FACILITATORS AND BARRIERS TO MEDICAL EVALUATION OF CHILD MALTREATMENT IN NORTHERN BRITISH COLUMBIA

by

Stephanie Lynn Rex

B.A., Memorial University of Newfoundland, 1993
B.S.W., University of Northern British Columbia, 1998

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Abstract

The goal of this qualitative study was to gather insights into how the primary care system could maximize opportunities to identify and address child maltreatment when children present for both routine and acute medical care. Through personal semi-structured interviews with twelve northern physicians/nurse practitioners I learned about systemic barriers they faced which prevents health care providers from accessing critical health and social history, sharing diagnostic information with investigators in an understandable way, and developing competence in conducting these assessments. Participants provided practical suggestions for addressing these concerns and highlighted facilitators that assisted them in completing these assessments. As the national approach to primary care transitions to a new model of interprofessional primary care teams, it presents numerous opportunities to improve systemic procedures for information exchange and interprofessional collaboration.

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Dedication

This thesis is dedicated to the children and youth I have had the privilege of working with throughout my career as a social worker. Some have not survived their experiences of chronic child maltreatment, others are surviving and struggling to cope with the devastating effects, but some of them are somehow thriving in spite of these experiences. Each of them has left a mark on my heart; such is the nature of social work.

Chapter One: Introduction

In July 1992, 5-year-old Matthew Vaudreuil died following a lifetime of abuse and neglect at the hands of his mother. Matthew's death resulted in a judicial inquiry, which led to massive legislative changes and restructuring of child protection services in this province. Unfortunately, in the 22 years since Matthew's death, at least six other children in northern British Columbia (BC) have died as a result of child maltreatment and many others continue to experience maltreatment (British Columbia Representative for Children and Youth, 2009). The inquests, reviews, and inquiries stemming from these deaths resulted in continued reorganization of child protective services (CPS) and suggested changes in the approach to health care provision for vulnerable children. The Representative for Children and Youth (RCYBC) details these recommendations in her 2009 report (p. 139-142).

When a child is harmed due to abuse or neglect, the Crown has a legislative obligation to respond to ensure the child is protected. These duties fall under the mandate of police, child welfare social workers, and physicians/nurse practitioners. An effective response relies on interactions between these three provincially funded systems to identify children who have been maltreated, investigate the concern, gather evidence, and ensure the child's health and safety needs are met. Despite recommendations from the 2009 RCYBC report, it appears that little progress has been made in addressing systemic problems in the health care system or in improving collaboration between these systems. Research has demonstrated that physicians feel ill prepared to evaluate maltreated children and that there are deficits in their educational preparation for this work (Heisler, Starling, Edwards, & Paulson, 2006; Herendeen, Blevins, Anson, & Smith, 2014; Lane & Dubowitz, 2009). Other

studies have shown that despite mandatory reporting laws, many medical providers remain hesitant to involve child protection workers when child abuse or neglect is suspected (Flaherty, Jones, & Sege, 2004; Sege et al. 2011). There continue to be systemic barriers to sharing of critical health information (Health Council of Canada, 2012). While child protection services in BC have been extensively explored through various inquiries and investigations, in my observation, the same is not true of the medical aspects of child protection.

In this study, I used a qualitative approach to interview twelve physicians/nurse practitioners about their experiences providing medical evaluation of children who had been maltreated. This chapter provides a background to the study, and describes the purpose, research questions, and potential benefits. The conceptual lens and personal standpoint of the researcher, and definition of terms, are subsequently described.

Background

This thesis explored systemic problems relating to primary health care for vulnerable children. In Matthew Vaudreuil's case, these included: failure to recognize and report suspicious injuries and concerning health conditions, lack of communication amongst health care providers and between health care providers and child protection workers, and lack of continuity of medical care (Gove, 1995). During the inquest into Matthew's death, Judge Gove (1995) made the following observations relating to his encounters with the primary health care system:

> Matthew ... had been taken to the doctor 75 times and had been seen by 24 different physicians (Matthew in Vancouver, para 5). Although he was nearly six years old at the time of his death, Matthew weighed only 36 pounds. Bruises covered his face, arms, legs, and back. There were what appeared to

> be rope burns on his shoulders and wrists, as if he had been bound. His buttocks were covered in bruises and welts. He had a fractured arm, 11 fractured ribs and what looked like the imprint of a foot on his back. Matthew had been tortured and deprived of food before he was killed (How Matthew died, para 2)...Medical examinations of Matthew were seen as isolated interventions; physicians did not pay sufficient attention to Matthew's medical and social history. Some physicians who had a basis for concern about Matthew's safety and well-being did not make a report to the ministry, as they should have (Conclusions from Matthew's story, para 11).

Purpose of the study

I recognized the wisdom behind Judge Gove's observations of the health care system, but wondered what changes have since been implemented to remedy these problems. The goal of this study was to explore how physicians/nurse practitioners in northern British Columbia evaluate child maltreatment encountered in primary care settings. Physicians/nurse practitioners in primary care settings may be the first point of contact after a child is maltreated and are in a key position to initiate a positive change in the child's situation. High profile reviews of child deaths and critical injuries in northern British Columbia revealed inadequacies in the medical response to suspected child maltreatment. In my experience as a social worker, I noticed many missed opportunities to identify and address child maltreatment when children present for both routine and acute medical care. These experiences led me to wonder how the system could be more responsive to the safety and health needs of maltreated children.

Research Questions

I explored factors that facilitated medical evaluation of child maltreatment as well as barriers by asking three research questions: 1.) How do northern physicians/nurse practitioners view their role in child maltreatment evaluation? 2.)

How do northern physicians/nurse practitioners determine what interventions are required? 3.) What resources do northern physicians/nurse practitioners access when responding to this issue?

Potential Benefits of this Study

An understanding of the lived experiences of northern physicians/nurse practitioners doing this work can guide the development of protocols relevant to northern and rural practice. Social workers and medical professionals have complementary roles in child protection. Consequently, I thought it was important to explore facilitators and barriers from the medical perspective to highlight opportunities for improved collaboration between these disciplines for overall systems improvement.

Conceptual Framework

This research was guided by ecological theory and my commitment to social justice and advocacy. Facilitating change for the benefit of clients and society is a key practice principle of social work and is the foundation of this research (British Columbia College of Social Workers, 2009). I have worked with maltreated children for the past fifteen years and have witnessed the systemic barriers children and their families face as they interact with the systems designed to help them. While I recognize there are many barriers, I see that there are also opportunities for these systems to adapt, incorporate new practices, and evolve. Ecological theory assumes that intervention introduced at any point in the system would create an impact on each part of the system leading to change as the individuals adapt to achieve system stability (Germain & Gitterman, 1996).

One of the dominant social work models is the ecological or "person-in-environment" model (Delaney, 1995). The effect of the geographical context on professional practice is not a new concept, however there is an emerging understanding of the distinct practice challenges presented in northern, remote areas (Zapf, 2002). The ecological model involves an assessment of a person in the context of their environment and considers interactions between the person and the systems that involve them (Clancy, 1995). These systems include: microsystems, mesosystems, exosystems, and macrosystems.

Microsystems involve interactions between an individual and the systems that directly involve that person (Clancy, 1995). In this research, I considered the physician/nurse practitioner as the individuals under study rather than the maltreated child. At the microsystem level, I looked at interactions between children and physicians/nurse practitioners responsible for assessing suspicious injuries or providing ongoing health care services. The mesosystem is the interaction of the systems that are involved with the person (Clancy, 1995). At the mesosystem level, I explored the interactions between physicians/nurse practitioners and the resources they accessed to assist them in responding to child maltreatment concerns. The exosystem is described as the interaction between the systems that provide services to a person but do not directly involve that person (Clancy, 1995). At the exosystem level, I explored the training and education of physicians/nurse practitioners, and the exchange of information amongst health care providers and those responsible for ensuring a child's safety. The macrosystem involves the interaction between larger social, political, cultural, and economic forces (Clancy, 1995). The macrosystem consists of socio-political and economic conditions that increase a child's

vulnerability for maltreatment these include poverty, racism, social inequality, unequal distribution of resources, and colonization. It also includes the area of social and organizational policy. Consideration of the macrosystem is demonstrated in the literature review through reference to social determinants of health, barriers to health care access, and distribution of health care resources in northern BC and in the recommendations for organizational and policy changes.

Personal Standpoint

My interest in this topic emerged over the course of my social work career as I observed interactions between vulnerable children and health care providers. In my first job, as a guardianship social worker, I had all the legal duties and responsibilities of a parent for children and youth in care who had been permanently removed from their parents' care due to abuse and neglect. I held that position for eight years. As part of that role, I often attended health care appointments with foster children. Also, I attended "intake medicals," which are medical examinations required whenever a child comes into foster care or changes foster homes. It is preferred that these medicals are done by the child's family physician, but for convenience, physician availability, and to meet Ministry of Children and Family Development (MCFD) timelines, these are frequently done at walk-in clinics or by the foster parent's family doctor, who typically had never met the child. I noticed that, during all routine medical appointments, a foster parent or caregiver's description of a child's history and presenting symptoms, which is largely based on that person's perception, influenced the diagnosis and treatment plan. Frequently, the foster parent provided the history even when they had just met the child. I found myself

questioning the process of how children in unstable circumstances are diagnosed with medical conditions and the accuracy of the information doctors use to determine treatment plans.

These questions continued to plague me when I switched jobs and began working at the Northern Health Suspected Child Abuse and Neglect (SCAN) team. I held that position for four years. My role was to conduct comprehensive psychosocial assessments of children undergoing forensic medical evaluation of maltreatment. I had the opportunity to review a child's complete records including medical records, child welfare files, and RCMP transcripts of interviews. I also obtained collateral information from a variety of sources including family, foster parents, schools, and the child. Upon reviewing this information, I was often struck by the sheer number of missed opportunities to recognize child abuse, particularly in medical settings.

My next job was the Chief Social Worker at University Hospital of Northern British Columbia (UHNBC) where I was responsible for the social work department, including paediatric and emergency unit social workers. As a supervisor, I was involved in serious cases of suspected child maltreatment and observed interactions between various professionals as they responded to these cases in the hospital setting. This included medical staff such as nurses, paediatricians, child life specialist, emergency room physicians, and social workers as well as Royal Canadian Mounted Police (RCMP), and MCFD social workers as they interacted with hospital staff during the early stages of investigation. In the hospital setting, I also noticed gaps in the system that allow vulnerable children to be overlooked. These experiences have shown me that there continue to be missed opportunities to

identify and address child maltreatment when children present for both routine and acute medical care.

As a social worker in Prince George, I have been responsible for coordinating patients' access to various services across the Northern Health (NH) region of BC. I noticed differences in the clinical resources available to children in the NH region versus the more populated areas such as Vancouver, Kamloops, and Vancouver Island which also have SCAN Clinics. I wondered how child maltreatment evaluation, which is often time-sensitive and resource intensive, could be done effectively in the NH region with less access to primary care physicians and specialists such as paediatricians and psychologists.

Definition of Terms

The term *child maltreatment* is an umbrella term used to refer to all forms of child abuse and neglect. In this thesis, *child maltreatment* refers to "...any acts or series of acts of commission or omission by a parent or other caregiver that result in harm, potential for harm, or threat of harm to a child...harm may or may not be the intended consequence" (Leeb, Paulozzzi, Melanson, Simon, & Arias, 2008, p. 11). This includes forms of maltreatment that are widely recognized: physical abuse, sexual abuse, neglect, emotional abuse, and witnessing intimate-partner violence.

Child Protection Services (CPS). In Canada, the responsibility for child protection falls under the jurisdiction of the provinces and territories. In British Columbia, this is the mandate of the Ministry of Children and Family Development (MCFD). The legislated duties and responsibilities are delegated to social workers employed by MCFD.

Personal Information Protection Act (PIPA) is the privacy legislation governing the collection, use, and disclosure of personal information in private physicians' offices. Under PIPA, an individual must consent to disclosure of their personal information unless specific criteria are met (College of Physicians and Surgeons of British Columbia website, 2015).

Primary care refers to the "...critical entry point of contact to the health care system and serves as the vehicle for continuity of care across the system" (Health Council of Canada, 2005). It includes prevention and treatment of illness, health promotion, healthy child development, and referrals to and coordination with other levels of care (Health Canada, 2011).

Primary Care Home is the term used for a new model of care adopted by the Northern Health Authority, where patients will access integrated health care services through a primary care provider who may be a physician or nurse practitioner and a multi-disciplinary (now termed "interprofessional) team which can include nurses, social workers, dieticians, physiotherapists, occupational therapists, and mental health clinicians (Northern Health website, 2015).

The terms, *general practitioner* (GP) and *primary care physician* are used interchangeably in the literature, however I use the term physician to refer to all primary care physicians including paediatricians.

A *nurse practitioner* (NP) is a registered nurse with advanced training in nursing, often a master's degree in nursing, and the advanced nursing practice competencies required for registration as a nurse practitioner with the College of Registered Nurses of British Columbia (CRNBC). The nurse practitioner's scope of practice in primary care is broader than that of a registered nurse but is not equal to

that of a physician. Within the parameters set out by the CRNBC, nurse practitioners are able to diagnose, consult, order, and interpret a range of tests, prescribe medications, and treat certain health conditions (CRNBC, 2015).

The *Representative for Children and Youth* (RYC) is a "non-partisan, independent officer of the Legislature, reporting directly to the Legislative Assembly and not a government ministry" (RYCBC website, 2015). The role of the representative is to act as an independent advocate for vulnerable children and youth and provide oversight for government-funded prescribed programs and services for vulnerable children, youth, and families.

Thesis Structure

This thesis is comprised of five chapters. Chapter one introduced the background, research questions, and conceptual framework and provides a definition of terms. Chapter two provides a review of relevant literature relating to the prevalence and impact of child maltreatment, a historical background to the physician's role in medical child maltreatment assessment, current issues relating to diagnostic evaluation, and issues facing physicians and nurse practitioners in the northern BC practice setting. Chapter three outlines the study design, methodology, data collection, and data analysis. Chapter four outlines the findings and describes the major themes and subthemes and analysis and interpretation. Chapter five includes a discussion of the key findings, recommendations for system improvements, study limitations, suggestions for future research, personal reflection, and conclusion.

