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The Health Experiences of Long-haul Truck Drivers and their Relationship with their Primary Care Provider

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Abstract

Long-haul truck drivers in North America experience greater health risks than people employed in other occupations. The magnitude of their health risks is directly associated with crash risk which has implications for public road safety. The health experiences of long-haul truck drivers residing in Ontario, Canada and their relationship with their primary care provider were explored using a phenomenological approach. Themes of perseverance, isolation, dehumanization and living in a hidden, separate world emerged from the analysis. Using a descriptive qualitative approach, focus groups were conducted with family physicians and nurse practitioners who were asked for their responses to these findings and for their experiences caring for long-haul truck driver patients. Integration of these two studies revealed barriers to receiving and providing primary care including the fitness to drive examination and the long-haul truck driver context. Continuous exposure to an unhealthy work environment and inadequate access to primary care suggests long-haul truck drivers are a vulnerable population.

Keywords

Long-haul truck driver health, primary care access, truck drivers and family physicians, truck drivers and nurse practitioners, trucking and health care, mobile populations, health care access, truck driver's medical examination, determining fitness to drive

Summary for Lay Audience

Long-haul truck drivers have a risky job. They get injured and develop more health problems like diabetes and heart attacks than people who have other jobs. They also do not seem to live as long as other people. Less healthy truck drivers are more likely to be involved in crashes.

There are two studies in this thesis. In the first study, long-haul truck drivers in Ontario were interviewed and asked what makes them healthy or unhealthy. They were also asked about their interactions with family doctors or nurse practitioners (also known as primary care providers). The truck drivers described having a lot of stress such as having to be away from loved ones and feeling that people disrespect them and do not appreciate what they have to go through to get loads delivered. The long-haul truck drivers said it was difficult for them to ask their primary care provider for help, because it might make their provider think that they are too unhealthy to drive a truck safely. In the second study, primary care providers were interviewed in groups and asked for their reactions to what the long-haul truck drivers said in Study 1. Most of the primary care providers did not realize the stress truck drivers were under and how much their workplace makes them unhealthy. They also talked about how difficult it is to help long-haul truck drivers compared to other patients because truck drivers don't come in that often and don't always follow through on needed tests and treatments. The primary care providers understood that long-haul truck drivers do not tell them their problems because they are afraid of failing the truck driver medical exam.

From both studies, recommendations would be for family doctors and nurse practitioners to learn more about what truck drivers have to deal with at work because it probably explains why they are not as healthy as other people. Also, primary care providers should not have to do the medical exams for truck drivers anymore. If a separate medical provider did the driver exam, truck drivers would be able to talk to their doctor or nurse practitioner more openly and get the help they need.

Co-Authorship Statement

This thesis was envisioned, planned, implemented and documented by the author. The following contributions were made: Dr. Amanda Terry and Dr. Evelyn Vingilis supervised the thesis, guided the formation and revision of the research question and methodology, participated in the interpretation and analysis of the data, and edited and revised the thesis document.

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Dedication

This thesis is dedicated to the almost 300,000 courageous men and women who drive transport trucks in Canada who make sacrifices with their health and live much of their lives away from their families and communities in order to bring needed goods to the homes, businesses, factories and worksites of their fellow Canadians.

Table of Contents

List of Appendices

Preface

I developed an interest in this topic when one of my patients who works as a long-haul truck driver confided that he was having difficulty coping with a new health problem while working far from home. The experience of trying to treat, support and reassess my patient for his illness taught me how difficult it is to achieve and maintain good health in this profession. I also worried for the public who were sharing the highway with this man who was stable medically, but who did not have optimal health. These realizations inspired me to try to better understand the health challenges of long-haul truck drivers, to explore their access to their family physician or nurse practitioner, and to determine if other primary care providers had experienced similar challenges caring for patients who belong to this large occupational group.

Chapter 1

1 Long-haul Truck Drivers' Health Experiences and the Truck Driver- Primary Care Provider Relationship

1.1 Introduction

Long-haul truck drivers carry a disproportionate burden of health problems and occupational risk compared to men who work in other occupations (Apostolopoulos et al., 2016a; Birdsey et al., 2015; Thiese et al., 2018; Wawzonek, 2015). Their health inequality also affects public road safety because long-haul truck drivers with more negative health risk factors are more likely to be involved in a crash (Anderson et al., 2012; Burks et al., 2016; Ronna et al., 2016a; Thiese et al., 2017). Given the large number of truck drivers working in the transportation industry in Canada (Statistics Canada, 2016), it is important for primary care providers to understand the health experiences of their long-haul truck driver patients. Typically, this is a difficult population to study due to the fact that they travel long distances (Transportation Canada, 2016). Most of what is known about the health of long-haul truck drivers is derived from research done in the US. This thesis seeks to understand long-haul drivers' attitudes towards their health, their experiences with the health care system and their relationship with their primary care provider in Ontario, Canada. It also explores the perspectives and experiences of primary care providers in caring for their patients who are long-haul truck drivers.

1.2 Purpose of the Thesis

This thesis is comprised of two qualitative studies. In Study 1, the work and health experiences of long-haul truck drivers and their relationship with their primary care provider were explored through individual in-depth interviews. In Study 2, focus groups of primary care providers were held in Ontario; participants were asked for their

responses to the findings from Study 1, and for their experiences caring for long-haul truck driver patients.

1.3 Terms and Definitions

In this thesis, “primary care provider” refers to nurse practitioners, general practitioners and family physicians. The term, “truck driver” refers to long-haul truck drivers, and “MTO” refers to the Ministry of Transportation of Ontario.

“Long-haul truck driving” is any form of trucking where drivers are expected to spend the night away from home, as the journey is too long to be made in a day.

1.4 Thesis Structure

This thesis is made up of five chapters. The first chapter provides an overview of the thesis objectives and structure. It also introduces the subject of long-haul truck driver health and why this is important to primary care providers.

The second chapter is a review of the literature on long-haul truck driver health and how the health of this group impacts public road safety. It is also an exploration of the literature on health care access and utilization by this occupational group.

The third chapter summarizes Study 1, a phenomenological study of the health experiences of long-haul truck drivers and how they view their primary care provider. The themes that emerged from the truck driver interviews are discussed in this chapter.

The fourth chapter summarizes Study 2, a descriptive qualitative study of the reflections of focus groups of primary care providers to Study 1 findings. Primary care provider experiences caring for patients who work as long-haul truck drivers were also elucidated in this study. Themes that emerged from the focus groups are discussed in this chapter.

The last chapter is an integration and discussion of the findings from Study 1 and Study 2 of this thesis. The implications of these integrated findings for primary care providers, health care policy and planning, public health and transportation ministries are explored, followed by ideas for future research.

Chapter 2

2 Literature Review

This thesis chapter reflects on the current long-haul truck driving environment in Canada and provides an overview of the types of studies published to date on the topic of long-haul truck driver health. Following this overview, the health risks associated with long-haul truck driving as well as the illnesses and injuries truck drivers commonly experience as a result of these risks are described. The relationship between long-haul truck driver health and highway safety is then examined. Lastly, what is known about health care use by long-haul truck drivers is reviewed, with a focus on primary care and the perspectives of primary care providers.

2.1 Context of Long-haul Truck Driving in Canada

Long-haul truck drivers play a vital role in the Canadian economy. Seventy percent of Canadian goods produced for domestic consumption and two-thirds of Canadian exports to the US are transported by long-haul trucks (Transportation Canada, 2016). The transportation sector of the Canadian economy is growing at twice the rate of any other sector (Transportation Canada, 2016). This means that long-haul truck drivers are in great demand. The high proportion of males in this profession (96%) (Statistics Canada, 2016), combined with this recent increase in demand, has resulted in more men employed driving transport trucks than in any other kind of employment in Canada. As of 2016 278,000, or 3.1%, of the employed Canadian male population work as transport truck drivers (Statistics Canada, 2016). The current rate of growth predicts a shortage of 34000 to 48000 drivers by 2024 (Canadian Pacific Consulting Services (CPCS), 2016).

New immigrants to Canada have been encouraged to join the trucking profession due to increasing demand. Immigrants now comprise one third of the long-haul trucking

population (Transportation Canada, 2016). Forty percent of these new Canadian truck drivers have emigrated from India (Statistics Canada, 2016).

The trend of transporting more goods by truck in Canada is reflected by an increase of 44% in the number of vehicles registered between 2007-2017 weighing greater than 15,000 kilograms (Statistics Canada, 2019). Over this same period, the increase in the total number of all types of vehicles registered was 20% (Statistics Canada, 2019). This means that both the absolute number, and the proportion of large trucks on Canadian roads are growing. It also means that there are more vehicles of all types on Canadian roads. This has implications for road safety.

In 2017, 23% of all fatal collisions on OPP policed roadways involved large trucks (Ministry of Transportation, 2017). In the preceding 5-year period, fewer fatal collisions (20%) involved large trucks, and truck drivers were deemed at fault in only 30% of cases (Ministry of Transportation of Ontario, 2016). Truck drivers being involved in more fatal collisions is a worrisome trend both for the drivers of these long-haul trucks and the public who share the roads with them. Recent high-profile collisions have put pressure on provincial transportation ministries to implement mandatory training programs for truck drivers (Derworiz, 2019). The Canadian provinces of Saskatchewan, Manitoba and Alberta have developed their first-ever truck driver training programs (Alberta Transportation, 2019; Manitoba Public Insurance, 2019; Saskatchewan Government Insurance, 2019). Meanwhile, the existing training program in the province of Ontario has been expanded (Ministry of Transportation of Ontario, 2017b). Investing in driving skills is likely to positively affect road safety. However, investing in the health of long-haul truck drivers is also likely to improve road safety because several studies have associated truck driver health status with crash risk (Gates, Dubois, Mullen, Weaver, & Bédard, 2013; Ronna et al., 2016a; Thiese et al., 2017).

2.2 Overview of Truck Driver Health Literature

The majority of research that has been conducted on the health of long-haul truck drivers has been done in the USA. Most studies have been surveys, the largest being The

National Truck Driver Survey conducted in 2010 at truck stops distributed across 32 states in America (Chen, Sieber, et al., 2015). This extensive survey gathered comprehensive self-reported information as well as biometrics such as height and weight for 1265 long-haul truck drivers from 48 states. In Canada, only two surveys of truck drivers have been completed. Both were pilot studies conducted in southern Ontario. In the first study, 407 professional truck drivers, who were employees of trucking companies around the city of Hamilton, Ontario, completed a self-administered survey (Angeles et al., 2013). However, it should be noted that the study group was limited to mostly short-haul, company drivers, which meant independent (also known as "owner-operator") and long-haul truck drivers were not well represented. Independent truck drivers make up about 22% of all Canadian truck drivers (Statistics Canada, 2006). Owner-operator truck drivers who drive long distances are particularly important to include in health studies because they appear to be at higher risk for occupational health and safety problems than company long-haul drivers (Mayhew & Quinlan, 2006). Specifically, the owner-operator long-haul truck drivers in this study by Mayhew (2006) reported more acute and chronic injuries, occupational violence, truck crashes, illicit drug use, hours of work, fatigue and psychological stress than the employee long-haul truck drivers. In an unpublished, second Canadian survey, 107 long-haul truck drivers completed a health questionnaire at two truck stops in southern Ontario (Bigelow et al., 2012). This study included 28% owner-operator long-haul truck drivers, and therefore was more reflective of the current reality of trucking in Ontario (Bigelow et al., 2012).

Several qualitative studies have been published on the health experiences of long-haul truck drivers (Renner, 1998; Shattell et al., 2010), however only one was conducted in Canada (McDonough et al., 2014). McDonough (2014) used focus groups of company truck drivers and their managers from the Hamilton, Ontario area to explore the lifestyle and organization of trucking and the associated disease risk factors of the participants. Some qualitative studies have explored the stressors and mental health issues of long-haul truck drivers (Renner, 1998; Shattell et al., 2010; McDonough et al., 2014), while others have examined lifestyle challenges like access to healthy food and exercise on the road (Boeijinga, Hoeken, & Sanders, 2016). Shattell (2010) studied the stressors and mental

health of truck drivers in the US and found that many truck drivers experienced social isolation, disrespectful treatment from others, constant time pressures, driving hazards, violence, fear of violence and sometimes participated in risky behaviours such a drug use and paying for sex.

Lastly, a systematic review of the North American literature on the health of both short and long-haul truck and bus drivers between the years 2000 and 2016, was recently published (Crizzle et al., 2017). In this systematic review, Crizzle (2017) concluded that long-haul truck drivers have multiple health risk factors that can lead to chronic diseases and crashes.

2.3 Health Risks of Long-haul Truck Driving

The wellbeing of long-haul truck drivers is greatly influenced by their work environment. Most long-haul truck drivers in Canada drive an average of 70 hours per week (Ministry of Transportation of Ontario, 2017a), with some working additional hours securing, loading or unloading their cargo. The sedentary nature of truck driving and being away from home for extended periods make it difficult to achieve and maintain good health. Compared to the general working population, long-haul truck drivers exercise less (Turner & Reed, 2011), have less healthy food options (Lincoln et al., 2018), and have reduced sleep quantity and quality (Garbarino, Guglielmi, Sannita, Magnavita, & Lanteri, 2018). Each of these negative health behaviours is associated with increased truck driver fatigue and obesity (Birdsey et al., 2015; Hege et al., 2017; Lemke, Hege, Perko, Sönmez, & Apostolopoulos, 2015).

Additional negative long-haul truck driver health behaviours include substance use and sexual habits. The Canadian survey by Angeles (2014) found that 31% of truck drivers reported smoking, almost double the rate of the general population (Statistics Canada, 2018). In addition to smoking, many drivers take illicit substances, further contributing to their health risk (Birdsey et al., 2015; Couper, Pemberton, Jarvis, Hughes, & Logan, 2002). Some long-haul truck drivers also participate in sexual transactions and drug exchanges on the road. This behaviour increases the risk of drivers passing

communicable diseases from high risk populations at truck stops to low risk populations back home (McCree et al., 2010).

Long-haul truck drivers also engage in risk behaviours related to driving. Compared to drivers of other vehicles, truck drivers are less likely to wear seatbelts. In the US, 13-14% of long-haul truck drivers reported only sometimes or never wearing a seatbelt (Chen, Collins, et al., 2015). In the Canadian Community Health Survey, compared to the average Canadian, truck drivers were six times more likely not to wear seatbelts when driving (Wawzonek, 2015).

Long-haul truck drivers report significant stressors at work that adversely impact their mental health. These stressors included a negative perception of their occupation by the public, lack of social support, lack of access to health care, and substance use (Shattell, Apostolopoulos, Collins, Sönmez, & Fehrenbacher, 2012; Shattell, Apostolopoulos, Sönmez, & Griffin, 2010). Among 260 long-haul truck drivers in California, more than 60% reported their stress level as high or moderately high (Hege, Lemke, Apostolopoulos, Whitaker, & Sönmez, 2019). It is evident that the truck driving environment is hazardous to the physical and mental health of long-haul truck drivers directly, such as being isolated from family or sitting for long periods, and indirectly, from negative health behaviours. It has been suggested that negative behaviours such as taking illicit drugs, participating in sexual transactions and smoking may be reactions to the significant workplace stress associated with truck driving (Shattell et al., 2010).

2.4 Long-haul Truck Driver Morbidity and Mortality

The multiple health risk factors of long-haul truck drivers lead to higher rates of disability (Combs, Heaton, Raju, Vance, & Sieber, 2018), as well as higher rates of chronic diseases such as diabetes and sleep apnea (Crizzle et al., 2017; Wawzonek, 2015). Due to the high prevalence of obesity, truck drivers are at greater risk for cardiometabolic disease compared to the general US population (Apostolopoulos et al., 2016a). Eighty nine percent of 260 commercial vehicle drivers surveyed in North Carolina were calculated to be at high risk for cardiometabolic disease. Specifically, Apostolopoulos et

al. (2016a) noted that long-haul truck drivers had higher reported rates of hypertension, diabetes, hypercholesterolemia, and sleep apnea than the general working population. Given that long-haul truck drivers do not have access to supportive surroundings and health promoting activities, they also face substantive barriers to being able to modify these risk factors (Birdsey et al., 2015).

Sitting in a truck for many hours also means long-haul truck drivers experience varying degrees of whole-body vibration. Exposure to this sort of vibration often leads to higher rates of musculoskeletal complaints, especially low back pain (Kim et al., 2016). Long-haul truck drivers also have high rates of musculoskeletal injuries, primarily strains and sprains with the arm, back and neck most commonly affected (Kim et al., 2016). In line with this finding, Combs (2018) reported that the number of days away from work for illness or injury were 3.5 times higher for long-haul truck drivers compared to all other occupations in the US.

Truck drivers are also at risk of early death. The relative risk of mortality having worked as a truck driver for 15 years, compared to never having worked as a long-haul truck driver, was calculated in one study as 1.6 (Neophytou et al., 2014). In other words, long-haul truck drivers are 1.6 times more likely to die after 15 years of driving compared to men who never worked as a truck driver. Ferro (2010) indicated that long-haul truck drivers have a life expectancy 16 years shorter than the average American (Ferro, 2010). In a Canadian surveillance study linking cause of death with occupation (between 1965 and 1991), truck driving was found to be associated with an increased risk of death from all of the following: colon cancer, laryngeal cancer, lung cancer, diabetes, ischemic heart disease, non-alcoholic cirrhosis, and motor vehicle collisions (Aronson, Howe, Carpenter, & Fair, 1999).

The mental health of truck drivers has been more difficult to ascertain because, outside of qualitative studies by Shattell et al. (2010) and McDonough et al. (2014), survey research relies on truck drivers self-reporting symptoms of depression and anxiety and disclosing misuse or possible addictions to illicit drugs. In some US studies, it has been postulated that fear of stigma or repercussions with licensing authorities may hinder candid

reporting of mental illness (Shattell et al., 2012). Despite this possibility, studies to date suggest the prevalence of mental illness among long-haul truck drivers is significant. In a survey of 316 male truck drivers in North Carolina, 26.9% reported depression, 14.5% anxiety and 27.9% reported loneliness (Shattell et al., 2012). Similarly, unpublished pilot survey data in Ontario suggests that 30% of long-haul truck drivers reported ease to anger, 19% reported depression, and 16% reported anxiety (Bigelow et al., 2012). Thus, we can estimate that approximately 20-25% of truck drivers suffer from depression and 14-16% from anxiety. In contrast, the prevalence of depression or anxiety in the Canadian general population is 11.3% (Statistics Canada, 2012), while the prevalence of depression in the US is 7.1% (National Institute of Mental Health, 2017).

