiences and healthy environments to form the critical neural connections that are the foundation for all future brain development; they also promote healthy physical development (Berger, 2011; Boivin et al., 2012; Center on the Developing Child at Harvard University, 2010). Healthy environments and positive experiences are crucial to buffer the effects that stress causes on infants' growing bodies and brains (Boivin et al., 2012; Shonkoff & Phillips, 2000).

This project examined how to better promote IMH through the work public health nurses are already doing. For public health nurses to effectively promote IMH, they require more education about IMH and its promotion. It will, however, take time, resources, and a combined effort on the part of many stakeholders to scale-up existing education and programs to meet NL's needs. This case study sought to explore ways to better promote infant mental health in NL by identifying approaches to enhance the professional development and practice of public health nurses in the province. These approaches are grounded in the experiences of key informants and front-line public health nurses framed through the lens of the eco-biodevelopmental model.

Promoting IMH encourages a positive developmental trajectory for lifelong physical and mental wellness due to the interactive process of epigenetics and biological embedding (Boivin et al., 2012; Shonkoff, 2011; Shonkoff et al., 2009, 2012; Shonkoff & Phillips, 2000). In other words, epigenetics and biological embedding are the mechanisms

to explain how the environment that we grow up in can “get under the skin” (Boivin et al., 2012). Despite research demonstrating the significance of IMH and its promotion, there has been limited integration of this knowledge into institutional and community practice (Kutcher et al., 2010; Traverso-Yepez, 2017; Traverso-Yepez et al., 2017). The education of public health nurses in NL reflects this issue.

**Significance of Key Findings**

This study identified the number of programs and supports that are provided by public health nurses in NL. The programs identified were noted on the Government of NL website; however, information was not explicit about what role public health nurses had in facilitating the maternal-infant health programs. The interviews with key informants and frontline workers were critical to establishing their role in maternal-infant health. Identifying the programs and supports is essential to locate and clarify the role of public health nurses play in maternal-infant health.

Public health nurses are expected to provide maternal-infant healthcare in addition to a broad scope of practice beyond maternal-infant health. As their maternal-infant health responsibilities have evolved, findings suggest that public health nurses in NL have increased their work caseloads and may be overwhelmed, especially when providing services for families with complex needs. This has two significant consequences for public health nursing professional practice. First, public health nurses have less time to devote to maternal and infant healthcare. Second, their significant workload impedes their ability to complete professional development about IMH and its promotion.

This study revealed the wide variation of public health nurses' education in NL as it relates to mental health. Public health nursing seems to be one of the specialities where nurses have not been given enough or appropriate education. Frontline public health nurses indicated a low level of preparation to fulfill their role in IMH and promotion in NL. Another related theme that arose from the findings was the challenge of moving from acute care practice to public health practice after 10 to 20 years in an acute care setting. This is the case of most current public health nurses in the system. Because seniority and experience tend to be the prerequisite for this highly sought-after position, new hires tend to be ill-prepared for the role. Essentially, these nurses were experts in their acute care job and now have to be educated in a completely different specialty and community context. The main implication is that public health nurses in NL do not feel confident in dealing with mental health issues in the early years of their public health practice.

This case study also identified the three barriers, which prevent public health nurses from accessing professional development opportunities about IMH and its promotion. Time and resource barriers were consistent with the literature. These barriers are complicated by NL's geography (until now, a relatively underexplored limitation) and its implications for the formal and experiential education of these health professionals. At the policy level, a lack of concern about the relevance of IMH and its promotion may have a downstream negative effect on how stakeholders choose to educate nurses within NL. The identification of barriers is key to begin addressing these issues to better promote IMH in NL.

## How this Research Contributes to Existing Knowledge

Previous literature pointed to the vital role of public health nurses in infants' social and emotional health. However, existing literature was limited to other provinces and countries. This study explored the situation in NL surrounding the role of public health nurses in promoting IMH, thus providing evidence for sound recommendations specific to the NL context. The study shows that public health nurses play a significant role in maternal-infant health in NL and that, if providing necessary material as well as educational resources and guidance protocols, they are well-positioned to make important inroads in IMH promotion.

Existing literature in other provinces and countries point to deficiencies in public health nurses' knowledge about IMH and its promotion. This research has filled an essential gap in identifying public health nurses' level of preparation for public health practice in NL. Further, it identified that time, resources, and geographical barriers that public health nurses in the province, specifically, face to acquiring more education about IMH and its promotion. An important aim of this study was identifying recommendations based on ideas and feedback from participants. I will present the recommendations in the following section.