Chapter Two: Literature Review

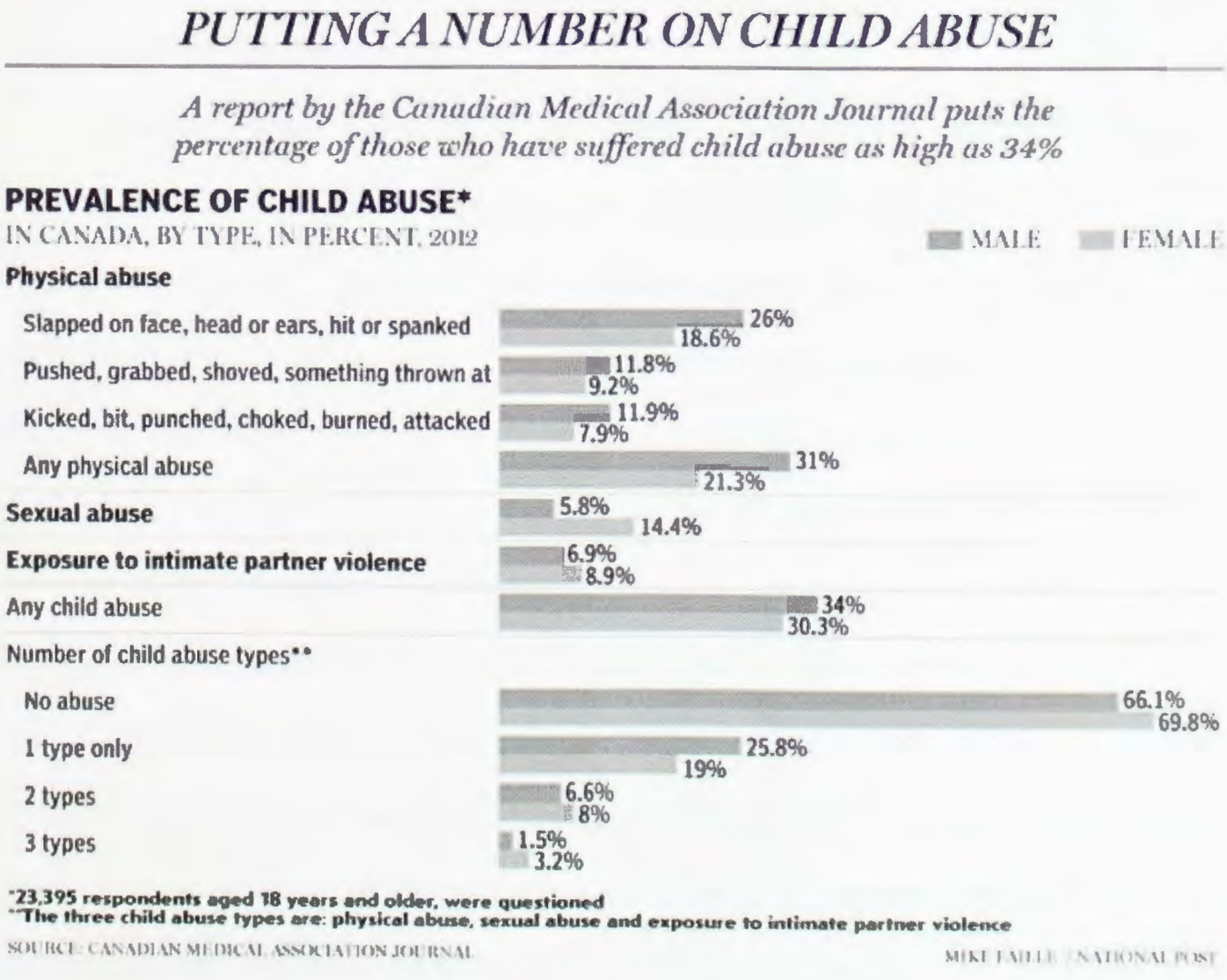
Child maltreatment is considered a cultural phenomenon, largely defined by the socio-economic and cultural realities of a society. From a health perspective, child maltreatment is "a major international health problem with unacceptable levels of morbidity and mortality" (Sittig, Uiterwaal, Moons, Nieuwenhuis, & van de Putte, 2011, p. 2). In Canada, a reported 230 children died between 1998-2003 as a result of child maltreatment (AuCoin, 2005). Evidence is mounting of the cumulative and life-long impact of child maltreatment on physical and mental health. This chapter provides an overview of the prevalence of child maltreatment, health and social consequences, outlines roles and mandates in child abuse investigation, and provides a structural context for medical evaluation of child maltreatment in British Columbia. These topics are explored using pertinent literature to establish connections between these concepts and highlight possibilities for improvement in medical evaluation of child maltreatment in northern British Columbia.

Prevalence of Child Maltreatment

It is difficult to accurately measure the prevalence of child maltreatment in Canada. This is due to underreporting and cases, which were investigated by child protective services (CPS) but not substantiated due to lack of evidence (Allan, & Lefebvre, 2012). Most studies of child maltreatment, such as the Canadian Incidence Study (CIS), rely on data from cases reported to and assessed by CPS but unverified by other sources (Allan, & Lefebvre, 2012). While these are useful data, they do not provide information about unreported or repeated episodes of child maltreatment, which occur following intervention by child protection services.

Another recent Canadian study found 32.1% of adults reported childhood experiences of abuse, 26.1% reported physical abuse, 10.1% reported sexual abuse, and 7.9% reported exposure to intimate partner violence (Afifi et al., 2014). According to that study, British Columbia (BC) has the second highest rate of child maltreatment (35.8%) in Canada (Afifi et al., 2014). These data were obtained from a nationally representative sample of 23, 395 adults age eighteen and older who participated in the 2012 Community Health Study and were asked about childhood experiences of abuse (Afifi et al., 2014). The results are detailed in the table below which was adapted for an article in the National Post (Boesveld, 2014):

Figure 1. Prevalence of Child Maltreatment in Canada



Confirmed cases of child maltreatment can sometimes be tracked through their involvement in primary and acute care. One study (Bennett et al., 2011) looked at the incidence rates of head injuries from suspected child maltreatment through data gathered from monthly surveys of an average of 2, 545 Canadian paediatricians and paediatric subspecialists from 2005-2008. Researchers described an annual incidence rate of 14.1 per 100, 000 for children less than that one-year of age (73%), 75% of all cases presented to the emergency room, and 12% resulted in death while 45% had neurological problems at discharge (Bennett et al., 2011). Notably, 30% of the confirmed cases were already known to child protective services (Bennett et al, 2011).

Defining Child Maltreatment

The term *child maltreatment* is an umbrella term used to refer to all forms of child abuse and neglect. There is no universally accepted definition of child maltreatment and no common agreement about which aspects of maltreatment should be included in the definition. For example, *psychological maltreatment* may fall under the definition of *emotional abuse* or *emotional neglect* and includes acts of omission and acts of commission (Hart, Brassard, Davidson, Rivelis, Diaz, & Binggeli, 2011). Similarly, the definition of *neglect* is equally complex and may include witnessing intimate partner violence (Edelson, 2004). Other definitions include exposure to *intimate partner violence* as a separate form of neglect or as a distinct category of maltreatment (Erickson & Egeland, 2011; Public Health Agency of Canada, 2010). The terms intimate partner violence, *domestic violence*, and *spousal abuse*, are used interchangeably in the literature on child maltreatment. The

Canadian Incidence Study of Reported Child Abuse and Neglect used 32 forms of maltreatment under five categories: physical abuse, sexual abuse, emotional maltreatment, neglect, and exposure to intimate partner violence (Public Health Agency of Canada, 2010).

Figure 2 Categories of Child Maltreatment

31. Maltreatment Codes

Physical abuse	Sexual abuse	Neglect	Emotional maltreatment	Exposure to intimate partner violence
1 - Shake, push, grab or throw	7 - Penetration	16 - Failure to supervise: physical harm	24 - Terrorizing or threat of violence	29 - Direct witness to physical violence
2 - Hit with hand	8 - Attempted penetration	17 - Failure to supervise: sexual abuse	25 - Verbal abuse or belittling	30 - Indirect exposure to physical violence
3 - Punch, kick or bite	9 - Oral sex	18 - Permitting criminal behaviour	26 - Isolation/confinement	31 - Exposure to emotional violence
4 - Hit with object	10 - Fondling	19 - Physical neglect	27 - Inadequate nurturing or affection	
5 - Choking, poisoning, stabbing	11 - Sex talk or images	20 - Medical neglect (includes dental)	28 - Exploiting or corrupting behaviour	
6 - Other physical abuse	12 - Voyeurism	21 - Failure to provide psych. treatment		32 - Exposure to non-partner physical violence
	13 - Exhibitionism	22 - Abandonment		
	14 - Exploitation	23 - Educational neglect		
	15 - Other sexual abuse			

Source: Canadian Incidence Study 2008, Public Health Agency of Canada

In this thesis, I used the term *child maltreatment* to encompass "...any acts or series of acts of commission or omission by a parent or other caregiver that result in harm, potential for harm, or threat of harm to a child...harm may or may not be the intended consequence" (Leeb, Paulozzzi, Melanson, Simon, & Arias, 2008, p. 11). This includes forms of maltreatment that are widely recognized: physical abuse, sexual abuse, neglect, emotional abuse, and witnessing intimate-partner violence.

Enduring Impact of Child Maltreatment

The Adverse Childhood Experiences (ACE) study is a multi-phase study, which included survey questions about experiences of childhood maltreatment, family dysfunction, and current health status and behaviors; the first phase included 13, 494 participants (Felitti et al., 1998). Researchers found a graded relationship

between the number of adverse childhood experiences and a person's risk of developing health and social problems including alcoholism, drug abuse, obesity, heart disease, early pregnancy, smoking, depression, and suicide attempts (Felitti et al., 1998). Evidence from this research identified a relationship between early experiences of child abuse and household dysfunction and many of the leading causes of death including ischemic heart disease, cancer, chronic lung disease, fractures, and liver disease (Felitti et al., 1998). Each category of adversity was assigned a score of one; researchers found that the categories were interconnected and that higher ACE scores were associated with multiple chronic health and social problems (Felitti et al., 1998).

Research has identified the influence of childhood adversity, toxic stress, and trauma on the developing brain including changes to the brain structure and cognitive functioning (Read, Perry, Moskowit, & Connolly, 2001; Teicher & Parigger, 2015). There has been considerable research into the associations between childhood abuse and mental illness (Afifi et al., 2014; Firsten, 1991; Read, Perry, Moskowit, & Connolly, 2001). Afifi et al. (2014), identified associations between childhood experiences of three types of maltreatment, physical or sexual abuse and exposure to intimate partner violence and all types of mental health conditions including suicidal ideation and suicide attempts. An interesting finding of this study was that even the "least severe type of physical abuse (being slapped on the face, head or ears, or hit or spanked with something hard) showed a strong association with all mental conditions in models adjusting for sociodemographic covariates" (Afifi et al., 2014, p. E331).

We are only beginning to understand how the abuse and neglect of

Indigenous children at Canadian residential schools has resulted in intergenerational trauma and life-long health problems for their descendants. One study looked at the experiences of 543 Aboriginal people between 14-30 years of age who use drugs and reside in Prince George or Vancouver (Cedar et al., 2008). Fifty percent had at least one parent who had attended residential school, and 73% had been taken from their biological parents into care (Cedar et al., 2008, p. 2189). They found that 48% reported a history of sexual abuse and that this was predictive of vulnerability to adverse health outcomes including HIV infection, involvement in survival sex, history of self-harm, suicidal ideation, suicide attempts, and overdose (Cedar et al.). Additionally, 48% of study participants reported subsequent sexual abuse by different perpetrators (Cedar et al., p. 2189). As noted in the ACE study, the cumulative effect of recurrent maltreatment has significant consequences for overall health.

Legal Mandates and Roles in Child Maltreatment Investigation

Investigation of child maltreatment involves collaboration between systems with different but complementary roles. Ideally child protective services (CPS) social workers, police, and physicians/nurse practitioners work together and share relevant information for a timely and accurate evaluation.

The Crown employs CPS social workers; their mandate is to investigate concerns for children's safety, evaluate risk, and make safe living arrangements. Each province and territory has its own legislation mandating child protection responsibilities. In British Columbia, the Child Family and Community Services Act (CFCSA) provides the legal mandate for child protection services, which is

administered by the Ministry of Children and Family Development (MCFD) and delegated Aboriginal agencies. Both types of agencies employ child protection social workers with their responsibilities delegated by the Crown.

The CPS response to suspected child maltreatment hinges on whether the concern is substantiated through investigation. The Merriam-Webster dictionary defines *substantiate* as "...to give substance or form to: embody; to establish by proof or competent evidence: verify" (Merriam-Webster dictionary, 2013). For child protection purposes, social workers substantiate concerns of abuse through investigation using interviews, obtaining collateral information, and consulting with health care providers such as physicians (RCYBC, 2009). According to the Canadian Incidence Study,

> Substantiation: distinguishes cases where maltreatment is confirmed following an investigation. The three levels of substantiation include: substantiated: the balance of evidence indicates that abuse or neglect has occurred; suspected: insufficient evidence to substantiate abuse or neglect, but maltreatment cannot be ruled out; and unfounded: the balance of evidence indicates that abuse or neglect has not occurred. Unfounded does not mean that a referral was inappropriate or malicious; it simply indicates that the worker determined that the child had not been maltreated (Public Health Agency of Canada, 2010, p. 24).

Various forms of child maltreatment are offenses under the Criminal Code of Canada. Police investigate criminal matters under the provisions of this legislation. "Police seek to substantiate allegations of criminal acts through evidence collection. They are guided by the Criminal Code of Canada to gather evidence pertaining to offenses under that act." (Public Health Agency of Canada, 2010, p. 24). In some urban areas, there are municipal police forces but in northern and rural locations the Royal Canadian Mounted Police (RCMP) performs this duty.

Physician/Nurse Practitioner's Role

The physician's role in child maltreatment evaluation gained a foothold following the publication of two key articles, which connected the clinical presentation of children's injuries with implausible explanations. In l946, Dr. John Caffey's article entitled "Multiple fractures in the long bones of infants suffering chronic subdural hematoma", described six infants with these concurrent injuries of "obscure traumatic origin" (Greely, 2012, p. 347). Building on this work, Frederick Silverman, one of Caffey's junior associates, worked with Dr. Henry Kempe to conceptualize the Battered Child Syndrome, which was later described in a landmark article by Dr. Henry Kempe et al. (1962) and published in the *Journal of the American Medical Association.* The article described a constellation of suspicious physical symptoms and linked them to risk factors such as incompatible history and psychosocial risk factors that complement those used in modern diagnostic assessment frameworks (Frasier, 2012; Greely, 2012; Kempe, Silverman, Steele, Droegemeuller, & Silver, 1962). The field of child abuse paediatrics steadily grew as others in the field became aware of the connections between head injuries and child abuse, and the limited information regarding normal childhood anatomy (Frasier, 2012). In the 1980s, Dr. Carole Jenny conducted ground breaking research on female genital anatomy by examining over 1,100 newborns to show that girls are not born without hymens (Frasier, 2012). Her work added to the growing body of research into the specialty area of sexual abuse medical exams.

The medical investigation of child maltreatment involves coordination of care for further testing, consultation with specialists, and interpretation of findings. Diagnosis of child maltreatment is a result of a rigorous process of assessing an

injury such as fractured ribs, or a medical condition such as abdominal bleeding, through a series of tests and procedures to rule out alternative causes (Ricci, Botash, & McKenney, 2011). Maltreatment is one possible diagnosis, referred to as a differential diagnosis, but other conditions such as bleeding disorders or genetic conditions must be ruled out (Ricci et al., 2011).

Physicians have a role in forensic evaluation of child maltreatment by assessing the injury, providing an opinion as to whether an injury is consistent with the explanation, documenting and interpreting findings, and providing court testimony (Jarchow, 2004; Ricci, Botash, & McKenney, 2011; Sege et al., 2011). Any general practitioner (family physician) in British Columbia can do a medical evaluation of children although a paediatric evaluation is preferred in cases of child maltreatment. Nurse practitioners have a similar role to physicians however their full authority is dependent on their practice setting. They must consult with another nurse practitioner or physician for complex cases and a physician's order is required for some categories of bloodwork in community settings (CRNBC, 2015). Advanced training in child maltreatment assessment for nurse practitioners is not required but is available. There are two international certification programs for sexual abuse evaluation known as the Sexual Abuse Nurse Examiner Pediatrics (SANE-P) and the Sexual Abuse Nurse Examiner Adult/Adolescent (SANE-A). These programs are part of an international certification for forensic nurses but are not required for family nurse practitioners or paediatric nurse practitioners even though they might encounter cases of paediatric sexual abuse in practice (CRNBC, 2015; International Association of Forensic Nurses, 2015).

Competency Issues

Evaluation of child maltreatment is challenging due to physician/nurse practitioner competency issues. The College of Registered Nurses of British Columbia (CRNBC) defines *competence* as the "integration and application of knowledge, skills, and judgment to perform safely and ethically within an individual's nursing practice or in a designated role and setting and includes both entry-level and continuing competence." (CRNBC, 2015, p. 34). Many studies have identified deficits in physician/nurse practitioners' training regarding child abuse evaluation (Anderst, Kellogg, & Jung, 2009; Heisler, Starling, Edwards, & Paulson, 2006; Herendeen, Blevins, Anson, & Smith, 2014; Koetting, Fitzpatrick, Lewin, & Kilanowski, 2012; Webster & Temple-Smith, 2010). Missed or misdiagnosed injuries are possible because maltreatment may not be considered as a differential diagnosis, and the provider might not solicit relevant medical and social history to make an accurate diagnosis (Herendeen, Blevins, Anson, & Smith, 2014). This was evident in case reviews of Savannah Hall, Amanda Simpson, and Matthew Vaudreuil (RCYBC, 2009). Conversely, the physician might mistakenly attribute a medical problem to abuse. Such oversights could result in more harm to the child due to continued abuse or inappropriate removal from the home (Flaherty et al., 2006).