2.5 Impact on Public Health and Truck Driver Safety

Several observational studies have reported an association between truck driver health status and crash risk. Having three or more chronic diseases (Thiese et al., 2017), having cardiometabolic risk factors (Ronna et al., 2016), being obese (Anderson et al., 2012), and having untreated sleep apnea (Burks et al., 2016) have all been shown to correlate with increased crash risk. For truck drivers with a BMI greater than 35, the crash risk was calculated to be 1.5 the crash risk of drivers with a healthy BMI (Anderson et al., 2012). Truck drivers with obstructive sleep apnea who were non-compliant with sleep apnea treatment had a 5-fold higher crash risk than truck drivers with sleep apnea who were compliant with treatment (Burks et al., 2016).

Taking stimulants has also been associated with more crashes and unsafe driving actions (Gates et al., 2013). Thiese et al. (2017) examined the incidence of medical conditions in a database of more than 95,000 truck driver medical exams in the USA from 2005-2012. He showed that the number of medical conditions per driver associated with crash risk increased significantly over this period. Specifically, the number of drivers with three or more medical conditions increased 4-fold from 2005-2012 (Thiese et al., 2015a). Over this same seven-year period, truck drivers developed significantly more chronic diseases than the general population. These trends imply that the health of American long-haul truck drivers is worsening compared to the past, (Thiese et al., 2015a) and also,

worsening compared to the rest of the population. From a road safety perspective, it is concerning that the medical conditions most associated with crashes are becoming more prevalent in US long-haul truck drivers. Most Canadian long-haul truck drivers transport cargo to and from the US along the same corridors as their American counterparts and are thus exposed to the same environment for days to weeks at a time. Therefore, it is reasonable to assume the health trends observed in US long-haul truck drivers are paralleled in Canada.

2.6 Healthcare Utilization by Long-haul Truck Drivers

It is difficult to determine hospitalizations and emergency room (ER) visits for long-haul truck drivers given Canada lacks a national data registry linking health care utilization with user occupation. A Danish health care utilization study, however, showed that Danish truck drivers have significantly higher rates of needing hospital treatment for life-style health problems, such as diabetes and obesity-related illnesses compared to the general population (Dahla et al., 2009). In a US study that examined insurance claims according to truck driver weight, annual health care costs were 58% higher among obese truck drivers compared to normal weight truck drivers (Martin, Church, Bonnell, Ben-Joseph, & Borgstadt, 2009).

Access to health care when driving was identified as a problem for most long-haul truck drivers in more than one study. A mixed-method study in Michigan reported that a third of truck drivers believed their health was negatively affected because of poor access to medical care on the road (Stasko & Neale, 2007). At least two US studies revealed that a significant proportion of medically insured long-haul truck drivers do not seek help when sick or injured (Apostolopoulos, Sonmez, Shattell, Gonzales, & Fehrenbacher, 2013). Twenty to fifty-two percent waited until they returned home or did not seek help at all (Solomon, Doucette, Garland, & McGinn, 2004). Solomon et al. (2004) found only 25% of long-haul truck drivers reported that they typically pursue help through a nearby ER if unwell when driving. Reasons cited for not seeking medical care of any kind were lack of time, distance from provider, lack of insurance, lack of parking at hospitals, and clinics and not having a primary care provider. Solomon et al. (2004) concluded from this survey

that the transient nature of truck driving has more impact on health care access than lack of insurance in the US. Despite having universal health care coverage in Canada, Angeles et al. (2013) found that Canadian truck drivers similarly delay seeking care when sick or injured while working. Of the truck drivers surveyed, 54% reported waiting until they returned home to seek medical care if sick or injured (Angeles et al., 2013). As previously mentioned, long-haul truck drivers were not well represented in this survey, but the US studies suggest long-haul truck drivers also delay seeking care when sick (Apostolopoulos et al., 2013; Solomon et al., 2004). Clearly health care access on the road is a challenge for long-haul truck drivers in both the US and Canada.

2.7 Role of Primary Care

Long-haul truck drivers have been asked if they have a regular primary care provider in several survey studies. In a Canadian survey, 89% of truck drivers reported having a family doctor with an average rate of 2.1 per visits per year (Angeles et al., 2013). This is similar to data from the 2009/2010 Canadian Community Health (CCH) Survey, which was the last cycle when occupation was measured. In the CCH survey, truck drivers did not significantly differ from members of other occupations in reporting having a regular doctor, nor in their number of visits per year (Wawzonek, 2015). However, the CCH survey, like Angeles' et al. (2013) study, did not differentiate long-haul truck drivers from truck drivers in general. Unsurprisingly, in the US, given the lack of universal health care coverage, fewer long-haul truck drivers reported having a family doctor (66% in a Michigan survey (Stasko & Neale, 2007)). Worse yet, in a larger US survey in North Carolina, 33% reported no health insurance and 70% reported no regular health care visits (Apostolopoulos et al., 2013).

In Canada, primary care is provided mostly by nurse practitioners and family physicians. This sector of the healthcare system is valuable because it has been shown to positively impact the health of individuals and populations (Starfield, Shi, & Macinko, 2005). Primary care is provided to people from birth to death through health promotion, prevention, detection, treatment and management of illnesses (Health Quality Ontario, 2015). According to the CanMEDS framework, family doctors take on one or more of the

roles of family medicine expert, communicator, collaborator, leader, health advocate, scholar and professional in providing primary care to patients and populations (Shaw, Oandasan, & Fowler, 2017). Similarly, nurse practitioners in Canada are guided by the Core Competency Framework (Canadian Nurses Association, 2010). Primary care providers also use the Patient-Centered Clinical Method (PCCM) which is a conceptual approach to providing health care that is characterized by a full exploration of the patient's concerns and the context of their lives (Stewart et al., 2013). The proximal and distal contexts of a patient's life are part of the component, "understanding the whole person": the proximal component refers to the patient's family, employment and social supports, and the distal context refers to their culture, community and ecosystem (Stewart et al., 2013). Using the PCCM, the patient and their caregiver make plans going forward through the process of finding common ground.

Canadian primary care providers are also responsible for completing medical examinations for drivers of commercial vehicles such as long-haul truck drivers (CCMTA, 2015). This is in contrast to rail, marine, and air transport industries that designate specially trained physicians, not the worker's primary care provider, to determine fitness for duty (Railway Association of Canada, 2019; Transportation Canada, n.d.-b, n.d.-a).

There are no published North American studies examining the delivery of primary care to long-haul truck drivers, nor to similar occupational groups working in the transportation industry, from either the primary care provider viewpoint or the transport worker viewpoint. One international study evaluated the provision of primary care to travelling populations, including long-haul truck drivers, through mobile health units in South Africa (Lalla-Edward et al., 2017). These mobile services brought primary care to truck stops which appeared to alleviate the problem of health care access for long-haul truck drivers when evaluated over a two-year period (Lalla-Edward et al., 2017).

Long-haul truck drivers may have undiagnosed and untreated health conditions. In a study conducted on long-haul truck drivers in three US states, self-reported health data were collected as well as blood and urine samples to screen participants for undiagnosed

health risk factors and acute and chronic diseases (Bachmann et al., 2018). While self-reported health was highly rated by the long-haul truck drivers in this study (35% reported excellent health, and 42% reported good health), almost half of the truck drivers (47.8%) were hypertensive or pre-hypertensive and 20% were diagnosed with type 2 diabetes (Bachmann et al., 2018). This study suggests that long-haul truck drivers may misrepresent or believe themselves to be healthier than they actually are. The fact that a significant proportion of long-haul truck drivers were found to have undiagnosed health problems implies one or more of the following: they cannot access their primary care provider; they choose not to see their primary care provider, or, for US drivers, they cannot afford insurance. Regardless of the reason, Bachman et al. (2018) suggest long-haul truck drivers are not receiving adequate primary care.

Hard to reach populations, also referred to as vulnerable populations, include house-bound, frail elderly, immigrant, homeless, and migrant workers. These individuals are at higher risk for poor health due to the barriers they experience to healthcare (Grabovschi, Loignon, & Fortin, 2013). Long-haul truck drivers share the characteristics of transience, increased health risks and disenfranchisement with some vulnerable populations (Renner, 1998). Truck drivers “are essentially invisible to mainstream society and are often forgotten during health and social planning” (Renner, 1998, p.166). Many hard to reach populations have inadequate access to health care (Richard et al., 2016). This is similar to long-haul truck drivers who, aside from citing lack of insurance (in the US), report that their access to health care is impeded by distance, clinic hours, lack of time, inability to schedule ahead, and lack of parking for a large truck (Stasko & Neale, 2007). One could argue that truck drivers are hard to reach and, if not vulnerable, are at the very least an underserved population with regards to health care (Clark & Preto, 2018). Given the burden of health risk carried by long-haul truck drivers, primary care is clearly indicated. However, the literature reviewed for this thesis suggests, that at least in North America, it is not being provided to this population.

2.8 Conclusions

In Canada, male long-haul truck drivers are growing in number and proportion compared to other road users. This group has significant health risks and disease burden. According to US data, long-haul drivers could be getting sicker compared to the rest of the employed population and compared to people who drove trucks in the past. From the research to date, it is clear long-haul truck drivers also have poor access to resources to improve their health. The literature also suggests long-haul truck drivers may have undiagnosed and untreated mental and physical health problems that affect public safety. Truck drivers are further challenged because they work in an increasingly complex, dangerous and stressful environment without the protective effects of family and community, and with little access to health care, including a primary care provider.

There is a paucity of Canadian research on the health of long-haul truck drivers despite transport truck drivers being the largest occupational group for males, and despite this group having high morbidity and mortality rates. Survey research reports concerning rates of health problems among long-haul truck drivers; however, this approach of assessing truck driver health has limitations. Exploration of the experiences of long-haul truck drivers using more in-depth, qualitative methods is clearly warranted to better understand their complex world and their relationship with their primary care provider. Similarly, applying qualitative methods to primary care provider perspectives in caring for long-haul truck driver patients is likely to illuminate the nature of the truck driver-primary care provider relationship which is central to providing patient-centered primary care.

Chapter 3

3 Long-haul Truck Drivers' Health Experiences and Their Relationship with Their Primary Care Provider

3.1 Introduction

Long-haul truck drivers have significant health risks due to the nature of their occupation (Crizzle et al., 2017). They experience many challenging conditions at work that negatively affect their mental and physical health (Apostolopoulos et al., 2016a; Birdsey et al., 2015; Hege et al., 2017; McDonough et al., 2014; Shattell et al., 2012; Thiese et al., 2017). For drivers, the harmful environment of long-haul truck driving is compounded by not being able to participate in health-promoting activities such as eating nutritious food, exercising, socializing with family and friends, and getting adequate sleep (Garbarino et al., 2018; Hege et al., 2017; Lemke et al., 2015; Shattell et al., 2010; Turner & Reed, 2011). Although long-haul truck drivers exist in large numbers in both the US and Canada (Canadian Pacific Consulting Services (CPCS), 2016; Cheeseman-Day & Hait, 2019), how they experience their occupation and how they believe their health is impacted has not been well explored from their viewpoint. This is especially true in Canada. How long-haul truck drivers access health care and the nature of their relationship with their primary care provider is also poorly understood. This study contributes to addressing these gaps in the literature.

3.2 Study Purpose

The purpose of this study was:

1. to understand the health experiences of long-haul truck drivers as described in their own words

2. to explore: a) how long-haul truck-drivers use health care in Ontario; and, b) their relationship with their primary care provider

3.3 Methodology

3.3.1 Study Design

A phenomenological approach was chosen to explore the complex world of long-haul truck drivers because due to the nature of their work and being on the road all the time, this group is elusive and poorly understood. Understanding the "lived experience" is fundamental to the phenomenological approach (Richards & Morse, 2013, p.68). In seeking, exploring, and analyzing the lived experiences of long-haul truck drivers one can learn how they feel about, remember, describe, and make sense of their lives (Marshall & Rossman, 1999). These firsthand accounts of everyday experiences are valuable because they can "bring us more in contact with the world", (Richards & Morse, 2013, p.198). How long-haul truck drivers experience their health and healthcare can be more deeply understood if central themes and core concerns of this occupational group are discovered and analyzed using phenomenology, (Richards & Morse, 2013, p.28). Furthermore, the themes that emerge from this kind of qualitative research may lead to solutions for complex problems.

3.3.2 Participant Recruitment

A number of recruitment methods were used for this study. Initially, potential participants were invited to participate in the study by putting up recruitment posters at highway truck stops, a truck repair garage, several family medicine clinics, and one diabetic clinic. Recruitment posters were also emailed to a few trucking companies, trucking news agencies and associations. The Women's Trucking Federation of Canada posted the invitation to participate in this study on their social media site. To be considered for the study, individuals had to drive long-haul, reside in Ontario and drive trucks with three or more axels as their main occupation for at least the previous 12 months.

Ten participants were recruited over several visits by the researcher (JJ) to a truck stop on highway 401 in Southwestern Ontario over 4 months (August to November 2018). All ten were interviewed while on mandatory break from driving. An additional participant was recruited at a shipping and receiving location in Toronto. Another responded to the social media posting. The final participant was recruited through another truck driver and interviewed at his home. All thirteen participants were provided with a letter of information about the study. Incentive for participation was a $10 coffee shop gift card.

3.3.3 Data Collection

One researcher (JJ) conducted all the semi-structured interviews with the participants using an interview guide. The interview guide was developed by the research team based on the literature review and an interview guide design (Bradburn, Sudman, & Wansink, 2004). Informed consent was obtained from all participants prior to each interview. Age, gender and years driving a long-haul truck were collected at the beginning of the interview. The interviews were purposely kept informal, lasted 30-75 minutes, and were recorded using two audio-recorders in a quiet, private room. In keeping with phenomenological methodology, interview questions were semi-structured to encourage participants to describe in their own words what they felt was important relating to their health. The truck drivers were also asked to reflect on their feelings towards, and experiences with their primary care provider and the Ontario health care system**.** Probes were used as necessary. Reflective field notes were written by the researcher after each interview and throughout the process of coding and analyzing the transcribed data. These field notes were discussed by the research team during the analysis.

3.3.4 Data Analysis

The audio-taped interviews were transcribed verbatim and then analyzed using a thematic approach. The three members of the research team independently coded the transcribed interviews using keywords and phrases that reflected the ideas, perceptions, attitudes and

feelings of participants. Each team member's independent coding of the data was discussed and compared when the team came together after each interview. A single coding template was then developed that reflected the team discussion that followed. After each interview was analyzed, the coding template was then revised and applied to the next transcribed interview. This iterative process of applying the updated coding template to new interviews with participants continued until sufficient data to saturate the themes was achieved (Richards & Morse, 2013); no new themes or concepts were thereafter identified by the team. This occurred after the 12th interview.

The research team met every two to four weeks throughout the data collection and analysis phases of the study. Two of the researchers (AT and EV) were experienced in qualitative research, and provided mentorship to the final member of the team (JJ) in the processes of immersion and crystallization (Borkan, 1999) reflexivity (Crabtree, Miller, & Swenson, 1995) and synthesis that were used throughout the study.

3.3.5 Trustworthiness and Credibility

Gathering as broad a sample as possible was attempted given the challenge of recruiting long-haul truck drivers who spend the majority of their time driving and away from their home communities. A variety of long-haul truck drivers were interviewed. Participants were both male and female, ranging in age and years driving. Both Canadian-born and immigrant drivers were interviewed. The study investigator (JJ) spent many hours in the field observing the actions and behaviours of the study group.

Reflexivity was attended to throughout the data collection, analysis, and final interpretation stages of the study. Reflexivity is a process of continuously reflecting on emerging themes and other possible interpretations of the data (Crabtree et al., 1995). It also means being mindful of the biases the researchers might bring to the study topic.

The team of three researchers added trustworthiness to the study through triangulation of their individual perspectives on the study design, data interpretation and findings (Richards & Morse, 2013, p.103). Only the author (JJ) had prior exposure to the firsthand

health concerns of truck drivers through a patient in her family practice who works in this profession.

3.3.6 Ethics Approval

Approval was obtained from the Office of Human Research Ethics at Western University. (Project ID 111784)

3.3.7 Final Sample and Demographics

Thirteen long-haul truck drivers met the inclusion criteria and agreed to participate in Study 1 of this thesis. The sample ranged in age from 26 to 70 years. Eleven of the thirteen participants were men. Years driving ranged from 1 to 47 years. The participants varied as follows: ten individual male drivers aged 29-70, one 26-year-old female, and a male/female team aged 58 and 53 respectively who shared truck driving responsibilities. Two of the 13 participants recruited to the study were new Canadians who immigrated from South Asia within the last 10 years-one male and one female. The majority of the participants travelled across both Canada and the USA.

3.4 Findings

3.4.1 Overview

Four main themes emerged from the analysis, titled *"Keep on Trucking", "Hidden Separate World", "Dehumanization", and "Isolation".* Under the third theme, *"Dehumanization",* four subthemes emerged: *"Unmet Basic Needs", "Disrespectful Treatment from Others", "Substance Use" and "The Truck Cannot get to the Doctor".* Under the fourth theme, *"Isolation"*, three subthemes emerged: *"Isolation from Home", "Isolation at Work"* and *"Isolation from their Primary Care Provider".*

The first main theme, *"Keep on Trucking",* describes how long-haul truck drivers cope and find meaning in their work. The remaining three main themes reflect the difficulties long-haul truck drivers face working in this profession and how their health is affected.

The four themes together provide insight into the lived experiences of long-haul truck drivers and how they impact the truck drivers' outlook and health.

3.4.2 "Keep on Trucking"

The first theme, "*Keep on Trucking"* reflects the enduring approach of truck drivers towards their daily challenges and hardships.