## Specific Recommendations to Support IMH Promotion in NL

The lived experiences and perspectives of key informants and frontline public health nurses formed the basis for the following recommendations to support IMH and its promotion in NL.

**More educational opportunities about IMH and its promotion.** The eco-biodevelopmental framework stresses the importance of professional development for maternal-IMH promotion (Center on the Developing Child at Harvard University, 2010).

a. The relevance of infants' socio-emotional health and its connection to maternal mental health and the family environment, as well as the importance of upstream policies and government supports must be explored during undergraduate nursing education.
b. Time must be allocated for newly hired public health nurses to complete all available education and professional development. All public health nurses need to be allotted at least the 14 hours of professional development required by the Continuing Competence Program.
c. Senior managers of frontline public health nurses must create a document outlining the educational opportunities to learn more about IMH and its promotion.
d. Public health needs to focus on effective mentoring for new incoming public health nursing hires to complement limited formal education and professional development opportunities.

**Establish better links between research, policy, and practice.** As research about IMH promotion evolves, there needs to be effective communication between those doing the research, those creating policies and protocols, and frontline workers.

e. The results of this study will be delivered to senior managers in public health, frontline public health nurses, and Family Resource Centres through an infographic with a summary of the research findings (Appendix E).

f. Senior managers in public health positions must identify academic and community experts who can provide guidance on best IMH promotion practices.
g. Regional health authorities must create a document/manual that public health nurses can use to support and promote IMH within their professional practice.
h. Regional health authorities must encourage more family physicians to connect expectant mothers with public health nursing to administer the tetanus, diphtheria, and pertussis vaccine.
i. The Government of NL must create a document or add a section to their website that clarifies the organizational structure of public health within the province.
j. The Government of NL must clarify the roles and expectations of public health nurses to accurately reflect their daily activities.
k. The Government of NL and Regional Health Authorities need to have conversations around the importance of home visiting in relation to IMH and its promotion.
l. The Government of NL and the Union of Registered Nurses on NL must have discussions on changing the process of hiring new public health nurses that reflects the changing needs of public health.

**Increase community participation and development in infant mental health promotion.** Supporting the next generation's mental health requires investment beginning at birth and even before conception. The eco-biodevelopmental framework (Center on the Developing Child at Harvard University, 2010) and the Canadian Council of the Social

Determinants of Health (2015) emphasize the importance of a multi-sectoral approach to infant and child health. Addressing the key issues identified with a multi-level, multi-sectorial approach would help to improve the social, political, and built environments where children grow up in and to address "major threats to the health of children [that] cannot be addressed in a hospital [setting]" (Center on the Developing Child at Harvard University, 2010, p. 13). Consequently, policy decision makers should encourage and foster relationships between health and social service providers to accomplish this broader scope of practice. These individuals would include social workers, family physicians, pediatric nurses, neonatal nurses, and poverty advocates, However, to properly support early mental health is relevant to increase awareness and community participation to engage the public and its advocacy potential to support maternal-infant mental health.

m. Government of NL and regional health authorities work together to launch a social media campaign to educate the general public on the relevance of IMH and its promotion.

n. Educating other health professionals, allied health professionals, and social service providers, so they know when to make referrals to the appropriate supports and services to promote IMH.

**Study Limitations**

A qualitative case study is context-specific. It intends to identify problems and recommendations that address a local issue at a clearly bounded moment in time and space. The goal was not to generate generalizable findings, but the lack of generalizability

is a common critique of case studies. The detail description of this single case about the NL context may make the findings transferable to other rural and remote and northern locales where public health nurses provide care to a. population dispersed over a large geography.

Daly et al. (2007) addresses some of the issues about sample size, diversity, and drawing research conclusions between groups and how to remedy or mitigate them. In qualitative studies, the researcher focusses on the group "that is likely to provide the strongest, most relevant information about the research problem" (Daly et al., 2007, p. 45) rather than the total number of participants. In this case, it meant interviewing key informants and frontline public health nurses alongside key documents until data saturation was reached. Although one of the key informants, as informed before, conducted focus groups province-wide with public health nurses, the research was limited mostly to the Eastern Regional Health Authority. One frontline public health nurse was from Labrador-Grenfell Regional Health Authority. However, I could not fully explore how urban and rural public health nurses are different or similar in their accounts. Rural communities may have different experiences and perspectives about IMH and its promotion than those closer to urban areas. Moreover, to increase the diversity of the sample, participants were added during the collection phase to ensure different experiences and perspectives were included (Daly et al., 2007). Daly et al. (2007) noted that to draw research conclusions, the research must be explicit about the similar groups and how they differ.