This disconnect between responsibility to assess for child maltreatment and competency to do so raises concern about the expectations placed on physicians/nurse practitioners tasked with this role. Primary care physicians/nurse practitioners with limited training in evaluating child abuse are likely the first to encounter maltreated children seeking treatment for abuse-related injuries or illnesses (Frasier, Thraen, Kaplan, & Goede, 2012; Heisler, Starling, Edwards, &

Paulson, 2006; Lane & Dubowitz, 2009). In one study, researchers completed a retrospective audit of 98 cases of preschool children who presented at the emergency department (ED) of a general hospital with a fracture over a two-year period (Ziegler, Sammut, & Piper, 2005). In 80% of the cases, there was no indication that the doctor had considered the possibility of abuse (Ziegler et al.). In 4 of 16 cases, the doctor did not recognise injuries that were inconsistent with the history that was presented (Ziegler et al.). The researchers noted documentation that was too brief to assess whether the reported history was consistent with the injury as well as incomplete history gathering (Ziegler et al.). They also noted there was poor follow up for children where abuse was suspected (Ziegler et al.).

The American Academy of Pediatrics recommends a skeletal survey and/or a bone scan to rule out additional injuries when abuse is suspected in children under age two due to the severe risk of injury in children of that age (Duffy, Squires, Fromkin, & Berger, 2010). The Zeigler et al. (2005) study found that 46% of children in their study had neither of these additional tests. Researchers concluded that the ED staff needs more training and resources to conduct evaluations of child abuse (Ziegler et al., 2005).

The Canadian Incidence Study of Reported Child Abuse and Neglect (CIS), is a national surveillance study, which examines the incidence of reported child maltreatment and the characteristics of the children and families investigated by Canadian child welfare sites from all provinces and territories for the purpose of identifying key child health issues (Public Health Agency of Canada, 2010). The CIS looked at substantiated cases of child maltreatment and noted that physical harm was identified in an estimated 8% of cases (or 4, 492) of those, only in 3% (or 2,414)

of the cases, the child required medical treatment for injuries (Public Health Agency of Canada, 2010, p. 32). In an earlier wave of the CIS, researchers noted a similar trend, with only 4% (of 2621) of substantiated cases of child maltreatment requiring medical treatment in the opinion of the investigating social worker (Trocmé, MacMillan, Fallon, & Marco, 2003).

As with many areas of medicine, it is the combination of education, training, and repeated exposure to health conditions that helps maintain diagnostic competency. With relatively few maltreated children presenting to primary care for acute treatment of injuries, it is difficult for individual medical providers who infrequently encounter cases of child maltreatment to maintain a level of competency in evaluation of child abuse-related injuries.

Competency is especially pertinent in sexual abuse evaluation. Experts in child abuse paediatrics affirmed the importance of specialized training in child sexual abuse evaluation following critical review of the literature. Guidelines for medical evaluation of suspected sexual abuse were updated in 2015 by a panel of international experts (Adams et al., 2015). These experts recommended that all children who are suspected victims of child sexual abuse should be offered an examination performed by a medical provider with specialized training in conducting sexual abuse evaluation and that examinations be prioritized according to a number of factors including the possibility of obtaining forensic evidence (Adams et al., 2015).

Barriers to Access of Diagnostic Tests and Equipment

Specialized equipment and skilled professionals are required in order to view and accurately document injuries. Physicians and nurse practitioners in rural and

remote locations may not have access to equipment and trained staff resulting in delayed evaluation and documentation. Transportation is an added barrier. For children who live in the NHA region, they may have to drive for hours to access services. During severe weather, it may be unsafe to travel due to road or flying conditions. Children with life-threatening conditions can be transported to a higher level of care by medi-vac (helicopter). If children require non-life threatening medical care, they may have to fly to an urban centre for care on the next available flight, which could be a day or two away in some areas in the NHA region. Children who live in rural areas are more likely to be disabled or die from illness and injury as a result of interruptions in care or transportation issues (Committee on Pediatric Emergency Medicine, 2012).

Delays in evaluation of injuries can be problematic for several reasons. Collection of forensic evidence, such as DNA and photo-documentation of injuries, is time sensitive. Skin injuries are the "most common manifestations of abuse" and can include "bruises, abrasions, lacerations, petechiae (tiny bleeding points), burns and bites" (Reece, 2011, p. 191). There are well researched indicators of physical abuse such as patterned bruising, or bruises in areas suspicious for abuse: upper arms, sides of face, ears and neck, genitalia and buttocks (Reece, 2011). Obvious injuries related to child maltreatment may heal quickly. Delayed evaluation of soft tissue injuries makes it difficult, even impossible, for specialists to provide an opinion on injuries such as genital trauma or bruising after they have healed as they can only comment on what they have directly observed. Studies reviewed by a team of child abuse experts determined that DNA evidence was typically recovered when examinations were done within 24 hours of the assault despite wiping of the area or

lack of findings indicating physical injury to the genital area (Adams et al., 2015).

Efficacy of Screening Tools

The findings of Ziegler et al.'s (2005) study seem to justify implementation of standardized screening tools for evaluation of abuse encountered in the emergency department. This is problematic, as it is difficult to identify cases of possible child abuse based on a set list of indicators. One study conducted three reviews of commonly used markers for abuse or neglect: age, repeat attendance, and injury type in children who present at emergency departments (Woodman et al., 2010). The authors found that all the studies they reviewed were of poor quality. They concluded that there was no evidence that any of the markers they evaluated were accurate enough to identify children in need of evaluation of abuse. They further noted that "among injured children at ED, a high proportion of abused children will present without these characteristics and a high proportion of non-abused children will present with them." (Woodman et al., 2010, p. 152). The researchers concluded that, rather than a particular screening tool, the most effective protocol involved referral of all injured infants and children who have involvement with CPS for follow up evaluation (Woodman et al., 2008).

Poor Collaboration

The CRNBC defines *collaboration* as "a joint communication and decision-making process with the expressed goal of working together toward identified outcomes while respecting the unique qualities and abilities of each member of the group or team." (CRNBC, 2009, p. 21). Children assessed in the emergency room are expected to receive follow up with their primary care provider for further

treatment or management of health problems. Unfortunately, there may not be timely sharing of the record of the emergency room visit or specialist consultation and there is potential for injuries or medical neglect to be missed. In a recent survey of Canadian primary care physicians' views on health system performance, it was noted that only 16% of Canadian primary care physicians report receiving information about their patients within two days of hospital discharge and only 26% say they receive specialist consultation reports (Health Council of Canada, 2012). In Savannah Hall's case, the specialist consultation was sent to her guardian three months after her death:

> On October 11, 2000, a pediatrician examined Savannah to assess her developmental delays. Bruises were not noted in his report; however, the pediatrician found poor growth and weight and planned further tests to determine the cause. He was of the view that Savannah had a regulatory disorder and that her behavioural difficulties could be environmental in origin. He noted that the foster mother described Savannah as having a "mean streak." The medical report was not sent to Savannah's guardianship worker until after Savannah died, three months later. (RYCBC, 2009, p. 44)

The coroner's review into Savannah's death recommended that physicians send copies of all consultation reports to MCFD whenever the child is in MCFD care (Flemming, 2007).

Benefits of Child-Abuse Evaluation Training

Inaccurate diagnosis can have devastating consequences such as removal of the child from one or both parents, criminal charges, and destruction of relationships and reputations. Despite the critical importance of accurate diagnosis, our CPS system allows poorly trained medical professionals to provide a diagnosis, which forms the basis of child protection risk assessment decisions. In one study, Makoroff and colleagues (2002) looked at residents' knowledge and comfort level with

assessing child maltreatment and found that 70% of the female genital exams diagnosed by pediatric emergency medicine physicians as abnormal were later diagnosed as normal when reexamined by child abuse-trained physicians (Makoroff, Brauley, Brandner, Myers, & Shapiro, 2002). In another study, Anderst, Kellogg, and Jung (2009) compared the results of child abuse examinations conducted by physicians without specialized training in evaluation of child abuse with those re-examined by child abuse paediatricians with additional training and who collaborated with child protective services (CPS) and therefore had access to additional information. They found significant differences in abuse diagnoses when the children were later evaluated by a child abuse paediatrician. Where there were differences in diagnoses, 81.6% of the child abuse paediatricians' evaluations indicated less concern for abuse compared to non-specialist physicians; the rate of differences in diagnosis was three times higher for children from nonurban areas (Anderst et al., 2009, p. 481).

When viewed in this context, it makes sense that physicians/nurse practitioners might hesitate to diagnose child maltreatment based on emergency room encounters or in the private office setting. It does not explain circumstances where no further consultation was sought or failure to report suspicious injuries to CPS. Flaherty, Jones, and Sege (2004) conducted focus groups with six urban physicians to learn about their experiences in recognizing and reporting cases of child abuse. The findings suggested two key themes: 1.) previous experience related to identifying and reporting suspicions of child abuse influenced decision-making, and 2.) time constraints were problematic for evaluation of abuse in an office setting (Flaherty et al., 2004). The physicians attached particular importance

to a "sentinel" event, which continued to influence decision-making in relation to child abuse. Some of the respondents recalled individual cases in which a child suffered "terrible consequences" as a result of their failure to detect or report abuse, while others described incidents where their report was unsubstantiated by CPS, which subsequently undermined their confidence in abuse evaluation (Flaherty et al. 2004, p. 941). Physicians reported that previous experience with child protective services (CPS) made them less likely to report to CPS in the future. There was a belief that the physician could work with the family to address the child protection concerns without involving CPS. Others said they were uncomfortable reporting to CPS before they were sure of the diagnosis (Flaherty et al., 2004). A study of nurse practitioners reported similar findings and the researchers recommended that all health care providers receive further child abuse education, both in their curriculum preparation and continuing education, to diagnose and manage child abuse (Herendeen, Blevins, Anson, & Smith, 2014).

The health care provider's lack of confidence in CPS intervention raises concern from a social work perspective. Child protection issues require evaluation of safety risk, which is outside of the physician's/nurse practitioner's scope of practice. The physician/nurse practitioner is adept at assessing health risk while the CPS worker's domain is assessment of safety risk. When physicians/nurse practitioners endeavour to assess and address child protection risks based on incomplete or inaccurate information, it may delay child protection intervention that could improve the child's health and developmental outcomes or it could result in the child being further harmed as they remain with an abusive or neglectful caregiver. Failure to report child protection concerns to CPS also causes difficulty for CPS to fully

appreciate the extent of the child's health needs as was noted in Amanda Simpson's case (RCYBC, 2009). Poor information sharing between CPS and health care providers has been well-researched and lead to development of national standards to improve collaboration between the health and child welfare professionals (Committee on Early Childhood, Adoption, and Dependent Care, 2002; Lewis, Beckwith, Fortin, & Goldberg, 2011).

Flaherty et al. (2004) identified time constraints as problematic for physicians' assessment of child abuse. Coupled with limited time for examination, consultation, and patient counselling, is the limited opportunity to obtain relevant collateral information. Information obtained from the caregiver may be unreliable in cases where abuse and neglect are suspected, which results in inadequate information upon which to base an evaluation of risk (Webster & Temple-Smith, 2010). This dynamic arose in reviews of Savannah's death where it was noted that both physicians and CPS only obtained collateral information from the foster parent who was caring for her when she died as a result of homicide (British Columbia Representative for Children and Youth, 2009).

The coroner's inquest into Savannah's death resulted in a recommendation that the BC College of Physicians and Surgeons advise its members that "patient history regarding children in care be taken from other health professionals and Ministry of Children and Family Development workers in addition to the history obtained from foster parents" (Flemming, 2007, p. 4-5). This recommendation makes sense in terms of providing comprehensive care. However, what is the likelihood that a northern physician/nurse practitioner will have the time or resources to gather the additional patient history under the current primary care structure?

Also, how accessible are northern physicians/nurse practitioners to CPS staff and vice versa?

Suspected Child Abuse and Neglect (SCAN) teams

Involvement in child protection cases can have a profound lasting effect on health care providers. While they are trained to deal with sad circumstances, child maltreatment is especially impactful. One study of 227 Australian nurses found that "sexual abuse, death or non-accidental injury ranked one, two, and four respectively out of 29 most stressful critical incidents" (O'Conner & Jeavens, 2003, cited in Rowse, 2009, p. 660). In another study, researchers interviewed 15 nurses who were involved in child maltreatment cases in an acute care setting, and learned that involvement in these cases was overwhelming particularly for junior nurses who had not yet established support networks, and nurses felt unprepared for interactions with police and child protection investigators who were gathering evidence during the assessment (Rowse, 2009). Studies of physicians' and nurse practitioners' experiences in child maltreatment assessment yielded similar results (Flaherty, Jones, & Sege, 2004; Herendeen, Blevins, Anson, & Smith, 2014; Ziegler, Sammut, & Piper, 2005).

There was a growing recognition that medical evaluation of child maltreatment is an area of specialty. The medical community identified their need for adequate time to complete assessments, specialized training to maintain competency, peer support and review of cases, and remuneration for time spent conducting these assessments, and time preparing for court (Jarchow, 2004). Eventually,

multidisciplinary teams were developed to share these responsibilities and provide holistic care to children and their families impacted by maltreatment.

In British Columbia, there are five multidisciplinary teams who specialize in evaluation of suspected child maltreatment. These teams, referred to as Suspected Child Abuse and Neglect (SCAN) teams, are funded by MCFD to provide specialized health evaluations for children who may have been abused (Jarchow, 2004). A multidisciplinary approach is considered the 'gold standard' for evaluation of child maltreatment. These teams typically include a paediatrician, physician, nurse, social worker, and a psychologist. Some teams such as those in urban centres may have multiple paediatricians and psychologists available. All members of the team have advanced training in evaluation of child maltreatment, are required to maintain competency through regular attendance at child maltreatment conferences, peer reviews, interdisciplinary training, and case consultation (Jarchow, 2004). In addition, patient history is solicited from a variety of information sources including CPS, police, and medical records and the information is reviewed by the multidisciplinary team.

The Northern Health SCAN Clinic, where I worked, opened in 1993. The clinic now has two part-time paediatricians, two part-time family doctors, a part-time nurse, a part-time psychologist, and one social worker. It is a non-acute clinic which means evaluations are provided at least 72 hours after the alleged abuse incident. Patients must travel from across the northern part of the province to access a specialized evaluation. This clinic is funded to provide 60 maltreatment evaluations per year.

Child Maltreatment in Northern British Columbia

Unfortunately, since Matthew's death in 1992, there have been at least six other high profile child deaths in northern BC. In 2000 Adam Williams-Dudoward died after he was tied to his bed with electrical cords for three days at his home in Prince George (Neilson, 2013). His death was not discovered until 2004. Criminal proceedings concluded in April 2013 and it is not clear whether his death will be the subject of a review. In 2009, the British Columbia Representative for Children and Youth (RCYBC) released a report regarding the deaths of four children from northern BC. These children, Amanda Simpson, Serena Wiebe, Rowen Von Niederhausern, and Savannah Hall died between 1999 and 2005. Each of them was involved with child protective services.

Among the findings of that RCYBC investigation, was "...identification of serious weaknesses in the medical assessment of vulnerable children and, in some instances, their caregivers" (RCYBC, 2009, p. 100). There was acknowledgment of geographic barriers to accessing medical expertise for evaluation of maltreatment. The authors noted that "building and developing local area medical expertise is essential to support the investigative work of front-line social workers" (RCYBC, 2009, p. 118). While these seem like reasonable recommendations, there is an underlying urban bias, which ignores the practice reality for professionals who live in northern and rural areas. How can one build on local expertise when the local professionals continue to leave or when the community relies on locums or walk-ins clinics for primary care?

