CHANGING SETTLEMENT PATTERNS INTO RURAL BUILT ENVIRONMENTS: IMPACTS ON SOCIAL AND ENVIRONMENTAL DETERMINANTS OF HEALTH FOR IMMIGRANTS IN REGION OF PEEL, ONTARIO.

by

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Changing settlement patterns into rural built environments: impacts on social and environmental determinants of health for immigrants in Region of Peel, Ontario.

Master of Applied Science, 2019.

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Abstract

This study examined changing settlement patterns into rural built environments and impacts on social and environmental determinants of health for immigrants in the rural town of Caledon, Ontario. Data was collected through focus groups and in-depth interviews with immigrant residents in addition to key informant interviews with service providers, and those with expertise in rural planning and/or immigrant settlement. Audio recordings were transcribed and thematically analysed using NVivo 12. This study is one of the first to integrate healthy built environments frameworks with social determinants of health frameworks and findings indicate that food system infrastructure; housing and rental stock; inclusive greenspaces are all factors that are important to the health and well being of immigrants in Caledon. The major challenge faced in terms of built form is inadequate public transit, which could have impacts on their mental and physical health. Further this study flags the importance of culturally appropriate religious and spiritual built amenities and services, something that is overlooked in healthy built environment research, underscoring the importance of an equity, diversity and inclusion lens. Various policy recommendations are provided that have the potential to enhance health and well-being of newcomers in the rural environments in Canada.

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List of Acronyms

CAQDAS	Computer-Assisted Qualitative Data Analysis Software
CCS	Caledon Community Services
CIHI	Canadian Institute for Health Information
CIP	Canadian Institute of Planners
ESL	English as a Second Language
GTA	Greater Toronto Area
HIE	Healthy Immigrant Effect
HPECHU	Hastings and Prince Edward Counties Health Unit
IAH	Investment in Affordable Housing
IOM	International Organization for Migration
IRCC	Immigration, Refugees and Citizenship Canada
LINC	Language Instruction for Newcomers to Canada
LIP	Local Immigration Partnership
MMAH	Ministry of Municipal Affairs and Housing
NCP	Newcomer Center of Peel
OACFDC	Ontario Association for Community Futures Development Corporation
OHIP	Ontario Health Insurance Plan
PASS	Partners for Applied Social Sciences
REI	Rural Employment Initiative
SDOH	Social Determinants of Health
WHO	World Health Organization

Chapter 1: Introduction

1.1 Research Problem and Rationale

The linkage between built and natural environments and health and well-being has become an increasingly important subject matter for public health, environmental and city planners and development practitioners (Bambra et al., 2010; Renalds et al., 2010). In this thesis, understandings of health are in line with the definition provided by the World Health Organization (WHO), specifically that health is a "state of complete physical, mental, and social well-being, not merely the absence of disease or infirmity" (WHO, 1946). This definition enables nations to expand their health systems framework beyond the physical condition of individuals and their diseases, as well as to pay attention to social determinants of health (Jadad & O'Grady, 2008). The built environment (see Figure 1) encompasses human-made or modified features that shape how and where people live work and play (e.g. transportation networks, housing stock, parks and greenspace, public spaces, land-use design, etc.) (Health Canada, 2002a; Provincial Health Services Authority, 2014; Danenberg, 2011).