This theme emerged as an attitude held by the majority of participants towards their work. It is consistent with their need to be self-reliant and gives them a sense of pride in their work: "*There are a ton of [truck drivers] who have a lot of respect and pride in what they do" (participant #7).*

The nature of their job requires long-haul truck drivers to work alone and function independently: *"I resolve everything. It's just me" (participant #12).* In the face of their daily challenges, long-haul truck drivers must have perseverance and grit: *"I am kind of from the suck it up and keep going generation" (participant #4).*

Participants reported often disregarding bodily symptoms they experience while working: *"Uh, you ignore it for the most part"(participant #6).* They feel pressure to keep driving even when fatigued. The participants said they rise to this expectation: "*You tend to be, you know, Ironman, right? Like nothing is going to stop you" (participant #7).* A female participant described watching her father try to cope with sleepiness so he could keep on driving: *"He would start slapping his arms and slapping his face to try and wake himself up...the windows went down" (participant #5).*

In general, participants explained that long-haul truck drivers tend not to let illnesses get in the way of driving: *"...in 35 to 37 or so years of driving, I have only missed, I guess one day...I don't not go to work because I am sick…" (participant #3).* Even if long-haul truck drivers have to stop because of sickness, they rarely seek medical help: *"I…rode it out. I am not a big one to go to the doctor or to the hospital" (participant #3).* However, they also accept the consequences of continuing to work instead of seeking help for

health problems: *"I broke my finger two months ago and I ignored it and now it's bent" (participant #6).*

On the rare occasions when they did see their physician, the participants prided themselves in being stoic: *"He [the doctor] always liked me coming in because I was never complaining about anything" (participant #13).*

The participants explained that long-haul truck drivers are aware that disregarding health problems can have serious consequences: *"Guys have heart attacks out there... They don't pay attention to the symptoms leading up to it" (participant #7).* Most participants had personal knowledge of truck drivers who had suffered heart attacks: *"Bobbie had a heart attack. Who else? Umm, a couple of guys from B&H who are gone already. One guy had a heart attack up north and hit the rocks" (participant #11).* Regarding their attitude towards this health threat, the participants were fatalistic: *"Well you know what? It's part of the risks, right? You don't know what you're going to do tomorrow" (participant #11).*

Like physical health problems, the truck driver participants believed psychological strain and emotional hardships must not get in the way of work either:

> As a truck driver you need to find a way to pull your head out of that "go, go, go" because it causes accidents. It causes stress. It causes all kinds of stuff that just exhausts you and you have to find a way to calm yourself and stay away from what's going on inside you. (participant #10)

One driver explained how his father returned to work after his truck crashed into a car that pulled out suddenly in front of him. Both car passengers were killed on impact. *"He went back to work after the truck was fixed. He knows…we know…it's just what we deal with. Bad things are going to happen...but that's just what we deal with, right?!" (participant#6).*

Despite working long hours, being sick or fatigued, dealing with psychological stress and tremendous pressures, the long-haul truck drivers in this study had a "keep on trucking"

attitude that enabled them to carry on despite many challenges. However, participants felt this coping method sometimes led to long-haul truck drivers ignoring symptoms of serious health problems.

3.4.3 "Hidden, Separate World"

The world of truck drivers is hidden from others. The long-haul truck drivers in this study valued working alone and away from a constantly overseeing employer:

> Just solitude. Not having to answer to anybody, you know what I mean? You're your own boss. I own my own truck, so I do my own thing. I get to choose where I go, when I go, how I go. (participant #6)

Participants felt that the challenges drivers face every day to deliver wanted goods are largely unknown to customers. These hidden challenges include negotiating traffic, adverse weather, demanding delivery times, border crossings, random inspections and long hours:

> I don't think it gets enough credit as to what guys do out there. What you have to deal with. You're the last line basically. Things come down the pipes and it's up to you to get it done in the end. No matter what it is. (participant #7)

Participants were acutely aware they could injure or cause death to other road users or themselves if involved in a crash:

> Driving a truck is not an easy job. It's a very dangerous job. It's not only like you and I am driving, I am also trying to save everybody who is around me because they're, those people are not aware of me, like what I can do to them. (participant #8)

Participants believe the public does not share this same awareness, especially those who drive carelessly around them. It is almost as if some drivers do not see their trucks.

Feeling invisible is frightening to long-haul truck drivers because they know that they cannot ensure the safety of others and the consequences can be dire:

> Oh yeah, I have seen deaths, I have seen lots, yeah. I've seen about two years ago my dad killed a husband and wife. They pulled out in front of him. They pulled out like 60 feet in front of him. He was going around a corner doing 60 mile an hour….(participant #6)

Not only is the world of long-haul truck drivers hidden from employers and the public, but it is also hidden from health care providers. The fear of losing their trucking license keeps long-haul truck drivers from bringing forward symptoms they think might be serious enough to concern their family doctor:

> ... you don't tell your family doctor everything… Because if you tell them everything you feel, well the first thing you know, you'll get a letter in the mail saying you're gonna lose your license. (participant #2)

Some long-haul truck drivers seek walk-in clinics for their driver's medical exam instead of the office of their primary care provider because they are unknown at the walk-in, and their hidden problems are not as often probed:

> I was almost going to go to a walk-in clinic for my physical because I know it will be easy. Honest to God. Everybody says go to a walk-in clinic. It's convenient and it's not going to be in-depth. (participant #6)

One participant explained the extremes long-haul drivers will go to keep their health problems hidden and still pass their driver's medical: *"When it comes to their medical checkups, nowadays there are some people that pay under the table to get it done. Umm, so that they can keep their license" (participant #5).*

These abbreviated, and even sometimes completely omitted, medical assessments allow truck drivers to continue working in their hidden separate world.

Yet truck drivers unanimously expressed concern over a new regulation that could delve into their hidden separate world. The recently introduced government regulation, which mandates installation of electronic logging devices (ELDs) in all long-haul trucks in Canada by 2020, means the actions of these drivers can now be constantly monitored. Electronic logging devices monitor on duty time, off duty time and driving time of truck drivers. The ELDs expose the previously hidden decisions made by long-haul truck drivers while driving. In the past, truck drivers might have chosen to pull off the highway for a quick nap or meal if tired or stuck in traffic. With ELDs, these spontaneous stops are now avoided because they impact paid working hours. Truck drivers regret the loss of privacy and freedom that has come with ELDs. *"It is like an ankle bracelet on a parolee" (participant #13).* Now, with this new technology, their previously hidden activities are exposed, and they have less control over optimal work and rest times.

The hidden world of long-haul truck drivers is valued by long-haul truck drivers, but it has its costs. Being hidden means their work is often not appreciated, and it also means they are not easily seen by other drivers putting both parties' lives in danger. Living in a hidden world also means health concerns may not be expressed to their primary care provider. Long-haul truck drivers resent that government regulators, employers and policing authorities are starting to access their hidden world through mandatory ELDs. The majority of study participants believed that because they can no longer choose the timing of their work and rest, their fatigue has become more difficult to manage and their lives have become more dangerous.

3.4.4 "Dehumanization"

Long-haul truck drivers cannot meet many of their basic human needs living in a truck. This is made worse because the outside world does not recognize or treat them as human. The following four subthemes describe how the working conditions of long-haul truck drivers are dehumanizing. The first subtheme is "*Unmet Basic Needs*".

3.4.4.1 "Unmet Basic Needs"

The participants in this study expressed having difficulty meeting their basic human needs when away from home. Personal safety, healthy food, exercise, adequate sleep and communication with others are often not obtainable. The participants reported spending the majority of their working lives in the limited physical space of their truck cab. They described the truck as both their home and their workplace when driving: *"I'm 120 hours on the road every week, right?! And I am in that truck, so I am in the workplace. It's the equivalent of going to work and staying there for five days" (participant #7).*

The workplace for long-haul truck drivers can be unsafe. Adverse weather is a threat that the participants described feeling acutely at times. A truck driver described having to navigate his truck through dangerous winter conditions: *"Winter driving got harder for me; more stress and trying to be careful to not trash my equipment or hit somebody else…" (participant #13).*

In addition to weather, participants felt that the heavy traffic they often navigate is so challenging that it threatens their safety: *"Now there's so many vehicles… you gotta pay attention or you're dead out there, plain and simple" (participant #11).*

Not only is the human need for a safe workplace not met, but the participants stated it was difficult to have a healthy lifestyle. They described limited opportunities to exercise and limited access to healthy food while on the road:

> It's what you eat. It's your diet. You gotta realize you're sitting on your ass for 13 hours a day and then you're going to lay in a bunk so what are you burning really?...I mean let's be honest. You go sit down in that restaurant you're not going to eat the healthiest food, regardless if you eat a salad or not. It's not healthy. (participant #6)

Sleep was another basic need that was not readily met. The participants described commonly experiencing fatigue from their work: "*At night when you stop you are super tired, but you just sat there, but somehow you are super tired" (participant #12).*

Their fatigue was made worse with repeated nights of poor-quality sleep: *"You're beat because you didn't get no 10 hours sleep. You might have got 5, but I doubt it…" (participant #2).*

Government mandated hours of service dictate when long-haul truck drivers must drive and when they must rest. The participants believed these rules make fatigue worse because they are too rigid. They explained how the strict hours of service do not allow drivers to make decisions based on how they feel as humans: *"The (log)book doesn't treat you like a human. It treats you like, it's completely opposite of what it should be doing, which is preventing you from being tired" (participant #12).*

The majority of participants believed these rules do not account for the widely different needs and capabilities of truck drivers. They felt the current regulations made it difficult to sleep when tired: *"You don't sleep when you should sleep, you sleep when they want you to sleep and you can't" (participant #2).* The rules also made it difficult to drive when rested:

> You feel awake when you start, but after you sit around for 3 hours waiting to start, then you start to get tired from waiting...What they are trying to do to make the roads safe, but they are making the roads more dangerous because now guys have been sitting around waiting and they get tired just from waiting…. (participant #3)

The basic human need for social interaction is also challenged by the long-haul truck drivers' environment. Currently, most long-haul truck drivers receive directions from dispatchers through cell phone texting. The participants described how they no longer talk to anyone and how the tradition of regular daily communication between long-haul truck drivers and other members of the transport industry has become less personal than it used to be*: "The phone doesn't ring now. We get no human interaction. It's like we're robots and I feel, I hate that" (participant #12).* "The participants explained that the psychological difficulties they face in their work trumps the physical challenges: "*Most of*

it is caused by stress. Some of (it is) the physical work, but most of it is stress" (participant #2).

In summary, the long-haul truck drivers in this study described difficulties meeting their basic human needs for personal safety, healthy food, exercise, adequate sleep and communication with other people working in a long-haul truck.

3.4.4.2 "Disrespectful Treatment from Others"

Participants explained that disrespectful interactions they had with people they met and worked with were particularly stressful. The second subtheme, *"Disrespectful Treatment from Others",* under the main theme, *"Dehumanization",* reflects this reported psychological mistreatment.

The interviewed truck drivers believe they are not recognized and treated as fully human by other vehicle drivers, government regulators, border and security guards, dispatchers, trucking companies, and warehouse loaders/unloaders. The participants reported feeling disrespected by all these groups with whom they interact in their travels. Regarding cars on the road, one participant shared a sense of being globally disliked and undervalued: *"They don't respect truckers. Nobody really does" (participant #6).*

Interactions with the Ministry of Transport (MTO) were also described as mostly negative: *"When you go to the scales (MTO), they used to help you…now it is nothing but a cash grab. You get yanked around the back of the scale, get your wallet out…" (participant #11).*

At delivery points, the participants described some security guards treating them as subhuman by unnecessarily exercising their authority: *"…you go in there and some security guard is trying to be a big shot asshole and makes you do all this extra shit…"(participant #11).*

The long-haul truck drivers in this study reported sometimes receiving similar treatment at the Canadian-USA border: *"I don't cross the border any more for exactly that reason. You get degraded a lot by these people [US border guards]" (participant #12).*

One driver recalled two border guards making him unload everything from his long-haul truck on a cold rainy winter night over many hours. After this task was finished, the border guards had him immediately reload the truck without inspecting anything. This participant felt the border guards forced him to do this arduous and unnecessary task for their amusement.

Despite being treated as subhuman by many groups, the participants explained that customers often expect superhuman efforts to get loads delivered to them. They felt some customers lacked appreciation for the personal risk they sometimes have to take to meet these expectations:

> …what I really don't like [about the job], is the lack of understanding [from the customer] of what it really takes to get [the load] there…through storms, through road closures, through whatever and you still got it there. (participant #10)

The participants felt the disrespectful treatment and a lack of appreciation they experience in their job contributed significantly to their mental stress.

3.4.4.3 "Substance Use"

Coping mechanisms for the various stressors includes substance use, the third subtheme under *"Dehumanization".* Long-haul truck driver participants admitted to harmful habits like smoking that helped reduce their reactivity to stressors on the road:

> We all smoke and that's horrible for you right?! But we're not going to quit because it helps with the stress. It helps with anger. It helps with everything, so you're not going to quit. (participant #6)

They also acknowledged the common practice of using illegal substances to help maintain the superhuman alertness demanded of them: *"It's just meth, ice. I don't use it but… I could get you it in the parking lot right now if I wanted to. It's that accessible all the time…" (participant #6)*. Participants explained how other drugs are used to combat stress: *"I know guys that drive down the road smoking joints because it keeps them calm and, in the zone" (participant #6).*

Thus, to tolerate the subhuman working conditions of the job, to maintain vigilance over many hours, and to suppress their human reactions to multiple psychological stressors, the participants said they often resort to smoking or taking illegal substances.

Not being able to seek help for their health concerns and medical problems is the final challenge for long-haul truck drivers.

3.4.4.4 "The Truck Cannot Get to the Doctor"

The final subtheme under the main theme, *"Dehumanization"* is, *"The Truck Cannot Get to the Doctor".* The truck drivers in this study explained how they cannot access their primary care provider because they work long hours and are often away from their home communities. Even accessing hospital emergency departments and medical clinics on the road is difficult in a large truck because urban infrastructure has been designed primarily for non-commercial cars and trucks.

The logistics of finding adequate parking is a challenge for long-haul truck drivers: *"... say I need to go to a clinic...but can you get your truck to those clinics?" (participant #10).* Therefore, many acute illnesses are usually self-managed, alone, in their truck: "*I was in my bunk shivering and taking Dayquil and Nyquil and had to stay three days at a truck stop" (participant #12).*

Long-haul truck drivers are either driving or sleeping in their truck more than 20 hours per day. This makes it very difficult to see their family physicians in the limited hours their physicians are available: *"...if you want to see your family doctor, you have to go*

during business hours, 9-5. Well that doesn't work that well for people, anybody, let alone a long-distance truck driver" (participant #3).

It is also difficult for them to schedule medical appointments given their unpredictable schedules: "*you can't make a specific appointment… because you don't know when you're going to be back exactly"(participant #12).* This lack of control over their work means they remain in their truck, and do not attend important visits for illnesses, management of chronic diseases or for health screening: *"I never make it there [to the family physician's office]. I've tried and tried and tried" (participant #11).*

In summary, along with not getting adequate sleep, exercise, nutritious food, and having little communication with others, access to health care is another human need that participants felt cannot be met working as a long-haul truck driver. Participants expressed that drivers must tolerate a demanding, physically unsafe, and psychologically negative working environment, which often leads to the use of dangerous substances. They felt that the outside world does not see them as fully human. Both in public and workspaces participants felt they do not receive the respect and treatment normally extended to fellow humans.

3.4.5 "Isolation"

The theme of isolation is pervasive in the life of a long-haul truck driver. It is a defining element of the experience. Long-haul truck drivers are isolated from their families and home communities. They are also more isolated from other long-haul truck drivers compared to the past due to changes to the trucking environment and culture. Finally, long-haul truck drivers are isolated from their health care providers whom they cannot easily access or trust. These dimensions of isolation are reflected in three subthemes. *Isolation from Home", "Isolation at Work" and "Isolation from their Primary Care Provider".*

3.4.5.1 “Isolation from Home”

The majority of long-haul truck drivers work alone. Maintaining relationships with family over long distances is difficult: “*You know there is a lot of loneliness on the road. A lot of stresses from that and not being around family*” (participant #7). Most of the truck drivers in this study reported experiencing significant emotional upset being apart from their family:

> Being there by yourself and your loved one on the other side of the country. Yeah, that’s a strain that it’s not even, you can’t even explain what that strain is like. It’s just, it’s like a pull that you can’t get rid of, ya know? (participant #10)

The nature of long-haul truck driving means they cannot share important life events with loved ones: *“You’re never there on her (wife’s) birthday. You’re never there on Christmas. You’re never there for any important things you really want to be there for” (participant #10).*

Relationships dissolve: “*She ended up leaving me...because I was never home” (participant #6)*. Children miss their truck driver parent: *“…my (5-year-old) daughter had a bad night and she is crying and wants to be with me. I am 600 miles away. What am I… to do?” (participant #6).*

One participant pointed out the magnitude of this issue at a highway truck stop parking lot: *“[There are] 100 and some trucks in there. That’s 100 and some guys away from their families. Not saying they all have families, but everybody has somebody” (participant #6).*

Relationships outside of family are also challenging. For example, one participant described not being able to easily form, or maintain friendships or romantic relationships:

> Your social life is not the greatest. You can’t join a hockey team to go play with friends at night. The last hockey team I was on was 20 years ago and I couldn’t

> go, and that's why it ended. I haven't played hockey since. Even finding or having and maintaining a girlfriend….(participant #12)

Whether it's missing family or community, participants universally agreed relationships were a profound stressor for them:

> I think [psychological health] is maybe one of the biggest strains in trucking. It comes from what you're missing from your home area, whether it be the election, your grandson's hockey game, whether it be not seeing your own sons and daughters, whatever. Being away when your father passes away and not being home. You know? (participant #10)

3.4.5.2 "Isolation at Work"

The isolation truck drivers experienced extended to the workplace. Participants reported less contact and camaraderie between members of this profession compared to the past.

Participants described new tensions and mistrust of other truck drivers in the last decade. The loss of traditional 'truck stop' type meeting places and the replacement of communication over CB radio with cell phones have changed trucking culture and added to the isolation truck drivers experience while working. The participants in this study reported finding it more difficult to socialize with other truck drivers*: "Years ago, you used to meet guys and you'd party with them at different bars and stuff, you know. Now you never meet anybody…" (participant #11).*

Newer truck stops and adhering to stricter regulations with the electronic logbook have also adversely affected socialization: *"[We] used to take our time. You stopped, shoot the shit with some people. Have a good dinner. Now it's all fast food" (participant #11).*

The long-haul truck drivers described less communication with other truck drivers while driving now that CB radios are rarely used:

> CB radio and maybe another truck driver would be able to tell you how to get to such a place when you're in the city. Now, of course…you've lost that communicating back and forth with other people. (participant #13)

Some participants described a generational change to truck driving culture*: "It's a me first society in trucking now…it used to be friendlier and more courteous" (participant #12).* Older driver participants described how this new attitude affected them:

> Young people…They come out here with a big attitude like they know everything and then they try to tell an old guy how to do it out here. That don't work. Listen to the old guys. They know stuff. (participant #11)

Many long-haul truck drivers have recently immigrated to Canada. Their driving behaviours and customs are unfamiliar to older drivers. The participants described being more nervous driving around these new, unpredictable long-haul truck drivers: *"They were not born here, so they bring their tailgating. It's a bit more dangerous than it used to be" (participant #12).*

Some older drivers think the new drivers have also contributed to the loss of traditional meeting places:

> Before there used to be like, more truckers having fork and knife meals and socializing in a restaurant…Now like newer people come in and they have their own style where they bring all their food…so a lot of restaurants have shut down because of it. (participant #12)

The participants described new tensions and distance between older and newer long-haul truck drivers. They regretted the loss of support they used to have from other members of their profession*: "It's a different life than it was back then…people are not sticking together" (participant #13).*

On the other side, newer and younger drivers feel disrespected by the older traditional drivers. One young driver gave an example of the condescending attitude of an older

Canadian driver towards her driving: "*A lot of [older drivers] use the term, 'Did you buy your license?'"(participant #5).*

These generational and cultural clashes have led to mistrust between long-haul truck drivers. More than one driver described being fearful of assault if they stopped to help another truck driver in trouble at the side of the road:

> You don't know whether it's some kind of set up anymore-robbery or assault or something…That happens now once in a while. (participant #13)

> You stop to help somebody and all of a sudden, …four guys come out of the bushes…You know guys get robbed, beaten, and what-not. (participant #4)

The participants explained that changes to traditional patterns of socializing at highway truck stops and communicating over CB radio, together with mistrust between new and established truck drivers, all contribute to more isolation when long-haul truck drivers are working.