Health Care in the Canadian Context

Health care is available to all Canadians through provincially funded programs and services financed through federal cash and transfer taxes and equalization payments (Health Canada, 2011). Providers are paid according to their practice setting. Physicians in private practice are private contractors paid on a fee-for service basis by provincial health plans (Health Canada, 2011). Nurse practitioners are salaried employees of health clinics or health authorities (CRNBC, 2015). Primary care providers in hospitals, community clinics, and shared practice settings are paid through combined salary and fee for service arrangements by provincial health plans (Health Canada, 2011). For registered Aboriginal children, additional health care services are available and funded through a combination of federal and provincial funding (Health Canada, 2011).

Primary care refers to the "...critical entry point of contact to the health care system and serves as the vehicle for continuity of care across the system" (Health Council of Canada, 2005). It includes prevention and treatment of illness, health promotion, healthy child development, and referrals to and coordination with other levels of care (Health Canada, 2011).

Access to primary care services varies according to availability of physicians and nurse practitioners in the community (Health Canada, 2011). Northern and rural communities have less access to both primary care and specialist services compared to urban areas. "Approximately 22% of Canadians live in rural areas (defined as communities of less than 10,000 people), and are served by 17% of the family physicians and less than 3% of all specialists" (Northern Health website,

2013). The terms, *general practitioner* (GP), *primary care physician,* and *family doctor* are used interchangeably in the literature.

Despite a publicly funded health care system, Canadians do not have universal access to a family physician. A recent study of Canadian primary care physicians noted among its key findings that, compared to nine other countries, Canadian primary care physicians are the least likely to routinely provide same-day or next-day appointments (47%) or offer after-hours arrangements so that patients can see a doctor or nurse without going to a hospital emergency department (46%) (Health Council of Canada, 2012, p. 4). This means that children would have to rely on emergency departments for evaluation of injuries related to child maltreatment which triages injury according to severity. For example, if a child presents with a broken bone, this injury would be quickly assessed and treated. However, the child's injury might be seen as less urgent than a cardiac patient, for example, whom the physician might also be treating.

Health Care in the British Columbia Context

In 2001, British Columbia (BC) restructured health service delivery by establishing five regional authorities and one provincial authority (BC Ministry of Health, 2013). The regional and provincial health authorities collaborate with the Ministry of Health to ensure comprehensive health service coverage for the province. The regions are responsible for planning and coordinating health care services among assigned service delivery areas. The provincial authority is responsible for planning and overseeing provincial programs and specialized services, such as BC Children's Hospital and Sunny Hill Health Centre for Children. The Ministry of Health

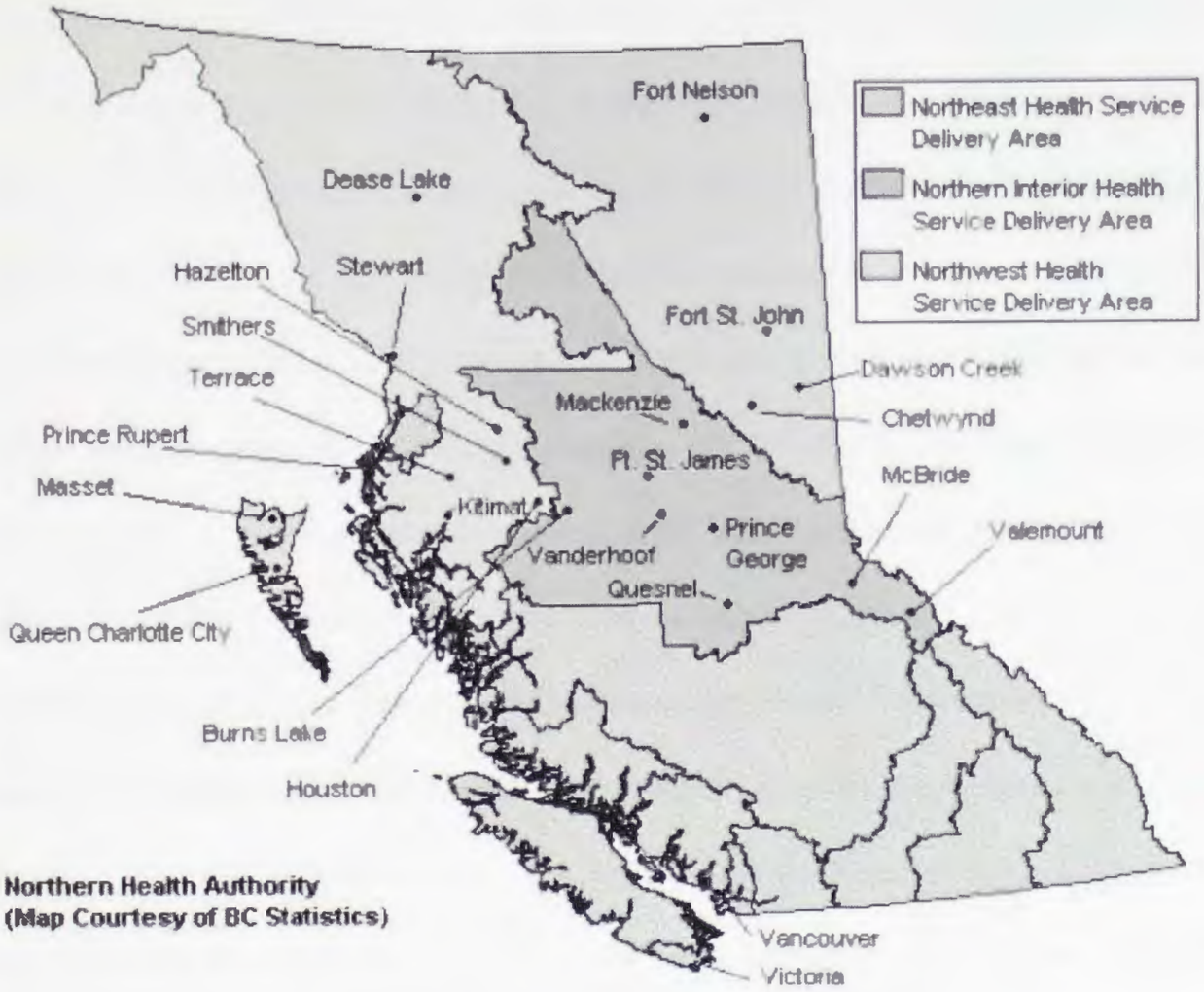
establishes expectations and performance outcomes, and monitors and evaluates health authority performance (BC Ministry of Health, 2013).

Health Care in the Northern British Columbia Context

The Northern Health Authority (NHA) region covers over two-thirds of British Columbia and is comprised of mostly rural and remote communities (NHA Service Plan, 2011). It is responsible for a patient population with high risks related to social determinants of health such as poverty, unemployment, family violence, and Aboriginal ethnicity. (Mikkonen, & Raphael, 2010; NHA Service Plan, 2011;). This region has proportionately more children in the population than the rest of British Columbia. It also has the highest rate of child maltreatment in the province and a child maltreatment recurrence rate of 25% (NHA Service Plan, 2011, p.10). While it has the highest percentage of children living in families receiving income assistance and children living in poverty, these figures do not include the significant number of children living on reserves (NHA Service Plan, 2011, p. 10).

The region has the highest proportion of Aboriginal people in BC. Approximately 17.5% of the NHA region is Aboriginal, with the other health regions ranging from 2.4% to 6.7% (NHA Service Plan, 2011). At least 22% of the population aged 0-17 in northern British Columbia is Aboriginal. This proportion is three times that of British Columbia overall (NHA Service Plan, 2011). Compared to other Canadian children, Aboriginal children are more likely to be involved with child welfare, be neglected, and have poor health (Mikkonen, & Raphael, 2010).

Figure 3 Northern Health Authority Region



Recruitment and Retention Problems in Northern British Columbia

Access to primary health care and continuity of health care are significant challenges facing those living in the NHA region. This area has faced a critical shortage of primary care physicians and specialists in the entire region, particularly rural locations such as Fort St James, Dawson Creek, and Burns Lake (NHA Service Plan, 2011). Also, the demographics of the workforce are changing; physicians are retiring and those replacing them are in their childbearing years (NHA Service Plan, 2011). These factors affect the stability of the workforce and continuity of care for vulnerable children. Pronounced difficulties in implementing the RYCBC's

recommendations for 'building on and developing local expertise' in this practice context are apparent.

In response to recruitment and retention issues, the NHA offers a variety of incentive programs and has engaged in innovative community partnerships. These efforts are intended to recruit doctors to work in hard to service areas and provide locum coverage in key areas needed to maintain core services such as emergency room, surgery, and obstetrics (NH website, 2013). NHA has also developed partnerships in some northern communities, like Mackenzie and Fraser Lake, whereby NHA operates the primary care clinic and employs physicians and nurse practitioners on salary (NHA Service Plan, 2011). NHA also offers education incentives to provide opportunities for northern physicians to acquire knowledge and develop new skills (NH website, 2013). These new initiatives have created opportunities for northern patients to access a family doctor or nurse practitioner in their community and created an opportunity for continuity of health care. However, increased locum coverage and reliance on walk-in clinics for primary care also creates an opportunity for cases of child maltreatment to be missed or misdiagnosed.

NH is moving toward a new model of primary care where health care will delivered by physicians in partnership with interprofessional teams which will include disciplines such as social workers, nurses, nurse practitioners, physiotherapists, occupational therapists, and mental health clinicians.

Structural Barriers to Health and Health Care Access

Despite the availability of universal healthcare, there are structural barriers to access. Lynam et al. (2010) noted "child health and development is influenced by

societal factors and the social organization of health services" (Lynam et al., 2010, p. 332). Health promotion and prevention opportunities such as early child development, preschool programs, and safe play space are not accessible to all: there are barriers related to transportation, work schedules, costs, and eligibility requirements (Lynam et al., 2010, p. 338). Social barriers may include social isolation, families' perceptions of how they will be treated, and concerns about prejudgement (Lynam et al., p. 338).

The overall structural context affects the health of vulnerable children. Children affected by the social determinants of health such as poverty, unemployment, substance abuse, Aboriginal ancestry, and social exclusion, have a higher risk of experiencing long-term detrimental effects on their health and development (Lynam et al., 2010; Mikkonen, & Raphael, 2010). Aboriginal children are at particular risk of neglect due to health and social inequities disproportionately faced by Aboriginal families (Trocmé et al, 2005). Aboriginal children are significantly overrepresented in the child welfare system (Trocmé & Wolfe, 2001) and are noted to have the poorest health in Canada (Mikkonen, & Raphael, 2010).

Children involved with child protective services (CPS) are among the most vulnerable in western society due to high rates of chronic health and mental health problems, developmental delays, and academic problems which are often chronic, under-recognized, and neglected (Canadian Paediatric Society, 2008; Leslie et al., 2003; Raman, Reynolds, & Khan, 2011). Socially disadvantaged children are at increased risk for child maltreatment and neglect and are more likely to be involved with CPS (Trocmé & Wolfe, 2001).

Summary

Children who reside in northern British Columbia are especially vulnerable to child maltreatment and face a disproportionate risk of life long-chronic health and social problems. Access to primary care in the NHA region has been an ongoing challenge. Early identification of abused and neglected children can lead to early intervention, which has the potential to influence their health trajectory across the lifespan. Medical evaluation of child maltreatment is a key component to ensuring a child's health and safety needs are met, however, improvements are needed to ensure primary care providers have the necessary training and resources in the northern practice setting.

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Chapter Three: Research Design

This is a qualitative study with semi-structured interviews as a primary research method. In the following section, I will describe the methods, the participant recruitment and selection process, data collection and analysis, and ethical considerations.

Methods

I chose a qualitative approach because I was interested in exploring physicians'/nurse practitioners' experiences conducting medical assessments of child maltreatment in northern British Columbia. My goal was to initiate discussions about effective service delivery tailored to the realities of these practice settings. A qualitative approach supported an exploration of experiences and perspectives and allowed rich discussion about the topic without the constraints of predetermined Likert scales or survey questionnaires. This overall approach was appealing because it permitted me to "inform, support or challenge policy" (Lester, 1999, p.1) and is congruent with advocacy as a social work practice value, my own adherence to a systems perspective, and it allowed for the use of personal knowledge and experience to guide the inquiry.

I chose thematic analysis as a method and methodology because it can reveal "solutions to real-world problems" (Guest, MacQueen, & Namey, 2012, p.17) and allows for an interpretivist perspective. Thematic analysis is described by Boyatzis (1998) as a process of enquiry where the researcher recognizes an important moment, "sees it as something," and then understands it through interpretation (p.1).

I conducted semi-structured individual interviews to keep me focused on the research topic while giving participants freedom to interpret the questions according to their personal understanding of the phenomenon (Al-Busaidi, 2008). Probing questions allowed me to elicit richer detail, clarify understanding, or refocus to the research question as needed.

Validity. Validity of this study was established using a series of strategies inherent in the research design, such as multiple sampling techniques, environmental triangulation, use of a reflective journal, and member checking.

Participants were recruited using purposive sampling techniques including convenience, snowball, and key informant sampling. Purposive sampling allows the researcher to choose the sample according to the "nature of the research problem and the phenomenon under study" (Marlow, 2005, p. 138). I chose purposive sampling because it allowed for recruitment to follow the emerging trends in the data and the need for broader perspectives to validate emerging themes. Convenience sampling uses available or convenient participants who meet criteria (Marlow, 2005). Snowball sampling is a method which entails having members of the target population recruit other participants (Marlow, 2005). Key informant sampling involves choosing participants who are acknowledged in the community as having relevant expertise in the area of interest (Marlow, 2005).

Environmental triangulation, involves varying the settings and other factors related to the study environment (Patton, 2002). In this study, practice setting and location were relevant environmental influences. I solicited participants from a variety of practice settings in both urban and rural locations; these included emergency departments as well as private, shared, and interdisciplinary practice

settings. Seven participants were interviewed in person, five by telephone. There was a variety of training and experience amongst the participants: there were paediatricians, nurse practitioners, general practitioners, and those with advanced training in child maltreatment assessments and those with less than five years of practice.

I used a personal journal throughout the study, which helped me recognize prejudgements and previous experiences as suggested by Lester (1999). I found this very helpful as I was so close to the topic, it helped me organize my thoughts, consider potential themes, and provided an outlet for me to process my personal thoughts and feelings on the presenting issues. As the researcher is the 'primary instrument' of data collection, the reflective journal provided transparency about the ways my insights and experiences shaped the research design and interpretation of the data (Ortlipp, 2008, p. 697). The journal was also used to document the research process and changes in the research design and methodology.

Finally, I used member checking, which is a process where participants are provided an opportunity to review their transcripts for accuracy and comment on whether the findings reflected their interview. I emailed a copy of their transcript and a synopsis of the research findings to each participant. I used the "confirm delivery" function of my software program to ensure each of them received the email. I provided a deadline for a response and indicated if I did not hear from them, I would assume they were okay with the use of the transcripts and findings as presented. Five of the twelve participants responded and confirmed the accuracy of the information. Of those who responded, one participant made minor syntax changes and clarified some of her responses.

Research Sample

The participant sample was comprised of 12 physicians/nurse practitioners who worked at hospitals and health clinics in the British Columbia Northern Health Authority Region. All participants met screening criteria to ensure they had provided primary care for children between 0-12 years old who may have been maltreated. The sample group included two males and 10 females, two were family nurse practitioners, three were paediatricians, one was an emergency room physician, and six were family doctors. Participants had a wide range of medical practice experience, in a diversity of practice settings in rural and urban locations. Despite its vast size, northern British Columbia has a small medical community and demographic information such as age and gender can limit anonymity. For this reason, information about age was not collected and specific communities were not identified.