## Future Research Directions

Future research is recommended to explore the five following areas to promote IMH in NL better. First, there needs to be an exploration of the role that other health and allied health professionals could play in promoting maternal-infant mental health (e.g., family physicians, counsellors, social workers, early childhood educators, Family Resource Centre staff). A multi-sectoral approach to healthcare is imperative, which needs joint efforts from all individuals in a client's circle of care. Second, there needs to be an investigation into the best strategies for public health nurses to promote IMH within their scope of practice in NL.

Third, there is a need for future research about how rural areas can be best supported to promote IMH. Rural areas have unique challenges; NL is large and has a significant number of rural and remote areas. Fourth, there needs to be future research with families to gain their perspectives on the strengths and weaknesses of NL's approach to the IMH promotion and how they feel it could be improved. An investigation with parents would also clarify their wants and needs to support IMH in NL.

Fifth, IMH and its promotion is a new field; the scarcity of published literature reflects this. The literature about mental health—in general— also tends to focus on managing and treating mental illness rather than preventing and promoting mental wellness (Eckersley, 2011). Although research about mental health is rapidly changing, the literature about IMH and its promotion is still limited compared to mental health across the lifespan and in other disciplines. The studies are even more limited in the Canadian context. The study of IMH promotion, education, and the role of public health nurses is non-existent, and requires further inquiry.

**Pulling it All Together**

'It takes a village to raise a child' and the village requires the concerted effort of health professionals, allied health professionals, social service providers, and the lay public to effectively promote IMH (Center on the Developing Child at Harvard University, 2010). In other words, this expectation cannot be limited to public health nurses. However, through increased education and knowledge about IMH and its promotion, public health nurses may be better prepared and have the necessary skills and knowledge to promote IMH. As a result of increased education, public health nurses will also feel more confident in promoting mental health in their practice. Moreover, public health nurses will have more skills and tools to identify socio-emotional health issues earlier when interventions are more effective. Increasing education about IMH and its promotion to public health nurses and providing the necessary resources for them to fulfill their role is a key avenue to improving mental health and ensuring lifelong mental wellness for children.

However, to have the knowledge and skills public health nurses must rely on available time, resources, and access to educational opportunities about IMH and its promotion. Public health nurses are doing an extremely important work with families that has not always been fully recognized within NL. The recommendations from this case study include providing more knowledge about this relevant field of public nursing practice, establishing links between research, policy, and practice related to this specific field of IMH. It also included the need to increase community awareness, participation and development of initiatives about infant mental health promotion. The limitations of

the study were identified; however, future research will be imperative to improving IMH in NL.

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## Appendix A: Interview Guide for Key Informants

**Introduction.** ***This study, as you read in the Informed Consent Form, is about infant mental health. What we mean by "infant mental health" is healthy social and emotional development from birth to when the child is five. As infant mental health development does not happen in isolation, but in the close interaction with mother/caregiver(s), I will use the term maternal-infant mental health when necessary. The general aim of this interview is to help us understand how knowledge about infant mental health can be translated and effectively integrated into the training of public health nurses in Newfoundland and Labrador. We believe that the experience you have in the training and supervision of public/community health nurses or from working in home visitation programs or in the academic environment will be helpful to clarify some of the research questions. There is no right or wrong answer, we are trying to understand what exists, what is missing and what could be done better. Lastly, you are not expected to respond to every question.***

**If you are ready, I will begin by asking you some information about your professional work.** [Ask participant to complete socio-demographic information or ask them questions below.]

**Participants' socio-demographic information:**
Professional degree: _____

Area (s) of professional work you have been engaged working with mothers/babies (may be more than one):

Academic_____ Public health ____ Clinic health _____ Family resource centers _____

Community Agency _____ Other: _____

Approximate total number of years working in this area _____

Main institutional working experience (may be more than one):

Government ____ Not for profit _____ College/University _____

Mentorship ____ Other: _____

Please indicate below if you are interested in receiving a summary of the research findings.

Yes____ No ____

Thank you for your interest and participation!

***Supports, programs, and policies about maternal-infant mental health and its promotion in NL:***

1. What types of existing programs and/or services in NL that you know of are likely to include nurses' knowledge or skills about maternal-infant mental health and its promotion?
2. From your experience, could you identify any specific policy or protocol addressed to caregivers and infants to promote maternal-infant mental health? If no, what do, or would you recommend?
3. In your opinion, is there sufficient support at multiple levels in Newfoundland and Labrador for infant mental health and its promotion (i.e., federal, provincial, municipal, institutional)? Can you explain why you feel this way? Can you share an example?