3.4.5.3 "Isolation from their Primary Care Provider"

This sense of isolation is also experienced with primary care providers. The majority of participants had a family physician in Ontario. They typically reported their patient-physician relationship as amicable but distant and reserved: *"He [the family doctor] is a nice person but he doesn't know me or my needs or anything like that" (participant #12).* Others believed their physician was not motivated to understand them: *"He doesn't know much about truck driving. He just doesn't have a clue…and I don't think he cares to learn" (participant #13).*

The majority of participants expressed regret that their relationship with their family physician had to be guarded in order to maintain the impression of being healthy enough to keep their driver's license:

> Umm, I'd like to be able to talk to my doctor about some of the mental health issues I've been facing, but because of the punitive nature of how the licensing system is set up for truckers…It makes it difficult, right? (participant #7)

The isolation truck drivers experienced from their family physician was both physical, because they cannot travel the distance to their family physician's office when needed, and psychological, because they believe they cannot disclose all health concerns without risking loss of their license.

Relationships with family members, friends, fellow truck drivers and even primary care providers were significantly strained due to the nature of long-haul truck driving. Isolation from others is another hardship for long-haul truck drivers.

3.5 Discussion

To the best of our knowledge, this is the first qualitative study to examine long-haul truck drivers' attitudes towards and experiences with primary care. It is also the first Canadian study to examine the lived experiences of the subgroup of long-haul truck drivers among all transport truck drivers. This study illuminated the complex, previously unexplored health experiences of long-haul truck drivers and the relationships they have with their primary care providers.

The long-haul truck drivers in this study described lived experiences that impact their health. These experiences can be understood through the four themes that emerged from this study analysis. The long-haul truck drivers have the common attitude of "keep on trucking", are inclined towards a "hidden world", experience inescapable "isolation" and experience poor access to basic needs and disrespectful treatment by others that is "dehumanizing".

Analysis of the study data revealed that while certain truck driver behaviours and attitudes increase their health risk, others are adaptive and protective. Long-haul truck

drivers are known to work in a complex system and to experience a multitude of challenges, many of which affect them adversely (Crizzle et al., 2017). Long-haul truck driving is unique in comparison to other occupations in that it has continuous impacts on all aspects of life. Being immersed in the trucking environment for days to weeks at a time has profound effects on driver work, rest, sleep, relationships, and physical and mental health. Put simply, the work experiences of long-haul truck drivers dictate how they experience their health.

The four intersecting themes that emerged from the data analysis reflect the trucking world, and the beliefs, behaviours and attitudes of long-haul truck drivers towards their health and their medical providers.

Keep on Trucking

This first theme symbolizes how long-haul truck drivers cope with their often-difficult work conditions. Participants all dealt with adversity stoically. This behavioural strategy may have developed because long-haul truck drivers manage most problems they encounter at work independently without support. An alternate explanation is that men with this fortitude are drawn to long-haul trucking. Like other male-dominated professions, truck drivers might be socialized "to mask their vulnerabilities, allowing them to be perceived as rational, efficient and non-emotional"((Affleck, Glass, & Macdonald, 2013)p158). This would also explain both Canadian and American long-haul truck drivers' survey findings that the majority of truck drivers report their health as "good" or "excellent" despite considerable evidence to the contrary (Angeles et al., 2013; Bachmann et al., 2018). In the present study, some participants recognized that their habit of denying health risks and bodily symptoms was sometimes detrimental to their health. They described instances when serious illness or injury might have been prevented if symptoms had not been ignored and medical assistance had been sought earlier. This is consistent with prior research regarding long-haul truck drivers' health in Canada and the US, in which more than half reported that they self-treated or delayed medical consultation for health problems when working (Angeles et al., 2013; Solomon et al., 2004).

Psychologically, long-haul truck drivers report significant levels of stress (Garbarino et al., 2018; Hege et al., 2019; McDonough et al., 2014; Shattell et al., 2010) and high levels of anxiety and depression (Bigelow et al., 2012; Shattell et al., 2012; Wawzonek, 2015). Unfortunately, they are less likely to seek mental health support. This is illustrated by data analysis from the Canadian Community Health Survey that showed that compared to members of other professions, truck drivers had a lower likelihood of seeing a mental health professional (Wawzonek, 2015). All of the long-haul truck drivers in the present study reported experiencing psychological stress, with many admitting to having to consciously suppress uncomfortable feelings and memories in order to complete the job.

For the individual truck driver this "keep on trucking" attitude is rewarding in the short term but maladaptive in the long term. Long-haul truck drivers are vital to the economy and in great demand (Canadian Pacific Consulting Services (CPCS), 2016), which has resulted in drivers being rewarded with increased work opportunities for ignoring fatigue, illness, and high psychological stress. They are also rewarded with continued drivers' licensure when they neglect to bring their physical and mental health concerns to their primary care provider who might otherwise find them unfit to drive. Long-term, the "keep on trucking" approach to work might prevent truck drivers from seeking health care that could reduce their future morbidity and mortality

Hidden Separate World

The second theme reflects another aspect of the lived experience of trucking that emerged from this study. The theme, "hidden, separate world" symbolizes both the trucking environment and also how the public does not "see" truck drivers. Drivers are not seen in the sense that much of their work is unobserved—it happens alone in a cab. This invisibility means consumers may not appreciate the role long-haul truck drivers play in safely transporting and delivering essential goods and materials. Participants in this study believed that when they share the road with other vehicles, they are still unnoticed

by these drivers. As a result, participants believe they need to be constantly vigilant, especially around people who are driving vehicles carelessly.

Participants explained that truck drivers know roadways are often dangerous. They know that being involved in a crash means risking serious injury or death to others and themselves. Participants explained that for many long-haul truck drivers this knowledge means experiencing regular anxiety at work. They identified this anxiety as a significant stressor. Canadian statistics, up until 2017, attributed approximately 30% of the road fatalities caused by crashes involving large trucks to truck drivers (Ministry of Transportation of Ontario, 2016, 2017c). This means other vehicles are responsible for the majority of fatal collisions involving large trucks in Canada. A possible explanation for these unequal contributions to crashes are that many vehicles do not drive safely around trucks. This likely happens because the drivers of these other vehicles are more distracted or do not understand the limited ability of large trucks to maneuver or stop quickly if needed. A US study determined that there are a number of unsafe driving acts committed by motorists in the vicinity of large trucks that result in collisions (Stuster, 1999). A subsequent study found that while most motorists have a negative perception of large trucks and support stricter regulations for this group, motorists who engage in distracted or risky driving are less likely to view large trucks negatively (Moore et al., 2005). The perceptions of the public and their lack of understanding could be remedied with improved public and driver education programs on how to drive safely around trucks.

Despite the disadvantages of living in a hidden separate world, study participants valued working independently, hidden from the watchful eye of supervisors or colleagues. This independence, however, has recently been cut away by government regulations mandating that ELDs be installed in all long-haul trucks. This constant monitoring and surveillance were perceived as an unwelcome intrusion by the Study 1 participants. They explained that the ELDs monitor strict hours of service and therefore do not allow sufficient individual flexibility to manage unpredictable cycles of fatigue and energy unique to each truck driver without lost work hours and impacts to truck driver earnings. This increase in fatigue made the truck drivers in Study 1 less confident in their ability to

drive safely. It is not clear whether mandated ELDs reduce collisions. Early research suggests a small improvement in crashes (Hickman, Guo, Camden, Dunn, & Hanowski, 2017), but a more recent review of US statistics suggests ELDs increase collisions (Scott, Balthrop, & Miller, 2019). Regardless, ELDs have significantly contributed to the psychological stress reported by the long-haul truck drivers in this study, and in the process have taken away what they considered to be a main draw of the job.

Dehumanization

Truck drivers cannot separate their workplace from their home when driving long-haul. Previous research supports the findings from this study that truck drivers struggle to meet their basic human needs of eating healthy food, exercising, getting enough quality sleep, socializing with family or friends, being safe in their workplace and accessing health care living in a truck (Garbarino et al., 2018; Hege et al., 2015; Lemke et al., 2015; Turner & Reed, 2011). Because they are deprived of these basic human needs, truck drivers suffer a loss of human dignity and are "dehumanized". They are less healthy than the general population (Thiese et al., 2018; Wawzonek, 2015) and are at increased risk for chronic diseases such as heart disease, hypertension and diabetes (Crizzle et al., 2017). They are also at increased risk for death and injury at work compared to the general working population (Combs et al., 2018; Ferro, 2010; Neophytou et al., 2014). Many have obesity, sleep apnea, smoke, and misuse substances (Birdsey et al., 2015; Couper et al., 2002; Wawzonek, 2015).

The participants in this study explained how their mental health is aggravated by disrespectful, 'subhuman' treatment they frequently receive on the road from border and security guards, MTO agents, customers and trucking dispatchers. The high expectations and pressure from customers and trucking companies to deliver loads on time, sometimes through adverse conditions, adds to their psychological stress. Some truck drivers mitigate their responses to stress with substances like cannabis, tobacco, cocaine or crack. Unfortunately, these coping strategies further contribute to health risk and chronic disease burden. Despite the superhuman expectations placed on truck drivers, they are often

treated as subhuman and denied basic human needs. The participants in this study described being weary of continuous external hostilities and microaggressions.

It seems that truck drivers would benefit from more control over their work environment. Having more flexibility with their mandated hours of service would allow truck drivers to decide when they take breaks. Truck stops that offer more nutritious food options, facilities for exercise and quieter places to sleep would likely positively impact the burden of health problems experienced by this large occupational group. In addition, increased recognition and appreciation by the public for the role truck drivers play in our economy, combined with more respectful treatment by border guards and supply chain contacts might reduce their psychological stress. In turn, if long-haul truck drivers experience less stress, they may use less substances.

Isolation

Long-haul truck drivers in this study felt isolated in all spheres of their life. They felt isolated from family, community, other truck drivers and from health care providers.

Being away from family was a constant psychological strain for drivers in this study. Additionally, the much-needed social support of other long-haul truck drivers has eroded with recent changes to the trucking environment. Participants explained that they can no longer easily meet with other truck drivers because their schedules often vary, and they do not have control over when rest breaks can be taken. Moreover, previous family-run truck stops with healthier sit-down meals have been replaced by impersonal fast food venues. Additionally, some participants believed that the rapid assimilation of many new Canadians into trucking has increased their isolation because these new Canadians have different preferences and driving behaviours.

This study revealed that long-haul truck drivers feel isolated from their primary care providers because they cannot easily access them. This finding is supported by previous US and Canadian surveys in which truck drivers felt their health was negatively affected by not having access to health care on the road (Angeles et al., 2013; Apostolopoulos et al., 2013; Solomon et al., 2004; Stasko & Neale, 2007). What was apparent in this study

is that even if they are able to meet with their primary care provider, participants did not trust that all their health concerns would be kept confidential. Participants reported that they know their primary care provider has a duty to report to the MTO any health concerns that affect safe driving, and so they avoid discussion of important health problems. This situation of avoiding, or not being able to freely discuss health concerns with their primary care provider puts long-haul truck drivers at an even greater risk. Their physical and mental health problems are not being addressed and their risk factors for diseases are likely not being investigated or treated.

The four themes explored in this study: “Keep on Trucking”, “Hidden Separate World”, “Dehumanization” and “Isolation”, reflect how long-haul truck drivers experience their all-encompassing work, and how their health and relationships with their primary care providers is impacted.

3.6 Strengths and Limitations

A strength of this study is that is it explores for the first time, the attitudes and experiences of Canadian long-haul truck drivers towards their health, and towards their primary care providers in a country with free universal health care. Given that primary care has a significant impact on the health of individuals and populations (Starfield et al., 2005), it is valuable to have a deeper understanding of how some long-haul truck drivers view and access this important resource. Another strength of this study is that previously unknown experiences and impacts of mandatory electronic logging devices on long-haul truck driver health were revealed in this study.

Limitations to this study are that the majority of participants were recruited at one truck stop in southern Ontario on a major highway corridor between Canada and the US. As well, new Canadians, who have immigrated primarily from South Asia, make up a significant proportion of long-haul truck drivers in Canada (Statistics Canada, 2016) but were not well represented in this study. It may be that long-haul truck drivers who have recently arrived in Canada, or who drive in less populated parts of Ontario or Canada, experience their health and health care differently. In Canada, health care is a provincial

responsibility, so the variations in supply and delivery of primary care across the country could impact how this resource is experienced by long-haul truck drivers.

3.7 Conclusion

Long-haul truck drivers' culture of stoicism has an important role in our economy. Canada has become dependent on the reliable transport of goods by road to meet increasing consumer demands. While their cab surrounds truck drivers like armor, it does not always protect them from their work environment. Long-haul truck drivers must tolerate difficult conditions in order to function in the current system of transportation of goods. If the drivers remain stoic, and "keep on trucking", the economy benefits. However, physically, psychologically and socially much is working against them. Members of this profession are "dehumanized" by the very society they serve. They experience adverse conditions at every level that they pay for with their health. Truck drivers live in a "hidden, separate world" of "isolation" which means they are not connected anywhere and therefore cannot form protective relationships including healthy, therapeutic relationships with their primary care providers to mitigate their significant health risks.

Chapter 4

4 Reflections of Primary Care Providers to the Health Experiences of Long-haul Truck Drivers

4.1 Introduction

Long-haul truck drivers have multiple health risks, injuries and chronic diseases as a result of their work (Crizzle et al., 2017). Due to their health behaviours, exposures and lack of access to health promoting environments, they experience significant health disparity compared to the general population (Apostolopoulos et al., 2016a; Birdsey et al., 2015; Thiese et al., 2018; Wawzonek, 2015). Furthermore, higher morbidity in this occupational group is associated with more crashes and unsafe driving actions putting both long-haul truck drivers and the public at risk (Anderson et al., 2012; Burks et al., 2016; Ronna et al., 2016; M S Thiese et al., 2017). The literature to date suggests long-haul truck drivers do not have adequate access to health care (Angeles et al., 2013; Solomon et al., 2004; Stasko & Neale, 2007). There are no studies that have directly examined primary care provision to long-haul truck drivers outside of a small study of mobile health units in Africa (Lalla-Edward et al., 2017).

Primary care providers in Ontario include both family physicians and nurse practitioners. They are front line and provide the first point of contact with the health care system. Primary care providers have multiple competencies in providing comprehensive, continuous health care to varied populations across all ages and occupations. The complex work they do can be understood through the CanMEDS framework (for family physicians (Shaw et al., 2017)), the Core Competency Framework (for nurse practitioners (Canadian Nurses Association, 2010)) and the Patient-Centered Clinical Method (PCCM) (Stewart et al., 2013). The CanMEDS framework, the Core Competency Framework and the PCCM are constructs that help explain the roles and approaches family physicians and nurse practitioners use to provide high quality primary care to patients.

The health of populations is affected by their access to primary care. In countries with health systems that have a strong primary care base, populations are healthier (Starfield et al., 2005). Individually, people who receive regular care from a primary care physician have lower morbidity and mortality (Starfield et al., 2005). Access to primary care is particularly important for hard to reach populations with complex care needs such as long-haul truck drivers.

Transport truck driving is the most common occupation for men in Canada (Statistics Canada, 2016). These drivers have unique contexts and unique health care needs that could be addressed by patient-centered care. It is therefore important to understand the obstacles family physicians and nurse practitioners face in providing the important resource of primary care to this population.

4.2 Study Purpose

The purpose of this study was:

1) to describe the reflections of primary care providers on the work and health experiences of long-haul truck drivers;

2) to explore the experiences of these providers in caring for long-haul truck drivers.

4.3 Methodology

4.3.1 Study Design

A descriptive qualitative methodology was chosen for this study because "qualitative descriptive studies offer a comprehensive summary of an event in everyday terms of those events"(Sandelowski, 2000, p.334). This approach was believed to be most suitable for interpreting the responses of the primary care providers to the health experiences of long-haul truck drivers because it emphasizes accurate reporting of participants' concerns about events and direct accounting of conversations as they happened (Sandelowski, 2000, 2010). Data for the study were collected through focus groups.

4.3.2 Participant Recruitment

Nurse practitioners and family physicians from Ontario Family Health Teams in the Cities of London, Hamilton and Barrie, as well as the Towns of Elora and Midland were contacted by publicly available email and/or phone to request their participation in a focus group.

Sixteen participants were recruited to the study over three months (May to July of 2019) from the Towns of Elora and Midland, and from the City of London. Six family physicians were recruited to the first focus group, three nurse practitioners and two family physicians were recruited to the second focus group and five family physicians were recruited to the third focus group. Participants were provided with a light meal during the focus groups. Informed consent was obtained from the participants, prior to each focus group.

4.3.3 Data Collection

The focus group participants were shown a short presentation on the findings from Study 1 regarding the health experiences of long-haul truck drivers. The presentation included themes that reflected what the truck drivers believed significantly affected their health.

The focus groups were then asked for their responses to this presentation which led to general discussions around their experiences caring for long-haul truck driver patients. The average length of time for the focus group discussions was approximately 60 minutes.

One researcher (JJ), conducted the three focus groups using a semi-structured interview guide developed by the research team. Interview questions probed the primary care providers' reactions to the stimulus material and were used to engage them in a discussion about their experiences caring for long-haul truck drivers. Regarding their truck driver patients, participants were asked: (1) about the nature of their patient-doctor relationships; (2) for their perceptions of health care access for this occupational group; and (3) for their ideas for reducing the health risks for these patients. Probes were used as

necessary. Field notes were written by the researcher after each focus group. Memos were written throughout the process of coding and analyzing the transcribed data. Both the field notes and memos were discussed by the research team when they came together after each focus group.

4.3.4 Data Analysis

The audio-taped interviews were transcribed verbatim. The three members of the research team then independently coded the transcribed interviews using keywords and phrases that reflected the ideas, perceptions, attitudes and feelings of the participants. Each team member's independent coding of the data was discussed and compared during the team's regular analysis meetings. During these team meetings, the coding template was further developed and modified to reflect these discussions. The updated coding template was then applied to the next focus group transcript. This iterative process of analysis and discussion continued until there was sufficient data to saturate the themes (Richards & Morse, 2013) and no new themes or concepts were identified by the team. This occurred after the third focus group.