I asked participants to identify their practice setting within a range of choices but during the analysis phase, I recognized the screening question did not accurately reflect their range of experience because it was focused on the present practice setting. In the interviews, participants described experiences of encountering child maltreatment throughout their career, beginning in residency and in past and present practice settings. The following table outlines relevant participant demographics:

Table 1. Participant Demographics

PARTICIPANT	YEARS OF PRACTICE	# OF CASES	SPECIALTY
1	15-20	200 +	Paediatrician
2	1-5	20 +	Family Medicine
3	1-5	5-10	Emergency Room
4	1-5	1-5	Family Medicine
5	1-5	1-5	Family Medicine
6	1-5	1-5	Family Medicine
7	5-10	1-5	Family Nurse Practitioner
8	20-25	200 +	Family Medicine
9	20-25	11-15	Paediatrician
10	>25	1-5	Family Medicine
11	1-5	20 +	Family Nurse Practitioner
12	>25	1000+	Paediatrician

Recruitment Process

Participants were initially recruited via convenience sampling of physicians/nurse practitioners encountered through my employment at Northern Health, and through snowball sampling of physicians/nurse practitioners who worked at hospitals and health clinics in the Northern Health Authority region. This broadened the sample population by using natural gatekeepers who shared the research criteria but had not referred patients to the Northern Health Suspected Child Abuse and Neglect (NH SCAN) clinic. A Northern Health representative sent an email regarding this study to all the physicians/nurse practitioners with a northern health email address. I faxed a recruitment poster and information letter to all the Northern Health Integrated health/primary health clinics in Northern BC and it was forwarded to all paediatricians in northern British Columbia via the BC Pediatrics Association (N=10) and to a group of nurse practitioners in northern British Columbia via a study participant (N=23). UHNBC social workers placed recruitment posters in key areas of that hospital. Initially, I received an enthusiastic response from a cohort

who had graduated from the same medical school. These participants were recruited by another participant via snowball sampling. As the study progressed, and themes emerged, it became apparent that an additional purposive approach was needed to broaden the sample to avoid potential contamination. I recognized that I needed to recruit participants from a variety of practice settings and with a diversity of education and experience to broaden the sampling population. Using a key informant approach, I identified potential participants who could add diversity due to their level of experience or practice setting and contacted them directly to request their participation. I interviewed everyone who agreed to participate, met screening criteria, and responded within a six-month period.

Data Collection

The primary data collection method was semi-structured interviews using an interview guide. I conducted each interview personally either face to face or by telephone and audio-recorded them. Immediately following each interview, I wrote general notes based on observations of comments or ideas that struck me as important while conducting the interview or during the conversations with the participant following the structured portion of the interview (Creswell, 2007). My notes helped me keep track of my insights and observations during the interviews. As previously mentioned, I used a reflective journal to record these notes including my insights and any changes in the research design.

Data Analysis

I analysed the data as I collected and processed it. In the early stages, I used the information from the reflective journal to identify codes and possible lines of

inquiry. I personally transcribed each interview and repeatedly reviewed the audio files during analysis. Verbatim text with grammatical errors could have presented a barrier to the member-checking process so I used suggestions from Carlson (2010) and eliminated filler words, false starts, and pauses to improve readability of the transcripts.

Saldana (2013) stated, "Coding is not a precise science; it's primarily an interpretive act." (p. 4). I read each transcript a minimum of four times. Upon first reading, I circled the key points made by the participant. This is known as pre-coding, which Saldana (2013) described as "coloring rich or significant participant quotes or passages that strike you as "worthy of attention" (p.16). Boyatzis (1998) calls these "codable moments." During the second reading, I highlighted phrases that seemed to capture a unique theme or summarize a key concept in a different colour for easy retrieval for further analysis. This is part of a larger process known as open coding (Saldana, 2013). I used an Excel spreadsheet for each question to record the initial data and entered the key statements noted during open coding. These statements in the participants' own words became in vivo codes (Saldana, 2013). I listened to each audio file and carefully read each transcript during this data entry. When all data were logged, I used this spreadsheet to identify themes reported with the most frequency. I used a dictionary to clarify the meaning of in vivo terms and then grouped these into categories of themes that shared a common meaning. These became the *manifest themes*, which represent the "visible or apparent content" of the participant's comments as they were explicitly stated (Boyatzis, 1998, p. 16).

Upon the third reading, I examined patterns in the data and paid attention to frequency of the manifest themes. The summation feature of the Excel spreadsheet allowed for easy identification of both frequent themes and novel themes. Paying close attention to both frequently and seldom occurring themes yielded valuable information about what participants agreed upon and differences in their experiences and training in child maltreatment assessment.

A fourth reading of the transcripts allowed me to dig deeper into the data and search for latent themes that emerged through the analysis of the data. *Latent themes* are generated through deep analysis of the data using the researcher's theoretical lens and personal experience to interpret the data and examine "underlying aspects of a phenomenon" (Boyatzis, 1998, p. 16).

Ethical Considerations

The study was reviewed by both UNBC and Northern Health ethics review boards. Participants provided informed consent and were advised that their involvement was voluntary and they could withdraw at any time without penalty. Additional precautions were in place to ensure potential ethical and legal risks related to the legal obligation to report child maltreatment were addressed. At the beginning of each interview, I verbally informed participants of their duty to report child maltreatment, that any failure to report a child in need of protection overrides any promise of confidentiality, and I must report the information about suspected abuse to MCFD. This information was also included in the written consent. To ensure confidentiality and anonymity, participants were given an opportunity to

review and approve quotations used in this dissertation and identifying information was omitted.

Summary

I used a qualitative approach to explore the experiences of twelve physicians/practitioners who provided medical evaluations of maltreated children in northern BC. I gathered data through semi-structured interviews and analyzed the transcribed data using thematic analysis. The manifest and latent themes are described in detail in the follow chapter.

Chapter Four: Research Findings

The interview transcripts were coded and analysed using thematic analysis. A thorough review and interpretation of the data yielded five manifest themes with twenty subthemes, and four latent themes. Manifest themes were generated from concepts directly obtained from the data, while latent themes were revealed from deep analysis using critical thought and interpretation. All themes are detailed in this chapter and illustrated in Table 2. Relevant quotes were used to provide context and a fuller account of these themes.

Demographics

Most participants saw cases of child maltreatment in acute care settings such as the emergency room, paediatric unit, or their office settings. Two participants saw the majority of suspected cases through their residency or as a medical student. Five participants have additional training and education in diagnostic evaluation of suspected maltreatment and four of the twelve saw these children at a Suspected Child Abuse and Neglect (SCAN) Clinic. Half of the participants had training or experience in both urban settings and small northern communities.

Table 2 Themes and Sub-themes

The following table illustrates the themes and subthemes identified:

Manifest Themes	Sub-Themes	Latent Themes
Assessment Challenges	• Skewed picture • Competence • Absence of decision support tools • Time constraints • Need for caution	• Information-sharing problems
Consultation and Collaboration	• Collaboration • Consultation • Benefits and challenges of provincial consultation	• Preference for local consultation
Northern Practice Setting	• Community visibility • Impact of travel • Backlash • It's all on you	
Training and Education	• Capacity building • Interprofessional education and training	
Systems	• System navigation • Communication difficulties • Expectations • Absence of feedback • Limited continuity of care	• Interprofessional expectations • Personal commitment

Manifest and Latent Themes

Assessment challenges. All participants viewed their role as threefold: assessment and treatment of medical needs, gathering a thorough history from the parent or caregiver, and ensuring there is a plan for the child's safety. This entailed seeking alternative explanations, assessing risk factors for the child and the family, and reporting to MCFD and or police. Assessment challenges most referenced included a skewed picture created by limited information, concerns about personal competence, absence of decision support tools, time constraints, and need for caution.

Skewed Picture. Overall, participants agreed that the inadequate patient history available during their assessment made it difficult to provide a complete assessment or concrete answers. "We don't fact check what our patients tell us" (Participant 6). "...we only see a snapshot" (Participant 8). "...in some ways, we are at the mercy of what you are told" (Participant 11). Most noted that they could not tell if the parent or caregiver was telling them the full story of what happened, leading to a skewed or incomplete picture, and potential missed cases of child maltreatment.

> Well I think that the thing that always sort of sits in the back of my head is that we learn in residency and in medical school the statistics about how high the number of people that present to emergency departments who have been abused or who have experienced say spousal abuse or potentially child abuse or elder abuse and I think a lot of it ends up undetected because the problem is that they have something else they present with, abdominal pain, they present with something else and so we deal with that problem and so I guess the one question I would have is how much are we missing? (Participant 3)

One participant also identified privacy laws as barriers to sharing of critical medical and social history between health care providers and child welfare social workers.

> ...a lack of knowing the ecology of the child. The past history, the social history, you know you're given every one out of thousand dimensions of a

> child, so it's an incomplete picture. You know that is what I feel is the biggest limitation. Other limitations are administrative bureaucracy, all the different silos, I find FOIPPA (Freedom of Information and Protection of Privacy Act) difficult, because it blocks easy access of information. (Participant 12)

Competence. Inexperience and infrequency of cases were described as obstacles to achieving and maintaining competence in diagnostic assessments of these cases. "Barriers, for me I think that would be for me lack of knowledge on how to proceed and what to expect for differential diagnoses…" (Participant 7). This was referenced across all participants despite their level of training or years of experience.

> I think that most physicians, if you ask them, feel woefully inadequately prepared to deal with suspected child abuse and neglect and don't know beyond the most grossly obvious what to look for, how to look for it, and what to do, once they find it. (Participant 6)

> …many physicians are very uncomfortable with it in a primary care setting. They feel insecure in their knowledge, they have a therapeutic relationship with the family, they often have an antagonistic relationship with the ministry, and the issues of identification and then what to do, and it all seems so complicated and so overwhelming that I think they'd rather ignore it. (Participant 12)

> …we don't see this every day. It keeps happening infrequently so I see kids with pneumonia or asthma day in and day out but this one you see once or twice a year so your expertise isn't great so whenever you see something you have to reinvent the whole wheel and go back to square one if you like. That's another challenge, unfamiliarity. It's not like you see a kid you do this and you walk out. It takes a bit of time to get going. And we are in the north and it is always a challenge to do things on your own without having the expertise of a team like you would have in where they are highly specialized and they see things frequently and there is a team of people who can deal with issues. We don't have all that. (Participant 9)

Absence of decision support tools (DSTs). The majority of respondents (eleven out of twelve) were not aware of any specific screening or decision support tools available to assist them in identifying and addressing all types of child

maltreatment. Many were unsure of how to conduct a thorough assessment and what steps to take in ensuring a child's safety.

> So no there's none that I know of. There's no good clear support tools to walk me through like there would be for a sexual assault for an adult or things like; that there's very clear guidelines but I don't see those in suspected abuse and neglect. They just tell you if you suspect it, report it. And it's vague enough that you feel should I? Shouldn't I? I don't know. What does it look like? How do I recognize it when I see it? And then retrospectively you often see all the times that you've missed it and you feel awful that you did, so how do we help? No there's no good decision support tools. (Participant 6)

> I think with all the medical legal stuff it's a little murky, so if Northern Health had a policy or there was something clear about how you went through this process then you know to make sure that you've contacted the appropriate people, and that there is certain resources that need to be given to well I guess the ministry would do all that so I mean I don't know I assume I'm doing the right thing I hope I am but I don't know. So you know maybe there is some sort of procedure that needs to be followed. (Participant 3)

Child abuse assessment is considered an area of specialty (Adams et al., 2015). Physicians and nurse practitioners with advanced training in child abuse assessment were able to identify diagnostic or screening tools they utilized to assess children referred to the SCAN Clinic. No respondent could identify a screening tool they used to identify both physical and sexual abuse in children in their regular practice setting. All participants expressed a need for decision support tools relating to identification and assessment of child maltreatment in their practice setting.

> I think that's the hardest part, you know you maybe have some sort of spidey senses that something is going on but whether or not you act on that or ask the right questions to get the right answers because you never want to assume, but I just kind of wonder if we are under-diagnosing. (Participant 7)

> If there was some sort of standard form that was filled out during the assessment time and the reporting would be more structured rather than free verse. (Participant 5)

Information sharing problems. Deeper analysis revealed information sharing problems as a latent theme. Some of the respondents with hospital

experience were aware of the Paediatric Sexual Abuse Protocol at UHNBC, which was developed by a local paediatrician for use at UHNBC. As I was completing this research, the SCAN Clinic team revised the protocol to broaden the scope and ensure it is relevant for any health care setting in Northern Health. I cannot comment on how many physicians and nurse practitioners are aware of this revised DST. Interestingly, I was not aware that the revised tool was operational until I began updating policies for the social work department in my new role as interim chief social worker at UHNBC. This was despite the fact that social workers in my department have key responsibilities under this protocol. This oversight in communication highlighted the need to ensure key stakeholders are promptly informed of any changes in protocols or DSTs.

Time constraints. Several participants referred to time pressures associated with completing a thorough assessment, coordinating diagnostic testing, and meticulously documenting the findings. "I think they need to see less patients per hour so they can spend more time with their patients." (Participant 8).

> ...you are in a busy clinical environment, meaning you are running around dealing with kids who are septic, having seizures or neonates, who are ventilated and stuff like that and then there are these non-urgent requests just like what happened recently. That is a time-consuming process that's a major challenge for a busy clinician, who is running the hospital clinical work to be burdened with this is difficult. I'm not saying that the work is not important, it is very important, but perhaps somebody else could do that in a non-urgent way. (Participant 9)

> Practically speaking, it's the time in our office. One child I saw had funny bruises and the amount of time it took me to get the history, and then [take] photos in my office and put everything [down], [it] was extremely time consuming. I was an hour behind in my office then. (Participant 2)

Need for caution. Participants referred to a need for added precautions in these cases to safeguard against legal and social ramifications. "If something

presents acutely then I must take all steps to make it as legally airtight as possible; not to screw up the evidentiary process." (Participant 12). They have to carefully review all the details and ensure they are able to back up their opinions. In sharing information with others, they must avoid making preliminary statements because these may need to be retracted. This means they need to take control over the information shared to ensure it is as accurate and as certain as possible.

> Because one of the concerns I have in these situations is that it's been made clear to me that if we suspect versus we know you don't put more information than you know. But in medicine sometimes, we give our opinions more liberally so it would be helpful to have some sort of document that would help us refrain from committing to things that we aren't sure of and reminding us how to proceed in these very important matters. (Participant 5)

This theme is also closely connected to the theme of time constraints, as this preparation and attention to detail is time-consuming.

> When you go into court you have to absolutely know your stuff left right and centre. So being asked an opinion and being asked to put that down in paper, I need to be recompensed for that because that's going take me a long time because I have to be so meticulous and so careful. (Participant 12)

Other participants worried about being wrong and damaging the doctor-patient relationship as the child's extended family members are also patients in their practice.

> I would assume, that a lot of the kids that we see are probably being under-diagnosed. Just from fear of the provider of making those conclusions and trying to balance the acts of seeing their parents as patients but also the child and keeping that relationship intact. (Participant 7)

> And to be honest, I have not heard anything from that family since. And that's another thing that happens. You done something and you've alienated that whole family. Which in some ways can't be helped and thank goodness there's more than just one person here because they can just see someone else. Well in this scenario, I've just alienated a whole set of people and something that just goes along with it. (Participant 11)

Collaboration and Consultation. In this sample of physicians and nurse practitioners none of them addressed cases of child maltreatment independently. They relied on a variety of professionals to assist them in responding but tended to rely on local colleagues and professionals they knew and trusted. Those with advanced training and experience in child maltreatment assessment identified benefits and challenges of consultation with provincial experts.

Collaboration. Those in shared practice settings such as integrated health team or multidisciplinary teams listed multidisciplinary colleagues as a source of assistance.

> ...that would be the GPs in my clinic the other nurse practitioner who has been working there for [omitted] years, so the clinic here would be a resource (gestured to the SCAN Clinic), one of the registered nurses I work with, she's really skilled and has been working in our clinic for [omitted] years so having her as a resource, our social worker is a great resource, so just accessing pretty much everyone on the team and discussing it. (Participant 7)

All participants identified that they consulted with local medical colleagues and health care social workers at the SCAN Clinic, hospital, or their integrated team. All but one stated they contacted MCFD social workers and collaborated with RCMP. Some sought advice and assistance from other professionals such as the local Infant Development Program, psychiatric nurse, or radiologist.

Consultation. Overall, participants described the experience of consulting with colleagues in positive terms and noted that they received a quick, helpful response. As one person said, "Without the SCAN clinic here, it would have been Google and a wing and a prayer!" (Participant 6).