***Type of education/professional development that you've received about infant mental health and its promotion:***

4. What kind of training on maternal-infant mental health will public health/community health nurses get from nursing education and other professional development training?
5. In your experience, what specific knowledge and skills are valuable when working with caregivers and infants as a public health/community health nurse? (focus on mental health, socio-emotional development)
6. Can you tell me about the types of opportunities that public health nurses are given to further their knowledge on infant mental health and its promotion?

***Specific areas of professional development related to infant mental health and its promotion:***

7. From your experience, what kinds of challenges are nurses likely to face when working with caregivers and infants?

8. Can you tell me about a critical incident related to maternal-infant mental health that made you see a skill or education gap in public health practice where a nurse was involved?
9. From your experience, what kind of recommendations would you provide to a novice nurse to better work with mothers/caregivers with complex needs or a complex mother-infant relationship? (Additional prompt: Would you recommend specific communicational-relational skills?)
10. By the same token, what kind of social influences would you recommend the novice nurse to be mindful of, when dealing with mothers/caregivers and infants? (Additional prompt: How do you think that the complexity of these issues should be delved with in everyday practice? (i.e., looking to engage other social services…?))

***Additional comments or questions***

11. Any additional comment or recommendation regarding the promotion of maternal-infant mental health?

## Appendix B: Interview Guide for Public Health Nurses

**Introduction.** ***This study, as you read in the Informed Consent Form, is about infant mental health. What we mean by "infant mental health" is healthy social and emotional development from birth to when the child is five. As infant mental health development does not happen in isolation, but in the close interaction with mother/caregiver(s), I will use the term maternal-infant mental health when necessary. The general aim of this interview is to help us understand how knowledge about infant mental health can be translated and effectively integrated into the training of public health nurses in Newfoundland and Labrador. We believe that the experience you have as a community/public health nurse will be helpful to clarify some of the research questions. There is no right or wrong answer, we are trying to understand what exists, what is missing and what could be done better. Lastly, you are not expected to respond to every question.***

**If you are ready, I will begin by asking you some information about your professional work.** [Ask participant to complete socio-demographic information or ask them questions below.]

**Participants' socio-demographic information:**
Professional degree: _____

Job Class Profile: Public Health Registered Nurse I ____ or II ____ or CHRN I ____ or II _____

Area (s) of professional work you have been engaged working with mothers/babies (may be more than one):

Academic_____ Public health ____ Clinic health _____ Family resource centers _____

Community Agency _____ Other: _____

Approximate total number of years working in this area _____

Please indicate below if you are interested in receiving a summary of the research findings.

Yes____ No ____

Thank you for your interest and participation!

***Type of education/professional development that you've received about infant mental health and its promotion:***

1. What kind of training on maternal-infant mental health do you recall receiving during nursing education? Any other professional-development opportunity to enhance your knowledge on this field that you can think of?
2. Can you tell me about any barriers that you feel impede your ability to receive education about IMH?
3. When you started as a public health nurse, how prepared did you feel to deal with the complex needs of caregivers and infants?

***Working with caregivers and infants…***

4. From your experience, could you identify any specific policy or protocol addressed to promote maternal-infant mental health in NL? If no, what do, or would you recommend?
5. What types of existing programs and/or services that you know of, are likely to demand knowledge or skills about maternal-infant mental health and its promotion?
6. In your experience and thinking in terms of maternal mental health and the child's socio-emotional development, what specific knowledge and skills are valuable when working with caregivers and infants as a public health/community health nurse?
7. By the same token, what kind of social influences are you mindful of when dealing with mothers/caregivers and infants? How do you think that the complexity of these issues should be delved with in everyday practice?
8. From your experience, what kinds of challenges are you likely to face when working with caregivers and infants?
9. Based on your current experience, what did you wish you knew when you first started as a public health nurse working with mothers with complex needs and/or a complex mother-infant relationship?
10. Can you tell me about a critical incident related to maternal-infant mental health that made you see a skill or education gap as a public health nurse?

***Supports, programs, and policies about maternal-infant mental health and its promotion in NL:***

11. In your opinion, is there sufficient support at multiple levels in Newfoundland and Labrador for infant mental health and its promotion (i.e., federal, provincial, municipal, institutional)? Can you explain why you feel this way? Can you share an example?
12. Can you provide me with some recommendations or changes about how new research about IMH and its promotion could be integrated into the education of PHNs?