The collective processes of immersion and crystallization (Borkan, 1999) were used continuously to engage with the data throughout the analysis and final interpretation phases of the study. The team members attended to reflexivity (Crabtree et al., 1995) throughout the process of analysis.

In this research study, the perspectives of the participants were explained using two frameworks: the CanMEDS roles and the PCCM (Patient-Centered Clinical Method). The CanMEDS framework and the PCCM are constructs that help explain the roles and approaches family physicians use to provide high quality primary care to patients (Shaw et al., 2017; Stewart et al., 2013). The Patient-Centered Clinical Method is a conceptual approach to providing health care that is informed by a full exploration of the patient's concerns within the context of their lives. This is followed by a mutual approach going forward through the process of the patient and provider finding common ground.

4.3.5 Trustworthiness and Credibility

Trustworthiness and credibility were promoted in this study by a variety of means: the interview transcripts were transcribed verbatim and reviewed for accuracy; the team met regularly for debriefing meetings to discuss the field notes taken after each interview; and reflexivity was practiced when interpreting the data by reflecting on emerging themes, alternate interpretations and possible biases (Richards & Morse, 2013). Regular meetings of the researchers allowed for discussion of individual team members' perspectives and professional background on the study design, data interpretation and concluding findings.

4.3.6 Ethics Approval

Approval was obtained from the Office of Human Research Ethics at Western University. (Project ID #113868)

4.4 Findings

4.4.1 Final Sample and Demographics

Sixteen primary care providers participated in this study. The sample was comprised of 9 women and 7 men who ranged in age from 32 to 65 years. Years in practice ranged from less than 1 year to 39 years. One of the focus groups was held at a university teaching clinic and the other two focus groups were held at community-based clinics. They represented primary care providers from urban and semi-rural settings in central and southwestern Ontario.

4.4.2 Overview

The overarching theme that emerged from study analysis was, *"It is Difficult to Provide Patient-centered Care to Long-haul Truck Drivers".* This overarching theme is explained, and best understood through the two subthemes: *"The World of Long-haul Truck Driving is Unknown",* and *"The Elephant in the Room".* The second general theme, *"The Elephant in the Room",* is further divided into three interconnected issues,

"Primary Care Cannot be Given", "Primary Care Cannot be Received" and *"Difficulty Finding Common Ground".*

4.4.3 "It is Difficult to Provide Patient-centered Care to Long-haul Truck Drivers"

The overarching theme that emerged from the focus groups was that it is difficult for family physicians and nurse practitioners to provide patient-centered care for their long-haul truck driver patients. Aside from the obvious problem of truck drivers being physically distant from their care providers when driving, there were two essential reasons that providing patient-centered care was difficult. The first was that the distal context of long-haul truck drivers is not well known to primary care providers. The distal context is the complex world of trucking that drivers are continuously immersed in for days to weeks at a time. This environment profoundly affects truck driver health. The second reason that patient-centered care was difficult to provide to members of this profession was that by completing drivers' licensing exams for their truck driver patients, the primary care providers' duty to protect public health was in conflict with their essential role of providing confidential, patient-centered care.

The two subthemes that illuminated the difficulty in providing patient-centered care to truck drivers were: *"The World of Long-haul Trucking is Unknown"* and *"The Elephant in the Room".*

4.4.3.1 "The World of Long-haul Trucking is Unknown"

The first subtheme, *"The World of Long-haul Trucking is Unknown",* represents what the majority of participants did not know about the health and work experiences of this occupational group. There was surprise at how many Canadian men belonged to the world of long-haul truck driving:

> I was flabbergasted it [transport truck driving] is the number one occupation for a man. It's funny because I know there are a lot of trucks on the road, and I myself

> have a lot of truck drivers in my practice, but I never thought about it as being the number one….(focus group #2)

All participants had long-haul truck drivers in their practices and were familiar with many of their health risks such as limited access to healthy food and lack of exercise:

> When I see them [truck drivers], I am sort of predisposed to think, you are at risk for lots of things…They are sitting on their lumbar spine all day long…and the truck stops that they go to don't promote salads. (focus group #1)

They also knew this population suffers from many chronic diseases as a result of their lifestyle: *"I think we have all seen in our practices the common diseases they have. I mean, many of them are obese and consequently are at risk or have diabetes" (focus group #1).*

However, the participants were less familiar with the multitude of daily stressors that adversely affect the health of long-haul truck drivers. Specifically, they did not appreciate the danger of the job, the prevalence of substance use, the extent of psychological stress and the impact of electronic logbooks on driver fatigue.

The study participants were also surprised by the high proportion of highway fatalities that involve long-haul trucks: *"The fact that you said 20% of all [motor vehicle accident] fatalities…I am sure that raised eyebrows around the table. I didn't realize it was that high" (focus group #1).*

When informed that the truck drivers in Study 1 regularly experienced fear of causing injury or death to themselves or others, one primary care participant reflected: *"When I'm doing drivers' physicals, I've never even asked a guy about that. Never even asked, 'Are you scared?'" (focus group #1).*

Another participant expressed appreciation of the long-haul truck driver's constant anxiety regarding safety:

> Going up and down to Toronto we see very bad accidents…I know that Humboldt thing was really extreme, but I think there are minor 'Humboldt's' going on all the time and I think these guys must be petrified. (focus group #1)

One of the participants was aware of this fear:

> There is an increased amount of immigrants who are driving transport and their safety rules are not necessarily the same from their country as from ours…as well as the courtesies and what not…So I know that creates a lot of stress and… more fear of accidents. (focus group #2)

The fear of being involved in a crash was identified as something that primary care providers might ask their patients about in the future:

> I think we [primary care providers] are mostly all aware of the physical type troubles that these guys get into, but probably physicians are not aware of the fear that they have…we should be more aware of that and be able to approach it and provide them some kind of care if it is a problem for that individual driver. (focus group #1)

A few participants had some knowledge of substance use in long-haul truck drivers but felt their truck driver patients often denied it: *"If you ask them about substance use it was always, 'It is rampant. I know all these guys, but I was never that guy'" (focus group #1).*

However, the majority of focus group participants were surprised about illegal substance use in trucking. They reflected on the implications of this knowledge for primary care providers and for public safety: *"The fact that they are using stimulants…I am not surprised I guess…I just think, whoa! What are we doing to screen for that? Are they driving while using it?" (focus group #3).* Another participant added: *"If they are using marijuana, well, when do they use it? … are they actually driving while it's still in their system?" (focus group #3).*

Even though psychological stress was identified as a significant problem by the truck drivers in Study 1, few participants had had experience diagnosing or treating mental illness in their truck driver patients: *"I wonder if it is the hidden piece with the mental health. I don't recall many of my patients who are long-haul truck drivers talking about that. That's not even a topic" (focus group #3).* This was compounded by the fact that their truck driver patients did not present to their offices with complaints of anxiety or depression: *"They will not come in and say, 'I am sad or depressed'…" (focus group #1).*

However, on reflection, they agreed that some of the behaviours that they had observed in their truck driver patients could be signs of depression or anxiety.

> I would see it often that these people would be easily frustrated, easy to anger…their fuse was very short often. I think that was an expression of their underlying anxiety, depression. Men often experience or express their depression with those type of negative feelings…. (focus group #1)

The participants were not aware that it is now mandatory for electronic logbook devices (ELDs) to be installed in all long-haul trucks. They did not know that ELDs record all the driving decisions and actions of truck drivers and can be accessed by the Ministry of Transportation of Ontario (MTO), police and trucking companies. Similarly, they were unfamiliar with the associated hours of service that dictate when a driver must drive and when they must rest. When the focus groups were made aware that the participants in Study 1 felt this made it very difficult to manage their fatigue, they remarked: *"It worries me that there are drivers out there who are feeling forced to be on the road to fit a schedule when they are not feeling like they are able to drive safely" (focus group #2).* Discussion on this topic made some focus group participants question whether these policies were appropriate and effective: *"I don't know how we do [this] as a group of physicians…but maybe making it a priority to determine if some of these policies are effective at doing what they're trying to do…" (focus group #2).*

The dangerous and psychologically stressful work environment of long-haul truck drivers was generally not known to the primary care providers in this study. The context of truck

driver patients is important to understand because it profoundly affects the health of members of this profession. Without this knowledge, patient-centered care is difficult to provide.

4.4.3.2 "The Elephant in the Room"

The second theme, *"The Elephant in the Room",* symbolizes the ever-present influence of the MTO. The MTO controls driving licensure, and therefore the livelihood of long-haul truck drivers. Truck drivers must undergo regular medical examinations by a primary care provider in Ontario to maintain their trucking license. The MTO has made it the primary care provider's duty to report on their patient's fitness to drive through the driver's medical exam. Therefore, there is always an "elephant in the room" when a truck driver meets with their family physician or nurse practitioner. The majority of primary care provider participants in this study described not being able to form healthy patient-physician relationships with their long-haul truck driver patients: *"We just don't have a relationship with them, right? That's the bottom line. He is just coming in because they have to have a family doctor" (focus group #3).*

The participants recognized that the presence of this "elephant in the room" means primary care cannot be easily given, nor received by long-haul truck drivers. Finding common ground is also affected. The influence of the MTO means the agendas of long-haul truck drivers and their primary care providers often differ and cannot always be reconciled. These obstacles to providing patient-centered care are reflected in the interconnected issues: *"Primary Care Cannot be Given", "Primary Care Cannot be Received",* and *"Finding Common Ground is Difficult".*

4.4.3.2.1 "Primary Care Cannot be Given"

The focus group participants described not being able to provide good primary care to their long-haul truck driver patients. The aspects of primary care that are very difficult to provide to this occupational group, can be understood by looking at the CanMEDS roles.

Under the '*family medicine expert'* CanMEDS role, care planning, investigating and providing therapies for the health problems of truck driver patients was reported as very challenging:

> It has been my most challenging group of patients because they can't make appointments, they never go for their HbA1Cs and trying to encourage them to adopt healthy lifestyle choices with their careers is really difficult. (focus group #2)

Similarly, regarding the '*communicator*' CanMEDS role, participants sometimes had difficulty establishing rapport with their long-haul truck driver patients. Not being able to consistently provide confidentiality to truck driver patients was felt to inhibit open communication. One participant described how reporting on fitness to drive through the driver medical exam affects the therapeutic relationship:

> They can get quite hostile towards you because it [the driver's medical] is a threat to their livelihood, but you're obligated to fill out the truth as you know it. That's just another layer of difficulty in terms of trying to forge a really positive therapeutic relationship. (focus group #2)

Finally, regarding the CanMEDS role of *'advocate'*, the participants recognized they cannot always take on this role for their truck driver patients either: *"It's hard to feel like you're being their advocate if you're reporting something that the patient perceives as jeopardizing their job security" (focus group #2).*

In summary, participants felt certain aspects of primary care cannot be provided to long-haul truck driver patients because the three CanMEDS roles of '*family medicine expert', 'communicator',* and *'advocate'* cannot be fully realized with members of the trucking profession.

Participants also believed primary care cannot be easily given when most interactions with truck driver patients center around the drivers' medical examination. They reported

the challenge of providing continuity of care when truck driver patients only come in for these exams:

> Some of them we don't see from one driver's medical until the next…despite your best efforts to invite them to come in…there are some in my practice I may see every three years and that's it. So, it's very difficult from the point of view of your relationship. (focus group #1)

The focus group participants regretted the reactions of their truck driver patients when they attempted to provide primary care through this service: *"Five years without checking for diabetes and so I say, 'hold on to your form…Why don't we get a blood test?' It's just immediate push back and you know, anger" (focus group #3).*

The participants reported the driver's medical as a suboptimal tool for assessing health because it collects mostly subjective self-reported information. They were especially concerned about drivers' medical exams being completed at walk-in clinics where the examiner does not provide regular primary care to the patient: *"I think you are a brave walk-in physician to fill out that medical form particularly for commercial trucks if you don't know the patient" (focus group #1).*

Participants expressed their belief that knowledge of the patient, gained by a regular primary care provider over many years, does not seem to be valued by the MTO in assessing fitness to drive: *"[At the walk-in clinic], it's always a single visit, so I always question how the MTO reflects on that" (focus group #3).* Another participant questioned the same thing: *"There is a spot down at the bottom that says how long have you known the patient. Does that have any bearing on the Ministry?" (focus group #1).*

Primary care providers believed their responsibility to the public was sometimes in conflict with their responsibility to the individual patient when it came to long-haul truck drivers. The participants felt the driver's medical does not satisfy the primary care provider's duty to protect the public, nor does it give them insight into the individual truck driver's health:

> It's kind of chaotic in the sense of how the MTO physicals are done…often by those of us who may not be completely comfortable with the conclusions of our assessment but there are not really a lot of other options. (focus group #3)

Whether seen through the lens of the CanMEDS family practice roles, or through the limitations of the driver's medical exam, the participants believed that primary care cannot be adequately provided to long-haul truck driver patients.

4.4.3.2.2 "Primary Care Cannot be Received"

The participants understood that the MTO presence affects what issues are brought forward by long-haul truck drivers, and what they can safely say out loud to their family physician: *"I found too many are hesitant to bring concerns to our attention for fear that it will impact their licensing going forward" (focus group #1).*

Furthermore, this impacted the patient-provider relationship: *"These forms [drivers' medicals] are why the relationship between a family doctor and a truck driver can be less robust than a relationship with others" (focus group #2).*

They felt that the truck driver is always aware of the "Elephant in the Room", even when they present for visits unrelated to their drivers' medical exams. The participants believed that truck drivers keep relationships with their primary care providers service-oriented and transactional in order to avoid addressing even obvious medical concerns:

> ...my one truck driver patient who was addicted to cocaine, the only reason he was here was because he needed us to help him get his job back. He's like "I need you to do these tests". It was not even like can you help me with my addiction. It was more like, "I need this" …so really kind of based on a need…like a service…. (focus group #3)

The focus groups reported that their long-haul truck driver patients seem to avoid coming in for regular care. They worried about the implications of this behaviour:

> Sometimes it is a real avoidance of illness rather than pursuit of health that's going on…it seems that's mainly what they [the truck drivers] are trying to do is just avoid the perception, or even the truth, of being ill. You can do that by avoiding your primary care provider. So, it gets really dangerous. (focus group #2)

The focus groups felt that primary care cannot be received by long-haul truck drivers without real or perceived impacts on their occupation.

4.4.3.2.3 Finding Common Ground is Difficult

The primary care participants reported that long-haul truck driver patients usually have a very different expectations and goals from their own. The patients visit their family physicians mostly when they have an immediate need for service. The constant fear of information flowing from the nurse practitioner or family physician to the MTO means the expectations and goals of the truck driver is usually limited: *"With those patients, I only see them when they need something. Something happened and I need you to fill out this form for me" (focus group #3).*

In contrast, the expectations and goals of primary care providers is to try to help their truck driver patients achieve better health. The focus group participants reported wanting to provide primary care, such as counseling long-haul truck drivers on their unhealthy lifestyles or arranging screening: *"I don't know how many times I have talked to him about quitting smoking…" (focus group #3).* Another participant described the challenge of screening: *"It's hard to get preventative care with this population. One guy I have has been trying to get a screening scope since I joined this practice" (focus group #1).*

Participants reported that this makes finding common ground challenging with their truck driver patients, particularly with managing chronic diseases: *"I want to start talking about Insulin because he is on maximum oral therapy. He won't even discuss it because he cannot drive in the U.S. if he is on Insulin…" (focus group #2).* Some participants reported that not being able to reconcile their different goals led them to feel like they had

failed this group: *"I always felt like a bit of a failure, like I wasn't connecting with them or wasn't able to problem-solve around some of their challenges" (focus group #2).*

The participants explained that sometimes long-haul truck drivers visited their primary care provider because their family facilitated it. These instances allowed for common ground to be reached because the goal of the family and the goal of the primary care provider intersected: *"That was the only time when we were able to support him in treating his diabetes…just because the family brought him in and forced him to come in" (focus group #3).*

With long-haul truck driver patients, primary care cannot be easily given or received, and finding common ground is a constant challenge. These obstacles affect the delivery of patient-centered care to this vulnerable group.

In reflecting on all that they have not known or appreciated about long-haul truck drivers, one participant said: *"I think just looking at my practice, and your presentation, I think really for most of us, they are underserved and an under-understood group" (focus group #3).*

When asked how they might help this group more, participants acknowledged that understanding the context of long-haul truck drivers is important as well as improving the patient-doctor relationship: *"I think more awareness on our part and establishing that relationship that allows them to come in and see us" (focus group #3).*

They proposed removing the "Elephant in the Room" by decoupling the two roles of the primary care providers:

> Honestly, I think that decoupling the two would be better, so that you as the physician should not necessarily be the one who is determining their ability to drive. If you are determining their ability to drive…. then maybe they need to be able to access some sort of other type of confidential services. (focus group #3)

This would allow the family physician to actually fulfill the CanMEDS roles:

> I think for us as family doctors, we would rather look after them. Really look after them, you know? I mean I would probably be happy if I don't have to be the one that makes the final decision on their driving ability. (focus group #3)

These findings from the analysis of the focus groups detail many of the challenges faced by primary care providers in caring for long-haul truck driver patients. Having the duty of reporting to the MTO regarding fitness to drive and not understanding the world of long-haul truck driving emerged as the main obstacles to fulfilling their CanMEDS roles and to providing patient-centered care to members of the trucking profession.

4.5 Discussion

This is the first study to investigate primary care providers experiences caring for men employed as transport truck drivers; the largest occupational group in Canada (Statistics Canada, 2016). Primary care is an important health resource for all populations, including long-haul truck drivers who carry a heavy burden of health risk. The primary care providers in this study reported multiple challenges providing high quality primary care to their long-haul truck driver patients. Two reasons were attributed to these challenges. One is that the trucking environment, or context of long-haul truck drivers is largely unknown to primary care providers and the responses of the focus groups to the findings from Study 1 demonstrated this. Given that truck drivers are continuously exposed to a mostly negative work environment for days to weeks at a time with consequential health effects (Crizzle et al., 2017), it is important that primary care providers understand the context of their long-haul truck driver patients to facilitate high quality primary care. The second reason providing patient-centered care appeared to be challenging to the study participants is because primary care providers currently have two opposing roles with their patients who drive large vehicles. Nurse practitioners and family physicians are responsible for providing medical care and for conducting drivers' medical exams for this group in the Province of Ontario (Ministry of Transportation of Ontario, 2018). In providing this service, primary care providers believe that long-haul truck drivers do not disclose important health concerns or follow through on treatment plans or investigations because the truck drivers cannot be assured of confidentiality with the MTO. The

participants believe that their truck driver patients likely avoid important components of primary care, such as preventative care and screening, for fear of losing their truck driver's license. With the dual responsibilities assigned to primary care providers, even if truck drivers are able to access their primary care provider, they cannot easily obtain high quality patient-centered care that could reduce their health disparities.