> I think it's been a positive experience consulting with colleagues, everyone seems equally concerned and wants to address the issue as well, speaking with [another physician] before I came here and she was saying how she doesn't really feel too comfortable being responsible for the assessment either

> and neither do I but everyone is willing to help and we're all on the same page in that regard. (Participant 7)

Half of the participants indicated that they got what they needed through involving professionals in the Northern Health region.

Preference for local consultation. Upon deeper analysis, this emerged as a latent theme. Respondents seemed to prefer consulting with those they knew and trusted. The importance of relationships to a unified response is highlighted in this response:

> It's really tough to work with someone that you don't even know their name. So its one of those things I think we really need to do a much better job of working together as opposed to working in silos. I think that's one of the biggest things for me that would be helpful is to know who my team is." (Participant 11)

Only those with advanced training in child maltreatment assessment identified provincial experts, located at BC Children's Hospital, as a source of assistance. Most participants had never consulted with provincial experts for these types of cases. When questioned, I offered a prompt such as, "like BC Children's". While I noticed a confidence in local resources, it seemed that some participants did not have enough experience to recognize the limitations of local resources and when the services of BC Children's were needed to make the determination regarding child maltreatment.

> ...We have the resources, if I need to do a skeletal survey, I could do that. If I needed to do a CT head I could do that I mean I don't know I've never had to ask an ophthalmologist up here to do a retinal evaluation of a potential shaken baby and you have to sedate the baby to do that but still that might be doable up here. We would have the people and the resources to do that so I can't think of a situation, a potential situation, off the top of my head where I would need some resource that we don't have up here. (Participant 3)

Benefits and challenges of provincial consultation. Those with extensive experience and advanced training described both benefits and challenges to long-distance consultation. The relationship with provincial experts at BC Children's was seen in positive terms because they have common training, get together to review cases, and know one another.

> The experiences would be very positive like consulting with BC Children's Hospital child protection team down there. Very experienced people. Very open and willing, always available to answer questions, to be helpful, to provide second opinions if needed. I personally think ... that the service that BC Children's Hospital provided, not just in terms of second opinion advice and support, but also in terms of education. They provided a tremendous amount of ongoing education. (Participant 12)

Case-specific consultation with provincial experts was viewed as helpful to provide reassurance when there is doubt about the diagnosis. "...when in doubt you don't want to make the wrong diagnosis, so at that time you may want to call a provincial expert just to give you some moral support and some guidance." (Participant 9).

It is often the physician who is required to inform the family and investigators that child maltreatment is the suspected cause of injury and the responsibility still remains with that physician to provide justification for this diagnosis. The consultant physician is not the one actually seeing the injury, hearing the story, or providing the diagnostic opinion. One participant described a difficulty consulting on these cases when the consultant physician had not had any contact with the person providing the history or the patient.

> The thing is the majority of them aren't seeing them or hearing the story and they haven't had any contact with the child or the storyteller or the caregiver. So all they can do is just give their opinion based on what they hear from you. So the buck stops with you ultimately because you will have to take a position as to where you go with that because the report hinges on what you have to say. And a lot of it depends on what you ultimately have to say on whether this is accidental or non-accidental. You can make or break a thing so I find

> that challenging because you're it. None of the other professionals can actually make that statement for you. (Participant 9)

Northern practice setting. More experienced participants and those who had practiced in small, northern communities identified barriers related to the northern practice setting such as community visibility, backlash, concerns about provider-patient relationship, and the impact of travelling to access specialists and equipment.

Community visibility. In smaller, rural communities, physicians may also be a member of the community and therefore may be required to interact with patients in a variety of social contexts. This reality means they are more visible than those in larger social settings who might never interact with patients on a personal level.

> You don't have as many people to do the different jobs. So if you are one of two physicians in town and you live in a town of three thousand people, chances are, you socialize with these people that are also your patients. You can't clearly and decisively separate your personal life and your work practice life as you can in Vancouver where you might or in any other major city where you might work in area A but you live in area B so you never really cross. (Participant 6)

Some participants noted obstacles related to this community visibility and the risk to the provider-patient relationship when identifying child maltreatment as one of several possibilities for suspicious injuries.

> You generally have a patient and their entire family is a patient. I don't personally live in [community X], I live in [community Y,] so there is a degree of separation there. But for people that live in [community X], you can go to the grocery store and people can ask, "Why did you do that?" while you are buying milk. (Participant 11)

Impact of travel. In an urban centre or children's hospital, diagnostic testing can be done onsite as part of the normal course of medical assessment or as one person commented, "... it was abuse until proven otherwise" (Participant 11). Child maltreatment is considered part of the differential diagnosis for many childhood

injuries and so, additional testing can be done without additional inconvenience or making complicated arrangements. In outlying northern communities, required tests such as infant bloodwork require the patient to travel to Prince George or a larger medical facility.

> I mean if you want to do any tests like an ultrasound or if it's a small child and you are looking to do some diagnostics other than rudimentary bloodwork, that has to go to Prince George, or [larger community] from here. In terms of training for sexual abuse, I don't have that and none of the other physicians I work with have that either so for that sort of thing we generally have people go to Prince George. (Participant 11).

This travel can be costly for families living at or near the poverty line. One participant highlighted how this barrier can lead to a perception that the parent is neglectful.

> So there are limitations to what you can do and what you can accomplish... and for people that are really at a financial disadvantage, that trip to Prince George costs $20 in gas that they don't have, so sometimes things that should get investigated don't get investigated, which leads some people to think that this is neglect but when in all reality, it's that they are under such financial constraints that they choosing to feed their child rather than bring it to a cardiologist. (Participant 11)

Aside from the financial costs of travel, there are potential relationship costs. The need for travel means the physician or nurse practitioner must communicate their suspicion of maltreatment early in the course of treatment and prior to receiving the results of confirmatory testing. One participant described how this could negatively affect the patient-provider relationship consequently; the physician/nurse practitioner might carefully weigh the decision to refer to a larger community for additional testing.

> It's sort of one of those things that I wouldn't be human if I didn't say that it makes you stop and think before you do something that might have implications...But sometimes when you think it's going to be a big deal, ...you try and talk yourself out of something that your gut tells you, you shouldn't.

> And in that case, you just have to go with your gut and be thankful that you don't live in the same town. ... But it does definitely there is more of an implication than I ever had when working at Children's Hospital you come in with a kid who had a seizure and you do a CT scan to see if they had retinal haemorrhages for shaken baby syndrome. ...that's more of the fact that you are at a children's hospital ICU and you can do those things, as opposed to here, where A you can't, and B, what does that mean? Why are you doing that? And you have to answer to that fairly personally. (Participant 11)

Backlash. Several participants described negative repercussions resulting from their involvement in these cases. These ranged from situational anger and accusations directed to the physician to legal complications resulting from their assessments. One participant described the experience of being reported to the College of Physicians and Surgeons and threats of legal action.

> ...parents or the caregivers accuse you of mal-intent. You report something as non-accidental and then they come at you and say, "Don't you have children? My children are being taken away from me now, so how would you feel if your child is taken away?" So emotional blackmail when you are actually doing your duty; accusations and bitterness because you are trying to do the right thing. The perpetrator or the parents, it's not what they like to see and there is a conflict. So those are some of the challenges you get a little a bit of abuse as well because of that. (Participant 9)

> Physicians are sometimes reluctant to enter into possible accusatory situations because of the potential problems that can occur afterwards and I'm not saying that physicians are just afraid or bad people or anything like that it's just kind of a normal reluctance at first to accept that people can be of such a nature that they'll harm somebody and secondly that if somebody is accused there is a lot of implications that can go along with that, anger at the physician, legal problems, stuff like that... (Participant 10)

It's all on you. Several participants noted an increased level of responsibility for paediatricians who are expected to coordinate these complex assessments with limited resources and amongst competing priorities. Even in Prince George, certain diagnostic tests are not available or should be interpreted by a specialist, such as a paediatric radiologist, who has the training and sees the volume of paediatric

patients necessary to acquire expertise in interpreting the results. Most participants described having easy access to a paediatrician; however, it was interesting to note that the paediatricians themselves acknowledged that they are general paediatricians who are expected to see everything. They are at a disadvantage compared to paediatricians in larger urban centres who specialize in child abuse, and have ready access to teams of other specialists as well as diagnostic equipment.

> So sometimes the imaging tests, like getting the X-rays done, and then getting it done with very high quality and then interpretations can be limiting although it's not hard to get images interpreted at a remote site, but sometimes the quality of the images isn't always there, or there might be missing images, so that's one. Sometimes the blood tests that are required are not possible here, meaning the amount of blood we have to take to run the test in our lab is excessive for a baby or a small child. Whereas the BC Children's they could draw it out on a much smaller amount because their machines are different. That's one. And the other is sometimes the samples have to be taken here but sent to Vancouver because we don't run the tests here and there's problems there. We get problems with samples breaking down on the trip, or waiting a few days, or being inaccurate, so that's a problem. And then for acute injuries, kids that are in hospitals with serious injuries I think there's major practice limitations because we don't have anyone more specialized than a general paediatrician. So you can't even really get the opinion of a paediatric orthopaedic surgeon if you were wondering how much force is required for Fracture X. Also if you have a baby with especially, but, in a kid with a head injury it wouldn't-we wouldn't even- it wouldn't be appropriate to keep them here because we don't have any paediatric neurosurgeons, neurology, things like that. We can't do CT scans of the head and MRIs of the head under sedation if we wanted to, so there are limitations with those things. (Participant 1)

> ...we are in the north and it is always a challenge to do things on your own without having the expertise of a team like you would have in where they are highly specialized and they see things frequently and there is a team of people who can deal with issues. We don't have all that. (Participant 9)

Training and Education. Eleven of the twelve participants noted the importance of increased training and education in identification and assessment of child maltreatment. Despite limited training in assessing child maltreatment, physicians and nurse practitioners are expected to provide this service as part of general

medicine. Implicit in this role, is an assumption that all physicians and nurse practitioners have this competency.

> I would say I wouldn't feel all that comfortable with it and a lot of that is lack of experience and lack of training. ... I remember we had a session, maybe an hour or two session, when I was a resident, but I don't feel I was all that well trained in everything that I should be asking and looking for and how I would give my professional opinion. (Participant 4)

Capacity building. Physicians and nurse practitioners provided numerous suggestions for building capacity in child maltreatment assessment through ongoing education and training, ready access to information and availability of expert consultation.

> It'll be nice to have in-service training every now and then. I mean we had one two or three years ago. It would be nice to have regular education on those topics and maybe some decision-making tools, maybe a physician or a paediatrician who is an expert in doing this to be available at the call of anyone, and we generally rely on a provincial radiologist to give us an opinion so easier access to them, and prompt reporting of any findings, of abnormal or normal. Those would be some of the resources that we just need to have. (Participant 9)

> From a medical perspective, maybe some form of learning or medical education, like case-based medical education outlining what the steps are and what the resources are and education like that would probably be helpful; and knowing particular to the north, what our resources are, or what provincial experts we can access" (Participant 5)

> I think it would be nice to have a little education session on that. Cause for me in nurse practitioner's school I didn't actually learn anything really about assessing child sexual assault or any kind of child abuse. I mean you hear about it, you read about it in your text books, but we have never had any formal education and even similar in RN school, you know what that is but you don't actually have the training so it would be helpful to go to an education on it whether it be a half day or a teleconference or webinar or full conference in Prince George, set up in the region. (Participant 7)

> I know one year the SCAN Clinic came and did a talk at Northern Doctor's Day and did go over cases and I found that very useful. I think an update every once in a while to the family physicians would be the best thing possible.

> These are things that are concerning: children who don't follow up with appointments, who don't come in, fractures that don't match the history, like a few big glaring ones, bruises in children that don't move, that kind of stuff; big reminders for doctors just to be vigilant or aware of it. (Participant 2)

> Certainly in family practice residency there was no discussion. I did two months of paeds clinics and at no point, was tools around suspected neglect or abuse mentioned there was no support around that it wasn't even really talked about as something that might come up. Med school we did time in the SCAN clinic but even that it was probably our biggest exposure was one visit to the SCAN Clinic. (Participant 6)

Interprofessional education and training. Several people highlighted a need for increased training for their multidisciplinary colleagues, such as nurses, emergency room doctors, police, and social workers. "I think if we did more training together and started to use the same language and learn from each other's experiences we would be on the same page more and that's the way." (Participant 8). A shared understanding of common of signs of child maltreatment was thought to improve the odds of earlier recognition:

> I think Northern doctors or rural doctors in general really could use the emergency room, front line, walk in clinic, family doctors could use a screening tool, like you said, or, even a team that that is trained in like red flags to look for. I don't even mean a medical doctor. I mean it could be someone like their triage nurse in the emerg, having additional training in looking for features concerning for possible child abuse. Because I think often times at least with the physical injuries in the sexual abuse the first point of contact is the emergency room, it's not with a paediatrician. And I think that if the first person to see them, like the triage nurse, or all the nurses, have more training in terms of red flags; that would be really good! Because if they bring to the doctors attention say this kids only 5 months old and he's got a bruise on his back I'm worried about inflicted injury then that will at least would steer the doctor in the right direction. (Participant 1)

The same participant explained that when investigators lack a basic understanding of child abuse it can be difficult to communicate the meaning of diagnostic results; "police officers that can't believe you can have a normal genital exam after sexual

abuse, you know that's not helpful because it's almost like you have to convince them to pursue investigations and that shouldn't be part of my job." (Participant 1)

Systems. Participants identified challenges associated with navigating unfamiliar systems, interprofessional expectations, communication difficulties, absence of feedback, and lack of continuity of care. These challenges emerged as barriers to effective interprofessional collaboration in these cases.

System Navigation. Most participants described positive interactions with medical providers, and police and child protection investigators, however participants expressed that they did not understand how to navigate those systems. "I don't feel prepared to work in a system I don't understand and it's different every time I encounter it." (Participant 11)

> I mean a major one is just inexperience with the system, sometimes sort of daunting when you are faced in that situation like where do I go and what number do I call and if it's the weekend, do they need to see the SCAN Clinic, do they need, there is a lot of sort of unknowns because I don't see it often and I haven't had much experience with it, then I get kind of caught up in the bureaucracy of it. (Participant 5)

> Knowing what a social worker does. Knowing what our local ministry workers do. I think that would be like the first thing because I don't actually know. I've tried to contact the ministry because our nearest MCFD office is in [a neighbouring community] and they've got one person that comes out here once per week and I don't know who that person is and I've been here for almost a year. I don't honestly know what they do. (Participant 11)

> Other limitations are administrative bureaucratic, all the different silos, I find PIPA very difficult, because it blocks easy access of information. Sometimes social workers will send me a section 93, or whatever, you must release all your records. But that only pertains to public employees, and we're not public employees and we're not governed by that and they don't seem to know that. (Participant 12)

Communication difficulties. Interprofessional communication was seen as challenging for several physicians in their attempts to discuss medical and child

protection matters with police, social workers, and members of the criminal justice system.

> I think that another barrier would be language. I think that being in medicine and thinking and talking medicine we use a slightly different language or significantly different than someone in a different field for instance the police or the ministry and when I say something it might mean something to me but sometimes my words might be taken differently to other people. (Participant 8)

> ...sometimes I think a limitation is that the social worker at the ministry that we talk to and myself might not be speaking the same language so like I might feel like there is a real child protection issue and the social worker might not agree. So even though I might feel like that's part of my role, it's like I feel like it's part of my role to make sure the kid is safe and that any of the other kids around are safe, but actually I can't implement that part that's not really my job. (Participant 1)

Expectations. Physicians and practitioners identified that police and child protection workers can have unrealistic expectations about the certainty of medical opinion. This perspective can act as a barrier to effective collaboration. "It's the same thing as any medicine really, you can't always give 100% answer." (Participant 8). "I can't make things up but [and] he can't charge people unless he has a degree of certainty but that's just the legal system." (Participant 2)

> There is a misconception about how much information we can gain from a parent who brings in a child for examination. We can assess a child and look for injuries but we are not more able to do a real good assessment of a situation in terms of an environment than a trained social worker would be. I think there is more of an expectation of physicians in a short medical visit than might be the case." (Participant 10)

> Honestly I think it would make my job a lot easier if the police and the legal system would understand that nothing is 100% and I think that's the most frustrating thing is that I think they often want to know how certain are you that this is inflicted and it's pretty much almost never that you are certain. (Participant 1)

"The trouble is not just doing the exam, it's you have to do the exam, interpret the findings and give them to the ministry possibly all in the same visit without a lot of time to process." (Participant 6)

Interprofessional expectations. Deeper analysis of this issue, and reflection from my own practice experiences, revealed this as a latent theme as participants also described their own lack of understanding of the role of CPS and police in gathering collateral information and meeting legislative requirements. I began to understand that physicians'/nurse practitioners' expectations of the role of police and CPS in these investigations might contribute to the problem. "...I might feel like there is a real child protection issue and the social worker might not agree..." (Participant 1). "I don't honestly know what they do" (Participant 11). This may be connected to limited communication following child protection reports and lack of information regarding outcome of criminal investigations.