***Additional comments or questions***

13. Any additional comment or recommendation regarding the promotion of maternal-infant mental health?

## Appendix C: HREB Ethics Approval Letter

NEWFOUNDLAND AND LABRADOR
HREB
HEALTH RESEARCH ETHICS BOARD

**Research Ethics Office**
**Suite 200, Eastern Trust Building**
**95 Bonaventure Avenue**
**St. John's, NL**
**A1B 2X5**

June 19, 2019

Faculty of Medicine,
Memorial Univerisity,
300 Prince Philip Dr, St. John's, NL
A1B 3V6

Dear Ms Norton:

Researcher Portal File # 20200433
Reference # 2019.129

RE: Infant Mental Health and its Promotion: Framing the Contributions and Training Needs of Public Health Nurses in NL

Your application was reviewed by a subcommittee under the direction of the HREB and the following decision was rendered:

| | |
|---|---|
| X | Approval |
| | Approval subject to changes |
| | Rejection |

Ethics approval is granted for one year effective June 19, 2019. This ethics approval will be reported to the board at the next scheduled HREB meeting.

This is to confirm that the HREB reviewed and approved or acknowledged the following documents (as indicated):

- Application, approved
- Research proposal, approved
- Informed consent letter for key informants and public health nurses, approved
- Interview script, approved
- Budget, approved
- Sample information flyer for public health nurses, approved
- Sample information flyer for key informants, approved

Please note the following:

- This ethics approval will lapse on June 19, 2020. It is your responsibility to ensure that the Ethics Renewal form is submitted prior to the renewal date.
- This is your ethics approval only. Organizational approval may also be required. It is your responsibility to seek the necessary organizational approvals.
- Modifications of the study are not permitted without prior approval from the HREB. Request for modification to the study must be outlined on the relevant Event Form available on the Researcher Portal website.
- Though this research has received HREB approval, you are responsible for the ethical conduct of this research.
- If you have any questions please contact info@hrea.ca or 709 777 6974.

The HREB operates according to the Tri-Council Policy Statement: Ethical Conduct for Research Involving Humans (TCPS2), ICH Guidance E6: Good Clinical Practice Guidelines (GCP), the Health Research Ethics Authority Act (HREA Act) and applicable laws and regulations.

We wish you every success with your study.

Sincerely,

[redacted]

## Appendix D: RPAC Approval Letter

*Department of Research*
*5th Floor Janeway Hostel*
*Health Sciences Centre*
*300 Prince Philip Drive*
*St. John's, NL A1B 3V6*
*Tel: (709) 752-4636*
*Fax: (709) 752-3591*

Eastern Health

August 14, 2019

Ms. Emily Norton
300 Prince Philip Drive
St. John's, NL
A1B 3V6

Dear Ms. Norton,

Your research proposal *HREB Reference #: 2019.129 "Infant Mental Health and its Promotion: Framing the Contributions and Training Needs of Public Health Nurses in NL"* was reviewed by the Research Proposals Approval Committee (RPAC) of Eastern Health at a meeting dated August 13, 2019 and we are pleased to inform you that the proposal has been granted full approval.

The approval of this project is subject to the following conditions:

- The project is conducted as outlined in the HREB approved protocol;
- Adequate funding is secured to support the project;
- In the case of Health Records, efforts will be made to accommodate requests based upon available resources. If you require access to records that cannot be accommodated, then additional fees may be levied to cover the cost;
- A progress report being provided upon request.

If you have any questions or comments, please contact Krista Rideout, Manager of the Patient Research Centre at 777-7283 or by email at krista.rideout@easternhealth.ca.

Sincerely,

[redacted]

**Appendix E: Infographic of Research Findings**

# WHAT WERE THE KEY FINDINGS?

Based on interviews with public health nurses and key informants

- PHNs' busy schedules with a wide range of expectations **limits time available to focus on maternal-child services.**
- Most PHNs reported **feeling underprepared** to deal effectively with maternal-IMH when they first started in public health.
- PHNs described **varying levels of education** about IMH and its promotion, and most noted that they rely on experience to supplement their education.
- Barriers to completing education about IMH promotion was **time, resources, and geographical limitations.**

# WHAT ARE THE KEY PRIORITIES MOVING FORWARD?

More education about IMH and its promotion. This includes **increasing undergraduate education, increasing access to professional development opportunities, and creating robust mentorship programs.**

Establish links between research, policy, and practice. There needs to be **better communication between those doing research, those making policies, and those working with families.**

Increase community participation and development for IMH promotion. This includes **a social media campaign about IMH promotion and increased collaboration with other health and social services workers in NL.**

Lifelong mental wellness begins at birth. By enhancing the education and practice of PHNs with the province, we can provide our youngest citizens with the best start in life.

For more information, please contact Emily Norton (ecnorton@mun.ca) or Dr. Martha Traverso-Yepez (mtraverso@mun.ca)