The World of Long-haul Trucking is Unknown

In the patient-centered clinical method, the context refers to the patient's social, physical, psychological and economic environment. It is an important part of the component, "understanding the whole person" (Stewart et al., 2013). While the primary care providers in this study easily recognized the physical environment of truck drivers, they were unfamiliar with the social, psychological and economic contexts of trucking. For example, the focus group participants realized the health risks of sitting in a truck for more than 70 hours a week, but did not know the typical psychological stressors that truck drivers might experience on a daily basis, such as their pervasive fear of being involved in a crash, or having to tolerate disrespectful treatment from border-guards, MTO inspectors, customers, and the public. Also, the primary care provider participants did not appreciate the prevalence of substance use, nor the impact of electronic logbooks on driver fatigue. While it is perhaps not necessary, nor possible, for family physicians and nurse practitioners to understand the contexts of all their patients, in this instance, being familiar with the context of long-haul truck driving is essential because it is ever-present for these patients. Truck drivers are exposed to their work environment over days and weeks at a time, with far-reaching implications for their health. Because of multiple negative exposures and health risks from work, this large occupational group is recognized as being more vulnerable to poor health than the general population (Apostolopoulos et al., 2016a; Birdsey et al., 2015). This health inequality is partly because of their work environment, and partly because they do not have access to settings and activities to improve their social, mental and physical wellbeing. Clearly, understanding the trucking context means understanding much of the whole person of the truck driver.

The Elephant in the Room

This theme represents the presence of the provincial licensing body (the MTO in Ontario) whenever truck drivers interact with the health care system. This "elephant" reminds truck drivers that if they discuss their health concerns with their primary care provider, there might be repercussions. The findings of Study 1 make it evident that truck drivers believe they risk losing their truck driving license if they bring forward health problems or describe symptoms that are concerning to their family doctor. The threat of loss of license, means long-haul truck drivers cannot participate in primary care the way most patients do. This reality is represented by the "Elephant in the Room" interconnected issues: "Primary Care Cannot be Given", "Primary Care Cannot be Received" and "Finding Common Ground is Difficult". These subthemes reflect the views of the focus group participants in terms of the challenges associated with providing good primary care to patients in this occupational group. With long-haul truck driver patients, primary care providers can assume only a portion of the CanMEDS roles (family physicians) or core competencies (nurse practitioners) they offer to other patients.

The health care providers explained that they rarely see their truck driver patients, and when they do, it is often exclusively to complete the driver's medical exam. This is not uncommon for male patients who are known to seek health care less often, despite higher health risk (Thompson et al., 2016). Smith et al. (2006) believe the reluctance of men to seek help is likely a result of complex social and biological influences (Smith, Braunack-Mayer, & Wittert, 2006).

Regarding the driver's medical exam, the health information that is gathered was believed by the participants to be limited in value, partly because it is self-reported by drivers who are highly motivated to keep their licenses. In cases where the primary care providers used the opportunity of the driver's medical to suggest preventative care or investigations outside the requirements of the driver's exam, there was often resistance from their truck driver patients. This reaction may reflect wanting to protect their license but may also be due to the reluctance of male patients to seek health care. A study of the perspectives of family physicians in Canada concluded that the resistance of male

patients to seek help is due to perceived vulnerability, fear, denial and the belief that asking for help is unacceptable (Tudiver & Talbot, 1999). These factors appear to be even more pronounced in men who work in traditional masculine professions (Milner, Scovelle, & King, 2019) such as truck driving. Regardless of the reason, avoiding care means nurse practitioners and family physicians cannot easily plan, investigate or provide treatment for their long-haul truck driver patients. In this way, they are disabled from their CanMEDS role of a medical expert.

Some providers were concerned that truck drivers have their driver's medicals done at walk-in clinics where the physician has no relationship with the driver, and therefore no knowledge of, or investment in the truck driver's long-term health. They felt that if truck drivers routinely choose to access care through providers who do not know them, regular primary care providers are disabled from their CanMEDS role of advocating for their patients.

Lastly, primary care providers have the dual roles of protecting public road safety by reporting to the MTO about their truck driver patients and also providing individual health care to them. This means they cannot realize their CanMEDS role of communicator, because they cannot consistently establish rapport, nor ensure confidentiality with members of this occupational group. In a 2013 survey of Canadians' health care-seeking behaviour, trust in their physician was an important factor in seeking help for mental health issues (Thompson et al., 2016). Without confidentiality, truck drivers cannot fully trust their primary care provider and are therefore unlikely to ask for help for their mental health concerns. This is a concerning because long-haul truck drivers carry an increased risk for depression, anxiety and substance use (Bigelow et al., 2012; Shattell et al., 2012). Overall, because primary care providers are not able to realize all their CanMEDS roles (or core competency roles in the case of nurse practitioners) with their truck driver patients, primary care is not being provided in its entirety with its known benefits.

The present arrangement of family physicians and nurse practitioners being responsible for both completing drivers' medical examinations and for providing primary care means

truck drivers' fears of having new health problems diagnosed or current ones reported as unstable, is justified. The study participants understood that from the point of view of the long-haul truck driver patients, primary care cannot be received in any form without threat to their livelihood. They cannot talk openly, be screened, or treated for fear of losing their driver's license. The expectations and goals of long-haul truck drivers and their medical providers are clearly very different. Not being able to reach common ground is another obstacle to providing patient-centered care to truck drivers.

4.6 Strengths and Limitations

A strength of this study is that it provides a first-time view into the relationship between long-haul truck drivers and their primary care providers. This study has identified some important barriers to providing patient-centered care to this large occupational group aside from physical distance between provider and driver. The findings from this study also contribute valuable primary care provider experiences and views on assessing fitness to drive for long-haul truck drivers in Ontario.

Limitations of this study are that the focus groups were comprised of family physician and nurse practitioner volunteers from specific areas in the Province of Ontario. Primary care providers in other areas of Canada may have differing perspectives on this topic.

4.7 Conclusion

Primary care reduces the disparities in health across population groups (Starfield et al., 2005). If long-haul truck drivers, who are already a generally unwell occupational group, are ever to receive, and reap the benefits from patient-centered, high-quality primary care, their providers need to better understand their work environment, and to be free of their obligations to licensing bodies in determining fitness to drive. Presently, family physicians and nurse practitioners cannot reconcile their dual roles. Ideally, designated occupational examiners would be made responsible for determining fitness to drive in Ontario for members of the trucking profession. Being released from this responsibility would allow nurse practitioners and family physicians to put a greater emphasis on

providing good quality primary care to long-haul truck drivers who are in great need of resources to reduce their significant health inequity.

Chapter 5

5 Integration of Findings

Transport truck drivers are important to study because they are the largest occupational group for men in Canada (Statistics Canada, 2017) and they carry a disproportionate health risk compared to men employed in other occupations (Apostolopoulos et al., 2016a; Birdsey et al., 2015; Matthew S. Thiese et al., 2018; Wawzonek, 2015). Long-haul transport truck drivers are continuously exposed to an often negative work environment for days to weeks at a time (Transportation Canada, 2016). This has adverse consequences for their physical and mental health (Crizzle et al., 2017). Public safety on roads is also affected because long-haul truck drivers who have more risk factors or health problems are more likely to be involved in road crashes (Anderson et al., 2012; Burks et al., 2016; Ronna et al., 2016a; Thiese et al., 2017). Hence, long-haul truck drivers' access to health care and their experiences and relationships with their primary care providers are important to optimize in order to improve the health and safety of this occupational group.

This thesis explores the previously unknown health experiences of Canadian long-haul truck drivers. It also contributes a first-ever examination of the relationship between long-haul truck drivers and their primary care providers from both the long-haul truck driver and primary care provider perspectives.

This thesis is made up of two qualitative studies. Study 1 is a phenomenological study that used in-depth, semi-structured interviews to explore the health experiences of long-haul truck drivers and their relationship with their primary care provider. Study 2 is a descriptive qualitative study that used focus groups to capture the responses of nurse practitioners and family physicians to the findings from Study 1, and to explore their experiences in caring for patients who drive long-haul trucks.

The analysis of the long-haul truck driver interviews in Study 1 revealed that how truck drivers experience their work, cannot be separated from how they experience their health. The occupational environment of long-haul truck driving and the driver's response to this environment greatly impacts truck driver wellbeing. While the long-haul truck drivers in Study 1 were aware of the health risks of their occupation, most believed that how they reacted to their work environment was unavoidable. Similar to previous research on long-haul truck drivers, this study found that negative health behaviours such as eating fast foods (Lincoln et al., 2018), not exercising (Turner & Reed, 2011) and sleeping little (Garbarino et al., 2018) were believed to be inescapable due to the infrastructure of most highway truck stops (Lincoln et al., 2018). However, the long-haul truck drivers in this study shared their belief that dangerous behaviours such as driving while tired, using illicit substances and smoking were necessary to meet the high demands of their work.

The long-haul truck drivers experienced many psychological stressors at work such as isolation from positive relationships, anxiety about crashing into careless drivers, feeling unappreciated for getting loads delivered through difficult conditions, being treated with disrespect by others, and not being able to get help from health providers. Most of these findings are congruent with other qualitative studies looking at long-haul truck driver mental health (McDonough et al., 2014; Shattell et al., 2010, 2012); however, the experience of feeling unsafe while driving had not been shared until this study. Long-haul truck drivers having more anxiety about being involved in a crash that might result in death or injury to themselves or others may reflect the current transportation realities in North America.

Compared to the past, there are more long-haul trucks and other types of vehicles on roads that must be navigated by drivers (Statistics Canada, 2019). The long-haul truck drivers in this study also believed that the recent increase in new Canadians with different cultural practices and driving behaviours increased their fear of being involved in a collision while driving.

The participants shared that the psychological stressors they experienced were more challenging and impacted their health more than any physical aspect of their job. Similar

to previous studies by Stasko and Neale (2007), Apostolopoulos et al. (2013) and Solomon et al. (2004), the participants in Study 1 regretted that they were often unable to access their primary care provider due to the distance and the hours their primary care provider was available. However, the participants in this study confided that even in person, they felt unable to access their primary care provider for confidential care. No previous research has explored this issue, but in Study 1 of this thesis, long-haul truck drivers admitted to avoiding asking their family physician or nurse practitioner for advice, screening or treatment for fear their health provider might find them unfit to drive and report them to the MTO. The long-haul truck drivers understood the health implications of ignoring or hiding symptoms from their primary care provider but believed that protecting their livelihood was paramount. The findings from Study 1 revealed a novel and important realization: the physical distance between long-haul truck drivers and their primary care providers is not the only barrier to receiving high-quality patient-centered care.

Study 2 of this thesis contributed original insights into the nature of the relationships primary care providers have with their long-haul truck driver patients. There is no previous research in this area worldwide. Focus group participants in Study 2 were shown a short presentation regarding the health experiences of long-haul truck drivers - findings from Study 1. They were then asked for their responses to this information and for their experiences caring for patients who have this occupation. While the primary care providers understood and recognized many of the physical health risks of driving long-haul trucks, such as sitting for long periods, having poor sleep quality and quantity, eating unhealthy food, using substances and frequently having to cope with fatigue while driving, they were not aware of many of the psychological stressors of long-haul truck driving. Most of the primary care provider participants were unfamiliar with the work context of these patients and therefore had not previously appreciated the psychological stress the long-haul truck drivers reported experiencing on a daily basis.

The driver's medical exam was identified by the focus group participants as a major obstacle to providing patient-centered care and to developing healthy patient-primary care provider relationships. The primary care providers admitted to feeling distant from

their long-haul truck driver patients and discouraged when their truck driver patients did not follow through with prescribed treatment plans or tests or failed to return for follow up visits. Put another way, family physicians were unable to realize their important CanMEDS role of primary care expert (Shaw et al., 2017) and nurse practitioners were unable to realize their important core competencies (Canadian Nurses Association, 2010). Many of the focus group participants expressed regret at not being able to provide good primary care to this population.

The integration of the findings from Study 1 and Study 2 are discussed in the next section. The two key intersections, "*Navigating the Driver's Medical Examination*" and *"Understanding Long-haul Truck Drivers"* emerged from the combined findings reflecting the greatest challenges to truck drivers being able to receive primary care.

5.1 "Navigating the Driver's Medical Examination"

Both nurse practitioners and family physicians are responsible for providing driver's medical examinations to long-haul truck drivers in Canada (Ministry of Transportation of Ontario, 2018). In contrast, truck driver medical examinations in the US are performed by designated physicians with additional training in determining fitness to drive (FMCSA, 2018). In Canada, workers from marine, rail, and air transportation sectors also have designated physicians who determine their fitness to drive (Railway Association of Canada, 2019; Transportation Canada, n.d.-b, n.d.-a). These specially designated physicians do not provide primary care to these workers. In the Canadian health care system, outside of seeking a walk-in physician, Canadian long-haul truck drivers must visit their family physician or nurse practitioner for their driver's medical exams (Ministry of Transportation of Ontario, 2018). This unavoidable situation affects how long-haul truck drivers present to their primary care provider and affects how primary care providers respond to their long-haul truck driver patients. Both the long-haul truck drivers, and the primary care providers in this study identified the fitness to drive encounter as an ever-present obstacle to obtaining or giving primary care. This obstacle, or "elephant in the room" had to be constantly navigated, even during visits unrelated to the driver's medical.

From the point of view of the long-haul truck driver participants, the possibility of losing their license, and therefore their livelihood, caused them to hide symptoms and concerns from their primary care provider. From the point of view of the primary care providers, they reported being uncomfortable with the responsibility for determining fitness to drive, partly because much of the examination is self-reported and therefore felt by the focus groups to be too subjective, but also because they know their long-haul truck driver patients are reluctant to disclose their true health status, behaviours and problems. They expressed feeling low confidence in their ability to ensure public safety through patient visits for this examination.

They also felt conflicted because not being able to provide full confidentiality to their truck driver patients impaired their CanMEDS role of communicator (family physicians) and their core competencies of professional responsibility and accountability (nurse practitioners). The majority of primary care providers expressed more discomfort in completing driver's medical exams than in providing patient-centered care to their long-haul truck driver patients.

The nurse practitioners and family physicians in this study felt conflicted by having to be gatekeepers of public safety, and at the same time, providers of primary care. The pervading power differential between patient and health care provider is escalated in these encounters because long-haul truck drivers depend on their primary care provider not to report them to the MTO. Because of this unequal sharing of power, the focus group participants felt that truck driver visits were transactional, not relational when they came in for care. The driver did not want to engage their primary care provider beyond the task of completing and signing their driver's medical examination.

The current arrangement between the Ministry of Health and Long-Term Care and the Ministry of Transportation regarding periodic long-haul truck driver fitness to drive examinations means long-haul truck drivers cannot fully access the important resource of primary care. It also has a deleterious influence on family physicians who are unable to realize the three CanMEDS roles of advocate, communicator and primary care expert and

nurse practitioners who are unable to realize any of the four core competencies for their truck driver patients.

5.2 “Understanding Long-haul Truck Drivers”

Not all workplaces promote wellbeing, but the context of long-haul truck drivers is especially concerning because long-haul truck drivers are immersed in their work environment for days to weeks at a time (Transportation Canada, 2018). Many long-haul truck drivers spend more days per month on the road than at home (Transportation Canada, 2018). As discussed in section 5.1, this continuous exposure to a negative work environment has far-reaching implications for the physical and mental health of this population. The themes that emerged from the interviews with the long-haul truck drivers in Study 1 illuminated the profound psychological challenges, both known (McDonough et al., 2014; Shattell et al., 2012), and unknown, that truck drivers face in their work environment.

Long-haul truck driving is a vital underworking of our economy and is essential for moving the majority of goods across, to and from Canada. Perhaps, like other essential systems such as power, water, electricity and sewage, trucking exists and functions below the awareness of most of the world. It seems to exist without significant acknowledgment nor appreciation from society. Trucking, like other infrastructures, only becomes remarkable when things go wrong such as when trucks are involved in major collisions or disrupt the flow of traffic. The findings of being disrespected and unappreciated by other trucking personal and road users is similar to studies by Shattell et al. (2010, 2012). However, this study revealed that long-haul truck drivers now have the additional stressor of not being able to easily socialize with others, particularly with other truck drivers at rest stops. More social isolation and loneliness is a concern for long-haul truck drivers because this condition adds to their already high risk of mortality (Holt-Lunstad, Smith, Baker, Harris, & Stephenson, 2015).

As described earlier in this chapter, long-haul truck drivers suffer health disparity compared to other occupational groups. Their health risks and subsequent morbidity and

mortality are related to their occupation. This thesis demonstrates that long-haul truck drivers increased health risk and psychological stressors may not be fully appreciated by their primary care providers.

5.3 Summary of the Two Key Intersections

The chief discovery from this thesis is that the participants in Study 1 and the participants in Study 2 identified the very same impediments to being able to form a therapeutic patient-primary care provider relationship. The long-haul truck drivers and primary care providers described the same challenges, but from their unique viewpoints. The two challenges are navigating the driver's medical examination and understanding long-haul truck drivers.

Navigating the Driver's Medical Examination

The driver's medical exam was described as the agent that necessitates the meeting of these two parties. Because of their respective responsibilities at these encounters, the truck driver participants explained that they must present themselves as well enough to drive, and the primary care provider participants explained that they must present themselves as protectors of public road safety. At such visits, patient-centered care was reported as not being received nor provided at the regret of both groups. The findings from these studies indicate that at even at patient-provider visits not related to fitness to drive, these responsibilities are remembered by each party. This has implications for the provision of primary care because it means that interactions between long-haul truck drivers and primary care providers must be transactional and guarded. The trust and confidentiality needed for truck drivers to safely disclose their concerns cannot be offered to this population. Patient-centered care, with all its potential benefit to this population, may never be realized.

Secondly, because long-haul truck drivers cannot name their problems and disclose their world to their primary care provider without possible repercussions to their livelihood, they need their primary care providers to be familiar with their context. The findings from Study 1 indicate that truck drivers have many stressors and pay for their work with their health in complex ways. While the primary care provider participants appreciated some of their health risks, they were not aware of the magnitude of stressors, both psychological and physical, that long-haul truck drivers experience in their all-encompassing work-life. By having a greater understanding and compassion for the challenges long-haul truck drivers face in their daily work, primary care providers may be able to facilitate a better patient-provider relationship with members of this population in the future.

5.4 Implications of the Thesis

The majority of goods that are distributed across Canada and to and from the US are transported by long-haul trucks (Transportation Canada, 2018). Transport trucking is vital to the Canadian economy and is now the largest employer of men in the country (Statistics Canada, 2016). It is known that long-haul truck drivers carry a significant burden of health and occupational risks compared to men in other occupations (Apostolopoulos et al., 2016a; Thiese et al., 2015). This thesis contributes important new insights into the complex world of trucking in Canada with its continuous, profound impacts on truck driver health. It also provides unique views into the patient-primary care provider relationship that long-haul truck drivers have with their regular health care provider.