Absence of feedback. There was a sense of uncertainty from participants about the value of their assessments due to a lack of feedback and closure. " I don't' think we do very good assessments because we don't know what happens with our assessments" (Participant 11). "... I mean I don't know, I assume I'm doing the right thing and I hope I am, but I don't know" (Participant 3)

> We don't get any feedback later or any follow-ups. So with the two children I reported to the ministry, I didn't get any follow-up and I have no idea about afterwards about what happens to them besides when they next come in for their next appointment. (Participant 2)

Other participants worried that involving MCFD or police might put the child in more danger while waiting for a response.

> Is the ministry resourceful enough to deal with things in a timely manner? Am I going to put the child in more danger by disclosing and having the

> ministry come to the house in an hour or two hours or three hours? Is that okay? (Participant 6)

Limited continuity of care. More than half of the participants (seven of twelve) could not identify established policy or procedures they use to facilitate continuity of care for children assessed for child maltreatment. This gap was identified as existing in both general paediatrics and family medicine with no formal procedural remedy. "We don't have continuity of care, we don't even know what happens to our patients most of the time; they disappear into the woodwork."(Participant 8)

> ..the onus is always on the parent to bring the kid back so even if we say to them come back in three months we need to see how they are growing, if they don't come back there is no system in place for that to be flagged. That is a problem beyond just educating people about it because all family doctors would probably realize that for these high risk kids that's not working, that beyond that we need to probably come up with a plan like maybe get the electronic records providers to figure out a way to have it sound an alarm in three months that so and so hasn't phoned yet or whatever because that's a problem. I don't think it's appropriate to put the onus on the parents when we are already concerned about the parent's ability to parent to follow through. (Participant 1)

Feedback following a child protection report was seen as essential to continuity of care by many participants.

> And also that there is some feedback for follow up of the child who is reported, goes back home and comes back to the clinic at some time in the future. I would want to know about what happened, what was the outcome of the reporting and whether there was any follow up other than just me in the medical sense. (Participant 10)

Another participant stressed the importance of receiving the health and social history of children in foster care.

> I think that if I'm following a child up over a long term with continuity of care, the lack of feedback from the ministry is significant. I see many children now, drug addicted babies, children coming from lots of chaos, neonates and lots

> of early life. A huge percentage of my practice is children in foster care. And so not getting the prenatal history, the history on the parents, which is all so important to help me do my job in trying to protect that child. (Participant 12)

In the absence of formalized policies and procedures, some participants recognized that vulnerable children may need additional oversight and promising practices were described. Participants from an integrated health clinic ensure that any of their patients seen at the SCAN Clinic are called for follow-up by their multidisciplinary team to ensure that the medical recommendations are carried out. This same clinic sees all children in the first week of life and then the children are flagged for follow up if they do not come in for milestone check-ups. This follow-up allows an opportunity to check in with the family to ensure the child is doing well and there are no unmet medical or psychosocial needs.

Personal commitment. Deeper analysis revealed that some participants made a personal commitment to follow up with at risk children. These participants described experiences that lead them to implement strategies in their personal practice setting to ensure the health care of vulnerable children was monitored.

> I don't have any set policy or procedure but I am pretty particular about making sure that the kids who are at risk or who I think are at risk are not lost to follow-up. So for example, if they don't come to appointments more than once or twice I call the ministry but I'll put it in writing and call the ministry or put it in writing and send it to the ministry um so it's not like a formal policy and it's possible I would still miss some but I don't think I miss very many. (Participant 1)

> ...one of the greatest lessons that I have learned is not to abandon these children. Even if I see them once a year, just to check in, just to check that everything is staying ok, or sooner if they need it. Just as a presence in their lives. (Participant 12)

> I think if patients don't follow up, especially the children, if they don't follow up as recommended, then they need to track the families down and find out what's going on. If you send referrals on to a specialist and they don't show

> up, I think you need to track that down, I think you're responsible for that. That's been one of the recurring themes at our clinic is all these kids that have accessed services and haven't had appropriate follow up. (Participant 8)

Summary

Medical evaluation of child maltreatment is fraught with challenges in primary care settings. Through listening to the perspectives shared by these northern physicians and nurse practitioners who have endeavored to provide this service in northern BC, I have come to understand that their experiences mirror those of other medical providers internationally. The northern practice setting presents additional difficulties due to community visibility, dual relationships, limited resources, geographic considerations, and distance from specialty services and resources. These challenges were addressed through reliance on relationships, consultation, multidisciplinary collaboration, and personal commitments. Participants offered many tangible suggestions for systemic improvements; such as interprofessional training, use of electronic medical records to flag children for follow up, and regular reminders of child maltreatment warning signs. Recommendations will be described in the following chapter.

Chapter Five: Discussion

The previous chapter described manifest and latent themes, which emerged through thematic analysis. This final chapter provides an interpretation of key findings, describes the significance of these findings, congruency with previous research, study limitations, recommendations, directions for future research, personal refection, and a conclusion.

Interpretation of Key Findings

I explored factors that facilitated medical evaluation of child maltreatment as well as barriers with three research questions: 1.) How do northern physicians/nurse practitioners view their role in child maltreatment evaluation? 2.) How do northern physicians/nurse practitioners determine what interventions are required? 3.) What resources do northern physicians/nurse practitioners access when responding to this issue?

I discovered that northern physicians/nurse practitioners viewed their role as primarily to assess and treat injuries and ensure a child's safety. They saw this as a serious responsibility with important repercussions for the child, the family, and themselves. Participants described a lack of practice guidelines and lack of decision support tools, so they determined what interventions were required by relying on resources such as their own education and training, consultation with people they knew and trusted, as well as collaboration with a wide variety of interprofessional colleagues and specialists. To fulfil the full scope of their role, participants cautiously documented their findings and contacted MCFD. Some participants took steps to

monitor the child's health in their individual practice settings following a child maltreatment assessment as a personal commitment to their ongoing care.

Barriers to Child Maltreatment Evaluation

All participants in my study expressed an interest in obtaining further education and training in child maltreatment evaluation. Several participants noted that they did not see child maltreatment cases with sufficient frequency to develop or maintain competency in diagnostic assessment, which is congruent with the literature. Adams and her international colleagues acknowledged this reality in their efforts to develop a national certification program for child abuse evaluation (Adams et al, 2015). As outlined in chapter two, studies have consistency shown deficits in education and training for both physicians and nurse practitioners in recognizing and responding to child maltreatment.

Despite robust evidence and wide acknowledgement of this competency issue, there are no official restrictions on scope of practice for physicians providing diagnostic medical opinion for suspected child maltreatment. Nurse practitioners have some restrictions regarding diagnostic tests they can order however, the medical evaluation of non-accidental injury and sexual assault are still within their general scope of practice (CRNBC, 2015). More at issue, there is no recognition of differential competencies from a provincial child protection standpoint. MCFD has no minimum standards for medical evaluation of child abuse (MCFD, 2004, p. 60). While SCAN Clinics are available for complex cases of child maltreatment, there is no requirement for CPS workers to access this service for complete assessment or consultation (MCFD, 2004, p.60). In my own experience, various MCFD social

workers and team leaders have told me that MCFD accepts a medical opinion from any physician to substantiate an allegation of abuse or neglect. Despite recurrent problems with missed cases of child maltreatment, various provincial inquests and RCYBC reports dealing with critical injuries and deaths of vulnerable children remain silent on the issue of competency (Flemming, 2007; Gove, 1995; RCYBC, 2009).

Even when a child maltreatment specialist assesses a child, the medical evaluation has little utility if the decision makers lack the basic knowledge to interpret the findings. Participants in this study expressed frustration with what they perceived to be unrealistic expectations of the certainty of a medical examination. Those with more training and experience noted that CPS and police investigators appear unable to differentiate between the diagnostic opinion of a child abuse specialist and a general practitioner and seem to lack understanding of the rigor needed to conduct these assessments and provide a diagnostic opinion.

Consultation and collaboration are based on mutual sharing of important information. Poor information sharing between medical providers and CPS remains a significant barrier to identifying and addressing child maltreatment. The 2009 RCYBC report recommended that physicians obtain medical and social history from MCFD social workers, and other health care providers in addition to the foster parent. Participants in this study identified challenges associated with poor information sharing between themselves and CPS. They were unable to do a complete assessment due to limited or unreliable health and social history available during their assessments, which created a skewed pictured of the child's circumstances. A lack of feedback regarding the outcome of a child protection report made it difficult for participants to know whether their patients received the help they

needed and to clarify their own role in the child's follow up care. Feedback also serves a useful educational purpose for physicians/nurse practitioners who would not otherwise know whether their concerns were justified. It also allows other professionals such as police and medical professionals to develop their knowledge about child protection matters.

Facilitators to Child Maltreatment Evaluation

I had the opportunity to interview participants who worked in a variety of practice settings including sole practitioners, interprofessional teams, shared practice settings, and hospitals. I learned that they had a good understanding of their roles and responsibilities and did not approach these cases independently. All participants demonstrated an understanding of their mandated duty to report concerns to the MCFD and expressed a willingness to do this despite their concerns with that system. The participants also relied on consultation and collaboration with their colleagues to address these complex situations. Those who worked in shared practice settings described their team members in positive terms and saw them as accessible and supportive. In addition to their physician/nurse practitioner colleagues, participants described a reliance on their relationship with other professionals such as social workers at the hospital or on their interprofessional team, social worker at SCAN Clinic, and MCFD social workers, nurses, child development workers, and police to assist them in responding to child protection concerns.

The NH SCAN Clinic was identified as an important source of education, training and support to half of the participants. Participants described positive

experiences of contacting the NH SCAN Clinic for consultation, referring children, and receiving follow up reports. Others noted that they had attended presentations by the NH SCAN Clinic at the Northern Doctor's Day or during medical school, or had spent time there during their residency. The BC Children's Hospital SCAN Clinic was seen as an important source of support and education for local paediatricians and physicians from the local SCAN Clinic.

Significance of Findings

Children will not be safer if they are not identified and accurately diagnosed. The participants, over half of which were medical and nurse practitioner graduates with five years or less of practice, report the same challenges with limited education and training in child maltreatment reported in the literature (Flaherty, Jones, & Sege, 2004; Heisler, Starling, Edwards, & Paulson, 2006). Missed opportunities for early intervention equate to greater likelihood of the child experiencing chronic physical and mental health problems throughout the life course. Considering the prevalence of recurrent child maltreatment in northern BC, and the enduring impact of child maltreatment on a child's life-long physical and mental health, it is essential for NH to take the lead and create opportunities for continued professional development for medical professionals, interprofessional training, and to move forward on efforts to create a shared electronic medical record that would allow rapid exchange of information needed for continuity of care, decision-making, and risk assessment.

Congruency with Previous Research

This study mirrored the findings of Ziegler, Sammut, and Piper (2005) who found that emergency department physicians required more training and resources

to complete child maltreatment assessments. Similarly, participants in my study described a need for more training for themselves as physicians, but also for nurses who do the initial screening, and family doctors/nurse practitioners who see the child in follow up (Webster & Temple-Smith, 2010). Concerns expressed by participants regarding achieving and maintaining competency in child maltreatment assessment are compatible with the literature (Adams et al., 2015; Anderst, Kellogg, & Jung, 2009; Flaherty, Jones, & Sege, 2004; Heisler, Starling, Edwards, & Paulson, 2006; Ziegler, Sammut, & Piper, 2005). Barriers associated with the northern practice setting were similar to those reported by others such as Schmidt and Klein (2004) who studied the experiences of child protection workers practicing in northern and rural settings.

Study Limitations

This study provided an opportunity to explore the perspectives of twelve northern physicians/nurse practitioners who volunteered to participate and to engage in a personal dialogue with me as a researcher. It is possible that the study design might have excluded those who would have liked to share their views but who preferred to remain anonymous, such as in an anonymous survey design. The study provides an opportunity to learn from the experiences of the participants but their views are not representative of all those who do this work and the results cannot be generalized to the larger group of physicians/nurse practitioners in northern BC. The northern practice setting is diverse and there are numerous ways that maltreated children access the health care system for treatment. I did not have the opportunity to talk to outpost nurses who see children on reserve and in small isolated

communities often prior to them accessing care from physicians or nurse practitioners. While I contacted physicians all over northern BC, I recognize that some sole practice physicians simply did not have the time to participate due to the high demand for their services and limited supports.

Recommendations

The following recommendations were extracted through analysis and interpretation of the qualitative data, from the literature review, and from the participants themselves. They represent recommendations for systemic change at the microsystem level, amongst physicians and nurse practitioners; mesosystem level between physicians/nurse practitioners and other service providers; exosystem level between organizational systems (health, education, professional bodies, government agencies); and macrosystem level involving large-scale organizational policy changes.

1. **Build Capacity of Northern Physicians/Nurse Practitioners through Education and Training.**

Education about child maltreatment should be incorporated into the curriculum of all physicians and nurse practitioners practicing in northern BC. Through partnership, Northern Health, the NH SCAN Clinic, and the Division of Family Practice should provide opportunities for case-based learning opportunities for physicians and nurse practitioners to ensure they have ongoing exposure to advancements in child maltreatment evaluation. The stakeholders noted above should collaborate to provide regular reminders to physicians/nurse practitioners of things they should be aware of when evaluating at-risk children, similar to reminders

provided for prostrate cancer screening, to ensure child maltreatment remains in their awareness as a differential diagnosis.

2. **Utilize the Expertise of SCAN Clinics.**

Physicians and nurse practitioners should refer to the NH SCAN team for consultation, acute assessment, or follow-up care in severe or complex cases. Children residing in foster care who present with suspicious injuries or neglect should be acknowledged as complex cases. Under these circumstances, foster children should automatically be referred to a SCAN Clinic for a comprehensive assessment due to the recognized difficulty in obtaining an accurate, complete, medical and social history. This will provide an additional safeguard for children who are already at increased risk for subsequent abuse.

3. **Utilize Electronic Medical Records to Improve Identification of and Continuity of Care for At-risk Children.**

NH and private physicians using electronic medical records should build processes within the electronic medical records system to flag at-risk children. These electronic records should have the ability to gather data on children who have experienced a previous episode of maltreatment to ensure they are flagged for follow-up and that appropriate information is shared. The primary care physician/nurse practitioner should ensure families or caregivers are contacted for follow-up and, if needed, that MCFD is notified when the child's essential health care needs are neglected. These changes could offset the continuity of care challenges associated with the use of locums, walk-in clinics, and transiency of at-risk children.

4. **Create Procedures for Inter-agency Information-sharing.**

An updated memorandum of understanding between the Ministry of Children and Family Development, the Ministry of Health, Northern Health, and the College of Physicians and Surgeons of BC should be completed outlining procedures for ongoing sharing of medical and social history between health care providers and MCFD. These procedures should allow for sharing of electronic medical records between public agencies (health authorities, MCFD) and private physician's offices. It makes sense to me that this should be a provincial initiative spearheaded by the five SCAN Clinics in the province as they have the ideal complement of training and interprofessional expertise, and the resources to negotiate such an agreement.

5. **Provide Ready Access to Evidence-based Information on Child Maltreatment Assessment and Contact Information for Local and Provincial Resources**.