The two studies in this thesis contribute to what is already known about the health inequalities of long-haul truck drivers. The findings from these studies indicate that for a multitude of reasons truck drivers do not have a healthy work environment, nor do they have equity in access to health care. These inequities could be reduced by including this

occupational group in infrastructure and service planning and through health care, public health, and transport industry initiatives.

5.4.1 For Primary Care Providers

Given that primary care improves the health of populations and the health of individuals, it is important that vulnerable groups such as long-haul truck drivers receive this resource (Starfield et al., 2005). From the studies in this thesis, it appears that long-haul truck drivers are not receiving optimal, or in some cases, any primary care. Ideas to reduce the barriers to primary care could include having mobile health units, or alternative health care providers (such as nurses) available on-call at truck stops. As well, innovations such as digital communication through telemedicine or asynchronous text messaging could be set up to link truck drivers to their primary care providers in their home communities. The recently approved Ontario Ministry of Health and Long-Term Care's Digital Health Strategy (Ministry of Health of Ontario, 2019) supports physician reimbursement for using these new modes of communication; however it may take time to implement them into busy primary care practices. This mode of health care provision has its limitations, such as not being able to examine the patient, not being able to as easily interpret body language or to establish rapport compared to an in-person encounter. Also, interruptions in service and poor connections in certain locales are likely to disrupt optimal communication. Despite these limitations, the application of digital health to mobile populations, such as long-haul truck drivers, is likely to greatly improve their current access to primary care.

Confidentiality, which is imperative to the formation of trust in any patient-physician relationship, could be extended to Canadian long-haul truck drivers for the first time if the two current roles of Canadian primary care providers were decoupled. Specifically, the role of providing primary care should be assumed by a different medical provider than the medical professional responsible for assessing a truck driver's fitness to drive. The separation of these two responsibilities would allow primary care providers (family physicians or nurse practitioners) in Canada to assume their CanMEDS roles of communicator, advocate and medical expert (family physicians) or their core

competencies (nurse practitioners) for their long-haul truck driver patients. If the two roles of providing primary care and assessing fitness to drive remain linked, primary care providers need to be conscious of trying to build a more therapeutic patient-provider relationship by understanding the long-haul truck driver context and by attending carefully to the challenging task of establishing common ground through the patient-centered method.

This thesis suggests primary care providers are not familiar with the context of long-haul truck drivers in Canada. By identifying long-haul truck drivers as a vulnerable, hard-to-reach population, medical educators could inform nursing and medical students, residents and practicing primary care providers about the adverse environment of long-haul truck driving, typical negative health behaviours in response to this environment, and their increased health risks, morbidity and mortality.

5.4.2 For Healthcare Policy and Planning

Recently, health care policymakers have tried to include hard-to-reach, vulnerable populations in health care planning (Patrick, Flegel, & Stanbrook, 2018). This thesis proposes that long-haul truck drivers are a vulnerable, and underserved population with regards to health care. Alternate methods of bringing health care providers to this mobile population should be considered because long-haul truck drivers have difficulty accessing health care, despite their significant health risk. As described above, digital communications could help link this population with their primary care provider. Alternatively, mobile health units such as the ones providing primary health care in South Africa could be considered (Lalla-Edward et al., 2017). These mobile health units travel to truck stops and provide basic walk-in assessment and treatments for truck drivers' health problems. Finally, providing basic medical on-call services to truck stops could be considered. This could be similar to current telehealth services in which callers are given advice or triaged to more urgent health services such as emergency rooms based on the truck driver's presenting problem.

5.4.3 For Public Health and Transportation Ministries

Long-haul truck drivers do not have equity in employment, an important social determinant of health. The adverse working conditions of trucking do not provide a safe, healthy environment for this population. The decline of protective unions (Galameau & Sohn, 2013) and the rapid growth of the transport sector of the Canadian economy have contributed to this situation (Transportation Canada, 2018). Both public health and transportation ministries need to invest in improving truck driver health through highway and infrastructure planning to enable long-haul truck drivers to meet their basic human needs for adequate sleep, safety, healthy food, exercise, and socialization by regulating the quality and resources available at rest stops.

Currently, transport trucks make up 5% of the vehicles on Canadian roads; however, they are involved in 20-23% of road fatalities (Ministry of Transportation of Ontario, 2016, 2017c). Improving the health of long-haul truck drivers is likely to have positive impacts on this public road safety imbalance.

It is evident that long-haul truck drivers need to be involved as stakeholders in hours of service and ELD planning. All participants in Study 1 reported difficulty regulating their sleep and fatigue with current hours of service and with regulations requiring ELD installation in all long-haul trucks. Unless these new regulations show a definite improvement in highway safety, they should be reviewed and modified because truck drivers report feeling less safe driving since these regulations came into effect.

Ontario statistics up to 2017 indicate that when transport trucks were involved in motor vehicle crashes, the other vehicle was responsible for the crash 70% of this time (Ministry of Transportation of Ontario, 2016, 2017c). This suggests other vehicles do not drive safely around transport trucks. All vehicle drivers, especially recently licensed and new learners should be educated by driving instructors and examiners about the dangers of risky driving behaviour around long-haul trucks that need adequate space to stop in an emergency. Vehicles driving more safely around long-haul trucks will also reduce some of the fear of crashing that long-haul truck drivers reported experiencing on a daily basis.

Regarding drug screening, Canada currently has no program in place for screening truck drivers for illicit substances (Drug and Alcohol Testing Association of Canada (DATAC), 2018). This is in contrast to the US where random urine drug screens within hours of notification are mandatory for all long-haul truck drivers, including Canadian drivers who transport to the US (FMCSA, United States Department of Transportation, 2019). The findings from this thesis suggest long-haul truck drivers use illicit substances routinely when driving. A similar program in Canada may deter dangerous substance use by the long-haul truck drivers who transport goods across Canada.

5.4.4 For the Transportation Industry

Transport truck crashes are known to be expensive for trucking companies. Healthier truck drivers appear to have fewer crashes. Investing in truck driver employee health, through the provision of benefits, support for time off when sick, confidential mental health counseling and seeking alternate providers to complete fitness to drive medical examinations will likely result in a healthier workforce (Kudo & Belzer, 2019).

Similarly, creating a work culture of courteous treatment across the supply chain, including workers who load cargo, dispatchers, employers, and customers will reduce the significant psychological stress long-haul truck drivers reported experiencing from being treated disrespectfully by these groups.

5.5 Future Research

The qualitative studies in this thesis have revealed many issues important to the health of long-haul truck drivers and have led to the finding that this occupational group is likely unable to access high-quality primary care due to the physical and psychological distance from their providers. While it is known from national surveys of long-haul truck drivers in the US that this occupational group suffers significant health inequity, it is not known if Canadian long-haul truck drivers carry the same burden of health risk. Additionally, it is not known how long-haul truck drivers access other sectors of health care such as emergency rooms, urgent care, and walk-in clinics and if there are variations across the

country, given health care provision is determined provincially. A national survey of long-haul truck drivers would allow health and transportation planners to realize the current status of long-haul trucking in Canada, and the range of challenges faced by this hard-to-reach occupational group.

Future studies looking at what human factors reflect adequate fitness to drive transport trucks would be helpful to improve the current driver's medical examination that is viewed as inadequate by the Study 2 primary care providers. If alternate, designated providers take over the responsibility for assessing fitness to drive for truck drivers in Canada, it would be worthwhile to determine if access and quality of primary health care subsequently improves for this population.

Electronic logging devices should be studied for their effects on truck driver fatigue and stress and to determine if they truly improve truck driver and road safety.

5.6 Conclusion

This thesis provides a deep exploration into the health experiences of long-haul truck drivers in Ontario, Canada. The physical and psychological stressors of the trucking environment were revealed, as were truck driver behaviours, both adaptive and maladaptive, in response to these stressors. This thesis also provides original insights into the relationship between long-haul truck drivers and their primary care providers, from both the interviewed long-truck drivers in Study 1, and the focus groups of primary care providers in Study 2. In this integration of findings from both studies, the driver's medical examination emerged as an important obstacle to long-haul truck drivers receiving primary care, and to nurse practitioners and family physicians providing primary care. It also became apparent because of their unhealthy work environment and inadequate access to primary care; long-haul truck drivers are a vulnerable population. Improving the trucking work environment and providing better access to primary care were explored, with implications for primary care, public health and transportation planning.

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Appendices

Appendix 1 - Ethics Approval Study 1

Date: 9 July 2018

To: Dr. Amanda Terry

Project ID: 111784

Study Title: Long-haul truck drivers' opinions of their health and the role of their family doctor

Application Type: HSREB Initial Application

Review Type: Delegated

Full Board Reporting Date: 07AUG2018

Date Approval Issued: 09/Jul/2018 15:59

REB Approval Expiry Date: 09/Jul/2019

Dear Dr. Amanda Terry

The Western University Health Science Research Ethics Board (HSREB) has reviewed and approved the above mentioned study as described in the WREM application form, as of the HSREB Initial Approval Date noted above. This research study is to be conducted by the investigator noted above. All other required institutional approvals must also be obtained prior to the conduct of the study.

Documents Approved:

Document Name	Document Type	Document Date
Interview Guide.CLEAN	Interview Guide	03/Jul/2018
LOI:C.CLEAN	Written Consent/Assent	06/Jul/2018
Recruitment Poster and Handout.CLEAN	Recruitment Materials	03/Jul/2018
Recruitment Telephone Script	Telephone Script	Received July 07, 2018
Response Email Script (1)	Email Script	Received July 07, 2018
Thesis Proposal April 2018 (1)	Protocol	April 2017 Received July 07 2018

No deviations from, or changes to, the protocol or WREM application should be initiated without prior written approval of an appropriate amendment from Western HSREB , except when necessary to eliminate immediate hazard(s) to study participants or when the change(s) involves only administrative or logistical aspects of the trial.

REB members involved in the research project do not participate in the review, discussion or decision.

The Western University HSREB operates in compliance with, and is constituted in accordance with, the requirements of the TriCouncil Policy Statement: Ethical Conduct for Research Involving Humans (TCPS 2); the International Conference on Harmonisation Good Clinical Practice Consolidated Guideline (ICH GCP); Part C, Division 5 of the Food and Drug Regulations; Part 4 of the Natural Health Products Regulations; Part 3 of the Medical Devices Regulations and the provisions of the Ontario Personal Health Information Protection Act (PHIPA 2004) and its applicable regulations. The HSREB is registered with the U.S. Department of Health & Human Services under the IRB registration number IRB 00000940.

Please do not hesitate to contact us if you have any questions.

Sincerely,

Nicola Geoghegan-Morphet, Ethics Officer on behalf of Dr. Joseph Gilbert, HSREB Chair

Note: This correspondence includes an electronic signature (validation and approval via an online system that is compliant with all regulations).

Appendix 2 - Continuing Ethics Review (CER) Form Approval Study 1

Western Research

Date: 27 June 2019

To: Dr. Amanda Terry

Project ID: 111784

Study Title: Long-haul truck drivers' opinions of their health and the role of their family doctor

Application Type: Continuing Ethics Review (CER) Form

Review Type: Delegated

REB Meeting Date: 02/Jul/2019

Date Approval Issued: 27/Jun/2019

REB Approval Expiry Date: 09/Jul/2020

Dear Dr. Amanda Terry,

The Western University Research Ethics Board has reviewed the application. This study, including all currently approved documents, has been re-approved until the expiry date noted above.

REB members involved in the research project do not participate in the review, discussion or decision.

Western University REB operates in compliance with, and is constituted in accordance with, the requirements of the TriCouncil Policy Statement: Ethical Conduct for Research Involving Humans (TCPS 2); the International Conference on Harmonisation Good Clinical Practice Consolidated Guideline (ICH GCP); Part C, Division 5 of the Food and Drug Regulations; Part 4 of the Natural Health Products Regulations; Part 3 of the Medical Devices Regulations and the provisions of the Ontario Personal Health Information Protection Act (PHIPA 2004) and its applicable regulations. The REB is registered with the U.S. Department of Health & Human Services under the IRB registration number IRB 00000940.

Please do not hesitate to contact us if you have any questions.

Sincerely,

Daniel Wyzynski, Research Ethics Coordinator, on behalf of Dr. Joseph Gilbert, HSREB Chair

Note: This correspondence includes an electronic signature (validation and approval via an online system that is compliant with all regulations).

Appendix 3 - Consent Form Study 1

CONSENT FORM

Please initial Box

1. I agree to the use of anonymized quotes in publications ☐

Study Title:

Long-haul truck drivers' opinions of their health and the role of their family doctor

Study Investigator: Jennifer Johnson

I have read the Letter of Information, have had the nature of the study explained to me and I agree to participate. All questions have been answered to my satisfaction. I understand that I do not waive any legal rights by signing this consent form.

Participant's Name (please print):

Participant's Signature:

Date:

Person Obtaining Informed Consent (please print):

Signature:

Date:

Appendix 4 - Interview Guide Study 1

Long-haul truck drivers' opinions of their health and the role of their family doctor

Interview Guide

Introduction:

Thank you for agreeing to participate in this research project and for taking the time to be interviewed. The purpose of this study is to get your opinions on how the health of long-haul truck drivers is affected by their work, and how long-haul truck drivers access healthcare. I will be asking you some very general questions that do not have right or wrong answers. All your opinions are welcome. If there are any questions you'd like to skip, that is fine. You can ask questions at any time during the interview.

The interview may take up to one hour and will be audiotaped using two recorders in case one malfunctions. Our discussion will be private. The transcribed notes from the audiotapes will be confidential. They will not contain any information that can identify you.

Are there any questions before we get started?

<confirm participants have read the letter of information, are comfortable with the study process and then ask them to sign the consent form>

Health Questions:

1. First, I'd like to ask you a few questions about yourself

   Can you tell me your age?

   How long have you worked as a long-haul truck driver?

2. There's a lot we don't know about what it is like to do your job as a long-haul truck driver. What is it like?

   Probes:

   What do you like about it?

   What don't you like about it?

3. Can you share your thoughts about the health of long-haul truck drivers in general?

   Probes:

   Do long-haul truck drivers have much control over their health?

   Is there much they can do to improve their health working in this job?

4. How does your job affect your health?

   Probes:

   Physically?

   Mentally?

   How do you manage every day with the multitude of stressors on the road?

   What can't you do because of your health challenges?

   What does this mean to you?

Questions regarding relationship with family physician/alternate health care provider/health care system:

5. In general, what do long-haul truck drivers do when they have a health problem?

   Probes:

   Who do they contact?

   Where do they go?

6. It must be also be hard for long-haul truck drivers to get regular care, how do they do it?

7. Do you have a family physician?

   If no-why not? who do you go to for help instead? (alternate health care provider)

8. IF **YES** TO FAMILY PHYSICIAN or ALTERNATE CARE PROVIDER

   Can you share how you seek help from your family physician/alternate health care provider?

   Probes:

   What means do you use?

   phone? email?

   Communication through a family member?

   only in person/by appointment?

   How available are they?

   Can you describe your relationship with your family physician/alternate health care provider?

   Probes:

   How long have you known them?

   How often do you see them for the routine care that we all need?

   How do they monitor your ongoing health concerns?

   How do you feel about them?

9. IF **NO** TO ANY HEALTHCARE PROVIDER

   Can you share how you seek help from the healthcare system when needed?

   If you don't have a family physician or alternate healthcare provider

do you think having one would help you?

If yes, how?

If no, why not?

10. Could you tell me about a time you were sick or injured while away from home driving?

    Probes:

    What was that experience like?

    How did you manage?

    How did you get help?

    Who did you follow up with afterwards?

    How was your family physician/alternate health care provider involved (if at all)?

11. If **YES** to FAMILY PHYSICIAN or ALTERNATE HEALTHCARE PROVIDER

    Given the challenges of getting regular care,

    how do you think your family physician/alternate health care provider could better help you?

    How do you think the healthcare system could better support you?

Closing/wrap-up

Our interview time is coming to an end. Is there anything else you think is important to include in this interview?

Thank you for participating in this study. What you have contributed has been very valuable and will lead to a better understanding of the nature of your work, how it affects your health, and how the healthcare system/your family physician/your alternate healthcare provider fits into the picture. We would like to assure you that your name will not be associated with any comments featured in the study report.

Appendix 5 - Ethics Approval Study 2

Date: 9 May 2019

To: Dr. Amanda Terry

Project ID: 113868

Study Title: Reflections of Family Physicians to the Health and Work Experiences of Long haul Truck Drivers

Application Type: HSREB Initial Application

Review Type: Delegated

Full Board Reporting Date: 21May2019

Date Approval Issued: 09/May/2019 12:57

REB Approval Expiry Date: 09/May/2020

Dear Dr. Amanda Terry

The Western University Health Science Research Ethics Board (HSREB) has reviewed and approved the above mentioned study as described in the WREM application form, as of the HSREB Initial Approval Date noted above. This research study is to be conducted by the investigator noted above. All other required institutional approvals must also be obtained prior to the conduct of the study.

Documents Approved:

Document Name	Document Type	Document Date	Document Version
Data Collection Tool for Study 2	CRF	30/Apr/2019	1
email script (clean2)	Email Script	03/May/2019	3
Interview Guide-Study 2 (1) (1)	Interview Guide	25/Mar/2019	1
Study 2 LOI and Consent (clean)	Written Consent/Assent	30/Apr/2019	2
Telephone_Script-study 2 (clean2)	Telephone Script	03/May/2019	3
Thesis Proposal Study 2-Feb 2019 (3)	Protocol		

No deviations from, or changes to, the protocol or WREM application should be initiated without prior written approval of an appropriate amendment from Western HSREB , except when necessary to eliminate immediate hazard(s) to study participants or when the change(s) involves only administrative or logistical aspects of the trial.

REB members involved in the research project do not participate in the review, discussion or decision.

The Western University HSREB operates in compliance with, and is constituted in accordance with, the requirements of the TriCouncil Policy Statement: Ethical Conduct for Research Involving Humans (TCPS 2); the International Conference on Harmonisation Good Clinical Practice Consolidated Guideline (ICH GCP); Part C, Division 5 of the Food and Drug Regulations; Part 4 of the Natural Health Products Regulations; Part 3 of the Medical Devices Regulations and the provisions of the Ontario Personal Health Information Protection Act (PHIPA 2004) and its applicable regulations. The HSREB is registered with the U.S. Department of Health & Human Services under the IRB registration number IRB 00000940.

Please do not hesitate to contact us if you have any questions.

Sincerely,

Nicola Geoghegan-Morphet, Ethics Officer on behalf of Dr. Philip Jones, HSREB Vice-Chair

Note: This correspondence includes an electronic signature (validation and approval via an online system that is compliant with all regulations).

Appendix 6 - Ethics Approval Amendment Study 2

Western Research

Date: 21 June 2019

To: Dr. Amanda Terry

Project ID: 113868

Study Title: Reflections of Primary Care Providers to the Health and Work Experiences of Long haul Truck Drivers

Application Type: HSREB Amendment Form

Review Type: Delegated

Full Board Reporting Date:

Date Approval Issued: 21/Jun/2019

REB Approval Expiry Date: 09/May/2020

Dear Dr. Amanda Terry ,

The Western University Health Sciences Research Ethics Board (HSREB) has reviewed and approved the WREM application form for the amendment, as of the date noted above.

Documents Approved:

Document Name	Document Type	Document Date
Recruitment Poster-study 2(clean)	Recruitment Materials	18/Jun/2019
Study 2 LOI and Consent June 2019 (clean)	Consent Form	18/Jun/2019
Thesis Proposal Study 2-Clean	Protocol	18/Jun/2019

REB members involved in the research project do not participate in the review, discussion or decision.

The Western University HSREB operates in compliance with, and is constituted in accordance with, the requirements of the TriCouncil Policy Statement: Ethical Conduct for Research Involving Humans (TCPS 2); the International Conference on Harmonisation Good Clinical Practice Consolidated Guideline (ICH GCP); Part C, Division 5 of the Food and Drug Regulations; Part 4 of the Natural Health Products Regulations; Part 3 of the Medical Devices Regulations and the provisions of the Ontario Personal Health Information Protection Act (PHIPA 2004) and its applicable regulations. The HSREB is registered with the U.S. Department of Health & Human Services under the IRB registration number IRB 00000940.

Please do not hesitate to contact us if you have any questions.

Sincerely,

Karen Gopaul, Ethics Officer on behalf of Dr. Joseph Gilbert, HSREB Chair

Note: This correspondence includes an electronic signature (validation and approval via an online system that is compliant with all regulations).

Appendix 7 - Consent Form Study 2

CONSENT FORM
(page 1 of 1)

Please initial Box

1. I agree to the use of anonymized quotes in publications ☐

Study Title:

Responses of Primary Care Providers to the Health and Work Experiences of Long Haul Truck Drivers

Study Investigator: Jennifer Johnson

I have read the Letter of Information, have had the nature of the study explained to me and I agree to participate. All questions have been answered to my satisfaction. I understand that I do not waive any legal rights by signing this consent form.

Participant's Name (please print):

_____

Participant's Signature:

_____

Date:

_____

Person Obtaining Informed Consent (please print):

_____

Signature:

_____

Date:

_____

Appendix 8 - Interview Guide Study 2

Reflections of Family Physicians on the Health and Work Experiences of Long-Haul Truck Drivers

Interview Guide

Introduction:

Thank you for agreeing to participate in this research project and for taking the time to be interviewed. The purpose of this study is to obtain your responses following a presentation on the work and health experiences of long-haul truck drivers. We are interested in the perspectives and ideas of family physicians regarding long-haul truck drivers because family physicians provide important health care and medical screening for drivers' licenses for this occupational group.

I will be asking the group some very general questions for discussion. All opinions are welcome. .

The focus group discussions may take up to one hour and will be audiotaped using two recorders in case one malfunctions. Please be advised that although the researchers will take every precaution to maintain confidentiality of the data, the nature of focus groups prevents the researchers from guaranteeing confidentiality. The researchers would like to remind participants to respect the privacy of your fellow participants and not repeat what is said in the focus group to others. The transcribed notes from the audiotapes will be confidential. They will not contain any information that can identify you.

Are there any questions before we get started?

<confirm participants have read the letter of information, are comfortable with the study process and then ask them to sign the consent form>

Health Questions following short Power-point presentation:

1. What are your thoughts about what has been presented?

   Probe:

   Is there anything you learned that surprised you? Why?

2. As a physician, have you had personal experiences with patients who are long-haul truck drivers?

Probes:

What is the patient-physician relationship typically like?

Is it different than other patient-physician relationships?

If so how?

3. What are your experiences providing drivers' medicals for long-haul truck drivers?

   Probes:

   Do you think information is withheld?

   Do you know if they go elsewhere (say walk-in clinics) for drivers' medicals?

   Have you had a patient lose their truck driving license based on their drivers' medical with you?

   If so, what were the repercussions?

4. What has been your experience of long-haul truck driver patients accessing health care?
   Probes:
   What are the challenges?
   How do you think our health care system could better help this vulnerable group?

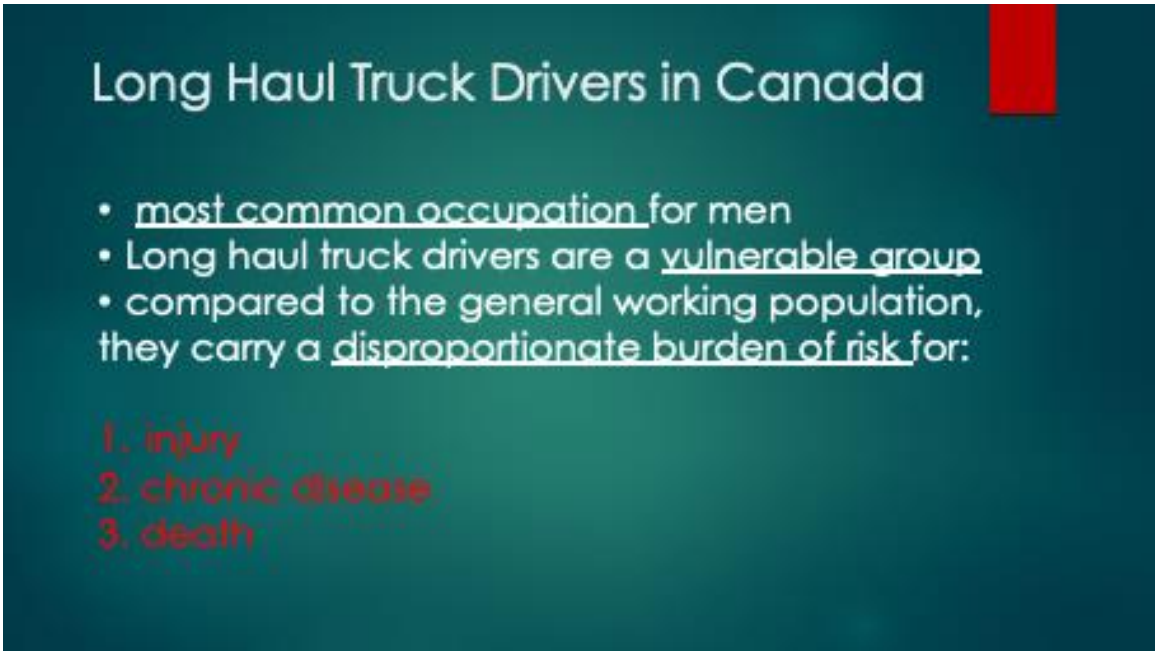
5. Considering the important CanMEDS role of advocate, how could family physicians as a profession help reduce the health risk of this large occupational group

<u>Closing/wrap-up</u>

Our interview time is coming to an end. Is there anything else you think is important to include in this interview?

Thank you for participating in this study. What you have contributed has been very valuable and will lead to a better understanding of how family physicians see their patients who are long-haul truck drivers. Ideas generated from this focus group may lead to a position statement. We would like to assure you that your name will not be associated with any comments feature in the study report.

Appendix 9 - Power Point Presentation to Focus Groups




Public Health Risk
Individual Health Risk


Known health risks of Long Haul truck drivers
Chronic Disease
Increased crash risk
Life Style/Health Behaviours
Mental illness
Stress
Substance use

Qualitative Study Methods

- 13 Long haul truck drivers recruited to the study
- Inclusion criteria-Ontario resident, drive a truck with 3 or more axles for the previous 12 months as main occupation, away overnight
- most recruited from a major truck stop on Hwy 401
- In-depth semi structured interviews of health experiences, relationship with their family physician/NP and how they use the health care system
- Audio recorded, transcribed and analysed by research team for common themes

Themes from this Qualitative Study

1. Long haul truck drivers suffer many psychological challenges
2. Government Policies affect management of fatigue
3. LHTDs fear causing injury or death to others or themselves
4. Health risks understood but believed to be necessary
5. Health Problems ignored/hidden from health care providers

Appendix 10 - Ontario Driver's Medical Form

Medical Report / Rapport médical

Ontario

Tel. / *Tél.*

Off. No. Op. Bus. Date Y./A M D./J

If not shown, please print last name, then first name and address. / *S'ils ne sont pas indiqués, veuillez écrire votre nom de famille, suivi de votre prénom et adresse.*

Class of Licence Desired
Catégorie de permis désirée

Sex / *Sexe*	Date of Birth / *Date de naissance*	Licence / *Permis*
	Y./A M D./J	Cl./Cat. Cond./End. / *Rest./Aut.*

Ref. or Driver's Licence No. / *N° de réf. ou du permis de conduire*

Reason for Medical / *Raison de l'examen*

1. ☐ Original Ont. Licence / *Premier permis en Ont.*
2. ☐ Regular Re-exam / *Réexamen de routine*
3. ☐ Change of Class / *Changement de catégorie*
4. ☐ Special Min. Request / *Demande spéciale du min.*

Office Use Only / *Réservé au bureau*
Wavr of Record
Re
M Gr
Wavr
Med Cond
Mo to Med
Tr Code **R**

Driver's Certificate and Release of Information
I certify that the foregoing information is to the best of my knowledge correct and agree to this report and any future report from this examination only being given to the Ministry of Transportation. **The fee for this examination is not the responsibility of the ministry or its service provider.**

Attestation du de la conducteur(trice) et divulgation des renseignements
J'atteste par la présente que, pour autant que je le sache, les renseignements suivants sont exacts et je consens à ce que ce rapport et tout autre rapport ultérieur relatif à cet examen ne soient remis qu'au ministère des Transports. ***Il n'incombe pas au ministère ni à son fournisseur de services d'acquitter les droits de cet examen.***

Telephone Number
Numéro de téléphone Business / *Travail* _____ Home / *Domicile* _____

Driver's Signature / *Signature du/de la conducteur(trice)* _____ Date Y./A M D./J

Complete Health History

To be completed by examining physician.
YES answers should be explained on the reverse side under History Details.

Antécédents médicaux

Le présent rapport doit être rempli par le médecin effectuant l'examen.
Veuillez expliquer au verso les réponses ***affirmatives.***

		Yes/*Oui*	No/*Non*	
1.	Diseases of Senses (Deafness, Vertigo, Visual Deficiencies, etc.)	☐	☐	1. *Maladies touchant les sens (surdité, vertige, défaillances visuelles, etc.)*
2.	Cardiovascular Diseases (Heart Failure, Angina, Infarction, Embolism, Arrhythmia, Syncope, Surgery, etc.)	☐	☐	2. *Maladies cardio-vasculaires (insuffisances cardiaques, angine, infarctus, embolie, arythmie, syncope, chirurgie, etc.)*
3.	Respiratory Diseases (Asthma, Chronic Bronchitis, Emphysema, etc.)	☐	☐	3. *Maladies respiratoires (asthme, bronchite chronique, emphysème, etc.)*
4.	Diseases of the Musculo-Skeletal System (Fracture(s) or Amputation, Arthritis, etc.)	☐	☐	4. *Maladies touchant le système musculo-squelettique (fracture(s) ou amputation, arthrite, etc.)*
5.	Metabolic Diseases (Diabetes (+) (-), Hypoglycemia, Thyroid, etc.)	☐	☐	5. *Maladies touchant le métabolisme (diabète (+) (-), hypoglycémie, thyroïde, etc.)*
6.	Psychiatric Disorders (Psychoneurosis, Psychosis, etc.)	☐	☐	6. *Troubles psychiatriques (psychonévrose, psychose, etc.)*
7.	Addictions (Alcohol, Sedatives, Tranquillizers, Narcotics, etc.)	☐	☐	7. *Dépendances (alcool, sédatifs, tranquillisants, stupéfiants, etc.)*
8.	Other Diseases (Blackouts, Fainting Spells, Anemia, Cancer, Blood Dyscrasia, etc.)	☐	☐	8. *Autres maladies (voiles noirs, évanouissements, anémie, cancer, dyscrasie, etc.)*
9.	Neurological Diseases (Seizures, Cerebrovascular Diseases, Parkinson's Disease, Multiple Sclerosis, Dementia, Head Injury, Mental Retardation, etc.)	☐	☐	9. *Maladies neurologiques (crises, maladies cérébro-vasculaires, maladie de Parkinson, sclérose en plaques, démence, traumatisme crânien, arriération mentale, etc.)*

Date of first seizure _____ *Date de la première crise* _____

Date of last seizure _____ *Date de la dernière crise* _____

Date of Examination Y./A M D./J ***Date de l'examen***

SR-LC-08005-02

Medical Examination/ *Examen médical*

Height./*Taille* _____ Weight./*Poids* _____

1. Eyes / *Yeux*

	Acuity without glasses / *Acuité visuelle sans verres*	Acuity with Glasses / *Acuité visuelle avec verres*	Horizontal Field of Vision / *Champ de vision horizontal*
Right / *Droit*	20/ _____	20/ _____	Normal / *Normal* ☐ Restricted / *Restreint* ☐
Left / *Gauche*	20/ _____	20/ _____	Normal / *Normal* ☐ Restricted / *Restreint* ☐
Both eyes together / *Les deux yeux ensemble*	20/ _____	20/ _____	Normal / *Normal* ☐ Restricted / *Restreint* ☐

Squint, disease or eye injury / Strabisme, maladie ou lésion oculaire _____

Indicate type of tests given / *Indiquer le type d'examen effectué* Snellen ☐ Other / *Autre* _____

2. Hearing / *Ouïe* Meets standards defined in the H.T.A. with or without a hearing aid. / *Respecte les normes décrites dans le Code de la route avec ou sans prothèse auditive.* Yes / *Oui* ☐ No / *Non* ☐

3. Heart / *Coeur* Apical Rate / *Fréquence apicale* _____ Rhythm / *Rythme* _____

Murmurs / *Souffles* _____ B.P. / *P.S.* _____/_____

4. Locomotor / *Locomotion* Upper Extremity / *Membres supérieurs* _____ Lower Extremity / *Membres inférieurs* _____ Neck and Lumbar / *Cou et région lombaire* _____

5. Chest / Abdomen / *Poitrine / Abdomen* _____

6. Urinary / *Voies urinaires* Urine Protein / *Protéine urinaire* _____ Glucose _____

7. Diabetes / *Diabète* Yes / *Oui* ☐ No / *Non* ☐ Type _____

Treatment / *Traitement* Diet alone / *Régime seulement* ☐ Oral medication (amt per 24 hrs.) / *Médicaments pris par voie orale (dose quotidienne)* ☐ _____ Insulin (amt per 24 hrs.) / *Insuline (dose quotidienne)* ☐ _____

8. Hypoglycemia / *Hypoglycémie* Frequency / *Fréquence* _____

Circumstances / *Circonstances* _____

Loss of Consciousness / *Perte de conscience?* _____ Decrease in cognition, etc. / *Perte des facultés cognitives, etc.* _____

9. Neurological / *Affections neurologiques:* Gait and Stance / *Démarche et position* _____ Reflexes / *Réflexes* _____

Tremor / *Tremblement* _____ Coordination _____

10. Mental Competence / *Aptitude mentale* _____ Judgement / *Jugement* _____

Evidence of Emotional Disorder / *Signe de trouble émotionnel*

	Yes/*Oui*	No/*Non*		Yes/*Oui*	No/*Non*		Yes/*Oui*	No/*Non*
Instability / *Instabilité*	☐	☐	Psychosis / *Psychose*	☐	☐	Drug Habituation / *Toxicomanie*	☐	☐
Neurosis / *Névrose*	☐	☐	Alcoholism / *Alcoolisme*	☐	☐			

History Details and Summary / *Détails sur les antécédents et résumé*
(Including details of all medication prescribed and dosage, degree of decompensation in cardiovascular diseases) / *(Y compris les détails relatifs à tous les médicaments prescrits et la posologie; le degré de décompensation pour les maladies cardio-vasculaires)*

_____

_____

_____

_____

_____

How long has this person been your patient? _____ / *Depuis combien de temps soignez-vous cette personne?* Family Physician / *Médecin de famille* ☐ or / *ou* Certified Specialist in / *spécialiste qualifié(e) en* _____

Please Print. / *en lettres moulées s.v.p.*
Physician's Name / *Nom du/de la médecin* _____ Signature _____

Address / *Adresse* _____ Date Y/A M D/J

Information in this form is collected under the authority of the Highway Traffic Act, R.S.O 1990 , c.H.8 and regulation 340/94 21.2 thereunder and is used to evaluate eligibility to obtain and maintain a driver's licence. Direct inquiries to: Team Leader, Medical Review Section, Driver Improvement Office, Licensing Services Branch, Bldg A, 2680 Keele St., Downsview, Ontario M3M 3E6 (416) 235-1773 or 1-800-268-1481.

Les renseignements figurant sur cette formule sont recueillis en vertu du *Code de la route*, L.R.O 1990, chap. H. 8, et du règlement 340/94 21.2 pris en application du *Code*. Ces renseignements sont utilisés pour évaluer l'admissibilité à l'obtention et la conservation du permis de conduire. Veuillez faire parvenir vos demandes de renseignements à l'adresse suivante : Au chef d'équipe, Section d'étude des dossiers médicaux, Bureau de perfectionnement en conduite automobile, Direction des services de délivrance des permis et d'immatriculation, Édifice A, 2680, rue Keele, Downsview (Ontario) M3M 3E6 (416) 235-1773 ou 1-800-268-1481.

Curriculum Vitae

Name:	Jennifer K. Johnson
Post-secondary Education and Degrees:	Queen's University Kingston, Ontario, Canada 1982-1986 B.Sc. (Eng.)
	McMaster University Hamilton, Ontario, Canada 1989-1992 M.D.
	The University of Calgary Calgary, Alberta, Canada 1992-1994 Post Graduate Training in Family Medicine
	The University of Western Ontario London, Ontario, Canada 2015-Present Master of Clinical Science in Family Medicine
Honours and Awards:	Dr. Wm Victor Johnston Award in Family Medicine 2019
Work Experience	HOSPITAL WORK
1995- 2018	EMERGENCY PHYSICIAN
2005-2016	HOSPITALIST PHYSICIAN
2016-present	INPATIENT CARE
	COMMUNITY PRACTICE
Sept 1995-Dec 1999	FAMILY MEDICINE -Elmvale, Ontario
Jan 2000-Dec 2007	FAMILY MEDICINE -Huronia Medical Centre**,** Midland, Ontario
Jan 2008-present	FAMILY MEDICINE - Bayside Medical Centre, Penetang, Ontario