Participants described challenges they faced in accessing reliable evidence-based information about child maltreatment assessment and contact information for local and provincial resources. I noticed that the College of Physicians and Surgeons of BC and the College of Registered Nurses of BC have recently included updated information regarding this on their websites. The NH website should also have easily accessible information about child maltreatment assessment, including links to best practices, and resources available both provincially and locally for consultation and follow-up. Currently, there is no information on child maltreatment on the NH website and no links to the NH SCAN Clinic.

Each Division of Family Practice should have information on their website regarding child maltreatment assessment and links to resources available in the north. The

local SCAN team attends annual training on child maltreatment and keeps an updated resource of relevant child maltreatment literature on evidence-based practice. As the NH SCAN Clinic has a mandate to build capacity of northern health care providers, it makes sense to me that they develop a procedure to share this information regularly with all Northern divisions of Family Practice so they can maintain an updated resource for that is accessible northern physicians and nurse practitioners who are not employed by NH.

6. **Expand Interprofessional Training Opportunities.**

Several participants identified a need for their interprofessional colleagues to obtain training in child maltreatment evaluation so they know what to look for, who to contact for information and assistance, and how to interpret the findings. I can personally relate to the experiences of participant 1, who lamented about "police officers that can't believe you can have a normal genital exam after sexual abuse, you know that's not helpful because it's almost like you have to convince them to pursue investigations and that shouldn't be part of my job." As a social worker at the SCAN Clinic, I had similar experiences communicating with CPS workers who did not recognize the significance of infant bruising or who failed to understand the importance of obtaining complete medical history to providing a diagnostic opinion. Interprofessional training opportunities would allow for the development of relationships between these groups and assist them in developing informal connections, which we recognize as an important element in northern and rural practice.

NH SCAN Clinic multidisciplinary team should provide educational sessions to other relevant disciplines such as nursing students, new RCMP recruits, and social

work students during their undergraduate education. Several participants acknowledged the benefit of having the NH SCAN Clinic team members provide training to them during medical school and residency. I think it would be valuable for the NH SCAN team to provide these educational opportunities to other members of the interprofessional team such as social work students, nursing students, and new RCMP recruits. This provides an opportunity for the students to hear the information directly from the multidisciplinary team, pose questions, and build personal connections with the interprofessional team.

Directions for Future Research

This was a qualitative study with a small number of participants. I would be curious to learn how we could develop a process for ensuring that at-risk children are not lost to follow-up with the new interprofessional primary care teams that are developing across northern BC. It would be helpful to use the information in this study to develop a large-scale quantitative study of all primary care physicians/nurse practitioners in northern BC to gather data on how they are tracking the follow-up care of children who have been assessed for suspected child maltreatment.

Personal Reflection

When I started this research, I heeded some wise advice and chose a topic I was passionate about. My first encounter with a seriously maltreated child, involved one of the children in the 2008 RCYBC report who later died as a result of her injuries. I was her social worker and the first time I met her was in the Paediatrics Intensive Care Unit at the Prince George Regional Hospital; as a novice social worker, I was deeply affected by her death. I shed many tears as I read the RCYBC

report and saw how completely the various systems had failed to protect her. Using an ecological perspective in this study allowed me an opportunity to discover opportunities for change within at least one of those systems, the health care system, with the intention of impacting the other systems. I was able to explore ways to improve information exchange amongst health care providers, facilitate follow-up for vulnerable children, and suggest ways to improve collaboration between health care providers and other systems. As an experienced social worker now, with additional knowledge obtained during this research, I feel empowered to create systemic change so that children impacted by abuse can be identified early enough to prevent further harm.

Conclusion

The goal of this study was to explore how physicians/nurse practitioners in northern British Columbia evaluate child maltreatment encountered in primary care settings. This research identified that many of the problems Judge Gove (1995) identified with the medical system's response to at-risk children remain unaddressed. Participants identified barriers they face when assessing suspicious injuries and concerning health conditions, including difficulties with communication between health care providers and child protection workers, issues related to geography and the northern practice setting, training and education issues, and systemic issues blocking continuity of medical care. Judge Gove (1995) noted that physicians did not pay sufficient attention to Matthew's Vaudreuil's medical and social history, this study identified systemic barriers preventing health care providers from accessing this information. The physicians and nurse practitioners I interviewed had many

practical suggestions for addressing these concerns and highlighted facilitators that assisted them in completing these assessments. As the national approach to primary care transitions to a new model of interprofessional primary care teams, it presents numerous opportunities for systemic change including improved procedures for information exchange and interprofessional collaboration.

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Appendix A: Interview Guide

Before we get started, in the interest of full transparency, I would like to remind you of an important limitation to confidentiality. I am legally obligated to report a child in need of protection due to suspected neglect, physical, sexual, or emotional abuse. If you disclose an unreported child protection concern during our interview, I am obliged to report the concern to MCFD for follow up and they will likely contact you for additional information. If you would like more information regarding mandated reporting, I have provided a copy of your professional standards and guidelines from the College of Physicians and Surgeons/College of Registered Nurses of British Columbia.

I would like to remind you that you may refuse to answer any questions during this interview.

Screening Questions:

1. Do you see children from 0-12 in your practice setting? Y/N
2. Over the past five years, have you provided medical care to children in the Northern Health region? Y/N
3. Within the past five years, have you encountered cases of suspected child maltreatment in your practice setting? Y/N
4. What is your area of practice? a) Pediatrics b) Family medicine c) Emergency medicine
5. Practice setting. Please indicate all that apply:

a) Shared practice b) Group practice c) Sole practice d) Hospital e) Health Centre) Integrated Health Team g) Primary Care Home

Semi-structured Interview Questions:

1. About how often have you encountered cases of suspected child maltreatment in your career?

2. When a child presents with signs/ symptoms suggestive of non-accidental injury/or neglect, what do you see as the physician/ nurse practitioner's role?

3. What are the limitations of your role?

4. Are there specific protocols or decision support tools to assist you in identifying and treating these children?

5. What other professionals have you relied on to assist you in responding?

6. Describe your experience consulting with colleagues or other professionals in these situations. (Probes: Who is available locally? When do you consult with provincial experts?)

7. Does the northern practice setting influence your ability to provide diagnostic evaluation of child maltreatment? (Probes: If so, in what way? If not, why not?).

8. What barriers do you encounter when asked to provide a diagnostic opinion for suspected child maltreatment?

9. What resources do you think physicians/nurse practitioners in your practice setting need to assist them in identifying and addressing cases of child maltreatment?

10. What would make your job easier when providing your medical opinion to police or child protection social workers about the possibility of non-accidental injury/ neglect?

11. In your practice setting are there policies or procedures in place to facilitate continuity of care for children who are assessed for suspected child maltreatment?

12. Is there anything that I have not asked you that you think I should know?

Appendix B: Information Letter

Stephanie Rex
250-640-5082
rexs@unbc.ca

Dr. Glen Schmidt
250-960-6519
schmidt@unbc.ca.

Dear Participant,

You are invited to participate in a research project conducted by Stephanie Rex, a graduate student in the social work program at University of Northern British Columbia. The purpose of the study is to explore how child maltreatment is identified and evaluated in northern primary health care settings. Another goal of this research is to highlight opportunities for improvements in health care for this vulnerable patient population.

Your participation is requested because you are a physician/nurse practitioner with experience in working with children who may have been maltreated. Should you agree to participate, you will be asked to describe your experiences in providing primary health care/diagnostic assessment for maltreated children during a single semi-structured interview. The interview will be approximately 45 minutes and can occur in person or by telephone according to your preference.

RISKS
There are potential legal, social, and psychological risks associated with intentional non-reporting of suspected child maltreatment. The researcher is obligated to report any incidents of a child in need of protection due to suspected neglect/or physical, sexual, or emotional abuse to the Ministry for Children and Family Development (MCFD). Any disclosure of failure to report a child in need of protection overrides any promise of confidentiality, and the research must report the information about suspected abuse /neglect to MCFD. The researcher will provide a copy of the College of Physicians and Surgeons Child Abuse and Neglect Guidelines/College of Nurses practice standards as part of the research information package. A list of local counselling resources will be provided to participants who require this assistance to address emotional or psychological distress. There is no financial remuneration for your participation, however the researcher will provide coffee and snacks if you participate during a meal break.

BENEFITS
Your input, from the perspective of a local primary care physician/nurse practitioner, could influence planning for health services so that they are reflective of and responsive to the needs of children in the northern region.

VOLUNTARY
Participation is voluntary and you may refuse to answer questions. If you need to withdraw at any time, you may do so without prejudice. Any information you provided will be destroyed at that time.

CONFIDENTIALITY

The information you provide will be reflected in the final thesis as well as presentations and publications. Anonymity cannot be guaranteed but a series of measures will be used to protect anonymity. Specifically, your anonymity will be maintained by removing identifying details connecting you with your responses. Your name will not be stored on file. Instead a code number will be used to protect your identity and the key linking your initials to the data will be stored separately on a password protected file and will be destroyed after the project is complete.

During the project, interview recordings and transcripts will be stored on the researcher's personal computer with a secure login, password protection, and anti-virus software. Hard copies will be stored in a locked cabinet in a locked office at the researcher's home with access only to the researcher. The home has a security system monitored by a private security company. Once the research is complete, recordings and electronic files stored on the researcher's computer will be deleted and transcripts will be incinerated. All identifying information will be deleted. The electronic file of analysed data will be password protected and stored on a UNBC committee member's computer account at UNBC. This account is located on a secure server with password and anti-virus protection. The stored electronic file will be deleted five years after the study is completed.

An exception to confidentiality is disclosure of a child in need of protection that has not been reported to the Ministry of Children and Family Development (MCFD). Under this circumstance, the researcher must report this information to MCFD according to legal and ethical obligations.

CONTACT INFORMATION

If you have any questions about this study, please contact the researcher, Stephanie Rex, at 250-640-5082 or rexs@unbc.ca. You may also reach Dr. Glen Schmidt, thesis advisor, at 250-960-6519 or schmidt@unbc.ca. A copy of the thesis will be available after completion of the research in July 2015 and will be provided by contacting Stephanie at the phone number or email above. If you have any complaints about this research, please direct them to the UNBC Office of Research at 250-960-6735 or reb@unbc.ca.

Your signature below indicates that you have read and understood the above information. You will receive a copy of this form.

_____ _____

Signature Date

Appendix C: Email Script

Hello, my name is Stephanie Rex. I am a graduate student at UNBC in the Social Work Department. I am conducting research on facilitators and barriers to diagnostic evaluation of child maltreatment in the north. An understanding of the experiences of northern physicians/ nurse practitioners doing this work can guide the development of diagnostic evaluation protocols relevant to northern and rural practice.

Participation in this research involves a 45-minute interview regarding your experiences providing diagnostic evaluation of child abuse/neglect in northern BC practice settings. The interviews can be conducted in person or by telephone at your convenience. Your total time commitment will be between 45-60 minutes. If you are willing to participate, you can contact me at rexs@unbc.ca or by text at 250-640-5082. Thank you.

Stephanie Rex

Appendix D: Recruitment Poster

Facilitators and Barriers to Diagnostic Evaluation of Child Maltreatment in Northern BC

Free Snacks!

(See fine print below)

- In exchange for a 45 minute -one hour interview
- For northern physicians/nurse practitioners willing to discuss their experiences evaluating cases of suspected child maltreatments in the north
- Part of a graduate thesis project
- Your chance to share your perspective regarding barriers and facilitators to diagnostic evaluation of child maltreatment in northern BC

Stephanie Rex, MSW student, UNBC | rexs@unbc.ca | Text me at 250-640-5082

Appendix E: Informed Consent Letter

INFORMED CONSENT

I understand that Stephanie Rex, Masters student in the Social Work Program at the University of Northern British Columbia, is conducting a research project on the diagnostic evaluation of child maltreatment in Northern British Columbia.

I understand that the purpose of this research project is to gain insight and information regarding the experiences of physicians/nurse practitioners in providing primary health care/diagnostic assessment to maltreated children in Northern BC. The goal of the study is to influence development of diagnostic evaluation protocols for maltreated children, which are reflective of northern practice realities and responsive to the needs of this vulnerable population.

I understand that I was chosen because I provide primary health care to children age 0-12 who may have experienced abuse or neglect. The researcher, Stephanie Rex, will use an interview guide to explore my experiences providing medical evaluation of children as described above.

1. This consent is given on the understanding that Stephanie Rex will use her best efforts to protect my identity and maintain my confidentiality.

2. I understand that Physicians/Nurse Practitioners are required by law to report situations of a child in need of protection due to suspected neglect/or physical, sexual, or emotional abuse to the Ministry for Children and Family Development (MCFD). Any disclosure of failure to report a child in need of protection overrides any promise of confidentiality, and the information about suspected abuse must be reported by the researcher to MCFD.

3. I give my consent freely and understand that I may end the interview, refuse to answer questions, and/or withdraw from the research process at any time.

4. I understand and agree that the information I have given to Stephanie Rex in our interview will be treated in the following manner: a) I will be assigned a random code to protect my identity, this code will be stored separately on the UNBC secure shared drive and deleted at the end of the research project. b) The interview will be audio recorded and transcribed; hand-written notes will be taken during the interview. c) During the study, this non-identifying data will be stored by Stephanie Rex, in a locked filing cabinet, in a locked office, in her personal residence, which is alarmed and monitored by a private security company. Electronic files will be stored on her personal computer using a secure log-in, password protection, and anti-virus software. d) The data will be used only by Stephanie Rex for her thesis research, presentations, and publications regarding this research. e) Relevant statements made by me during the interviews may be used in presentations of the research however all identifying information will be removed to protect my anonymity. F) Following completion of the research project, all paper copies will be burned,

audio recordings will be deleted, and electronic files will be deleted from Stephanie's personal computer. The code linking the data to participants will be deleted at that time. A password protected electronic copy of the data will be stored by a member of Stephanie's committee on his UNBC computer, which is a secure system with password protection. Five years after the study is completed, the stored electronic copy will also be deleted. I understand that if I have any comments or concerns, I can contact the UNBC Office of Research at 250-960-6735 or reb@unbc.ca

Participant (please print)	Signature	Date Signed
Researcher (please print)	Signature	Date Signed

Appendix F: UNBC Research Ethics Board Approval

UNIVERSITY OF NORTHERN BRITISH COLUMBIA

RESEARCH ETHICS BOARD

MEMORANDUM

To: Stephanie Rex
CC: Glen Schmidt

From: Michael Murphy, Chair
Research Ethics Board

Date: April 23, 2014

Re: **E2014.0220.010.00**
Facilitators and Barriers to Diagnostic Evaluation of Child Maltreatment in Northern British Columbia

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Thank you for submitting revisions to the Research Ethics Board (REB) regarding the above-noted proposal. Your revisions have been approved.

We are pleased to issue approval for the above named study for a period of 12 months from the date of this letter. Continuation beyond that date will require further review and renewal of REB approval. Any changes or amendments to the protocol or consent form must be approved by the REB.

If you have any questions on the above or require further clarification please feel free to contact Rheanna Robinson in the Office of Research (reb@unbc.ca or 250-960-6735).

Good luck with your research.

Sincerely,

Dr. Michael Murphy
Chair, Research Ethics Board

Appendix G: NH Research Ethics Board Approval

northern health
the northern way of caring

Northern Health Corporate Office
600-299 Victoria Street, Prince George, BC V2L 5B8
Telephone (250) 565-2649, Fax: (250) 565-2640
www.northernhealth.ca

May 2, 2014, 2014

File #RRC-2014-0006

Stephanie Rex
School of Social Work
University of Northern British Columbia
Prince George, BC

RE: Medical Evaluation of child maltreatment in Northern British Columbia from the physician's perspective

On behalf of the Northern Health Research Review Committee, I would like to thank you for your submission titled "Medical Evaluation of Child Maltreatment in northern British Columbia from the physician's perspective." The Committee has reviewed your application and your study has met the requirements of the Northern Health Research Review Committee and you may proceed.

Enjoy your work!

Sincerely,

Les Smith

Les Smith, Chair, NH Research Review Committee

LS/js