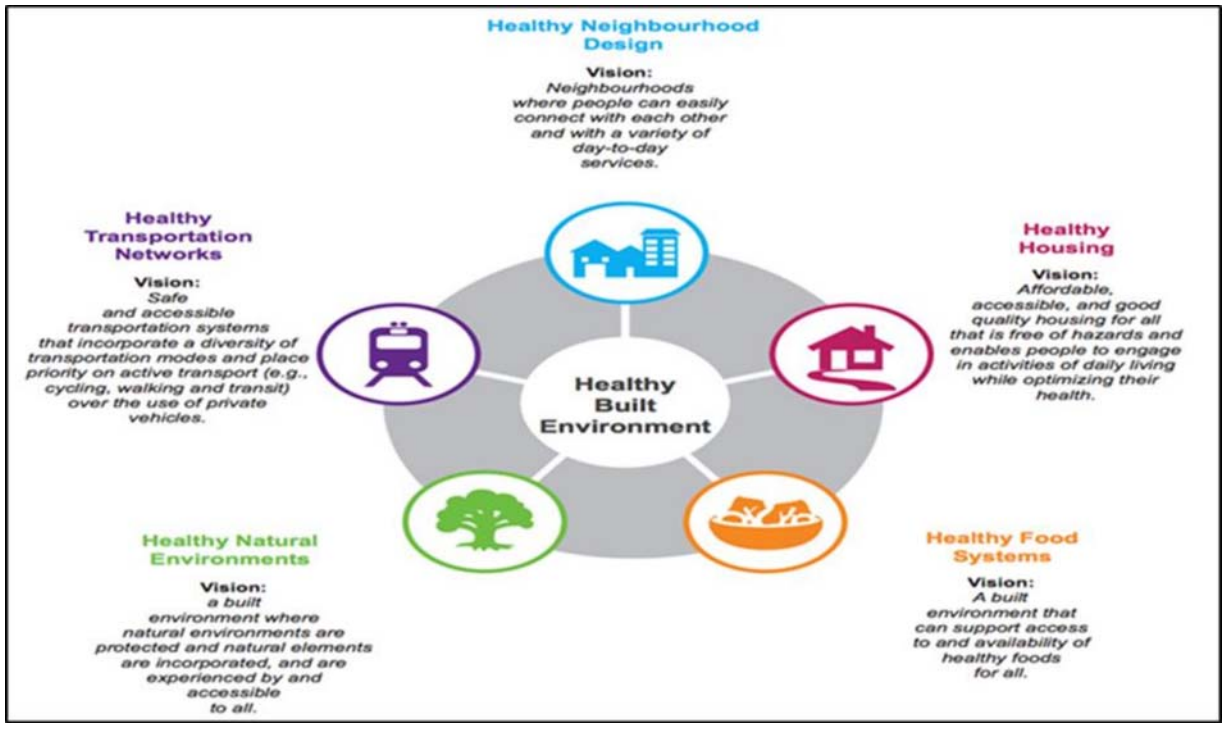

Figure 1. Healthy built environment toolkit in British Columbia. Source: Provincial Health Services Authority (2014).

Previous research and policy have established that built form has far-reaching impacts upon life quality through shaping social interactions, environmental quality or exposures, access to amenities, economic opportunities, mental wellness, and sense of safety (Jackson, 2003; Frank et al., 2003; Dannenberg et al., 2011). The majority of this work has focused on urban areas (Frumkin, 2003), with limited attention to impacts upon marginalized and/or minority populations (Zupancic & Westmacott, 2016). Within urban contexts, racialized immigrants have been found to be at high risk of exposure to unhealthy built environments including sub-standard housing (Paradis et al, 2008), poor transit access (Boschmann & Kwan, 2008) lack of greenspace (Heynen et al., 2006) and displacement from gentrification (August, 2016; Walks & Maaranen, 2008). This is despite the fact that over the past fifty years immigrant settlement in Canada has predominantly concentrated in urban metropolitan areas. For instance, immigrants comprise 46.1% of the total population in the City of Toronto, 40.8% in Vancouver, and 23.4% in Montreal (Canada Immigration Newsletter, 2017). Yet recent trends reveal that new immigrants are increasingly settling outside of traditional urban gateway cities into rural areas and smaller towns (Statistics Canada, 2016; Edmonston, 2016; Abu-Ayyash & Brochu, 2006; Carter et al., 2008; Walton-Roberts, 2012). This has the potential to be mutually beneficial to immigrant populations and rural communities as rural areas often need to fill labour shortages or offset population decline, while immigrants benefit from lower costs of living (Abu-Ayyash & Brochu, 2006; Carter et al., 2008; Walton-Roberts, 2005).

Researchers have only begun to explore connections between the built environment, health, and well-being in rural contexts despite the fact that we know they are distinct from urban built environments because they are less dense, lack mixed land-uses, have limited transportation options, services and amenities spread out over vast distances, in addition to more homogenous populations that can sometimes lead to exclusion and discrimination (Caldwell, 2013; Flora, 2018). As immigrant settlement into rural areas increases there are growing concerns that built environments in rural spaces are inadequate for supporting immigrant settlement and well-being due to a lack of physical infrastructure and ethno-cultural resources in place to support immigrant health, social integration and service access (Patel et al, 2019; Sibley & Weiner, 2011; Wang & Truelove, 2003). Further social isolation, changing family dynamics, and discrimination, which are known settlement challenges for immigrants (Mental Health Commission of Canada, 2016), may be exacerbated in relatively remote, less diverse rural environments.

Currently, there is little work that has focused on how the changing settlement patterns of immigrants into rural areas are influencing access to the social determinants of health (e.g. employment, housing, transportation, social exclusion, access to health services) for immigrants (Patel et al., 2019). It is important to fill these knowledge gaps to facilitate successful settlement and integration of the growing population of immigrants into more rural areas, and to help ensure a positive trajectory for their health and well-being over time.

Research Questions and Objectives

This study will analyze how changing immigrant settlement patterns into more rural built environments is impacting service access and social determinants of health for immigrants by focusing on the case of the Town of Caledon, a rural community in the Regional Municipality of Peel, located in the west of the Greater Toronto Area. Specifically, this study will examine the following questions:

1) What is the role of the environment/built environment in facilitating or constraining immigrants' access to social determinants of health in rural areas?

2) What are the self-reported health impacts and experiences of immigrants settling in rural environments in the Region of Peel?

3) What are the implications for planning and developing inclusive healthy built environments in rural communities?

1.2 Research outline

This research is organized into five sections. Chapter 2 is the literature review. It provides a background of immigration trends in Canada, and describes existing conceptual frameworks and literature related to understanding healthy built environments, healthy rural built environments and social determinants of health with an emphasis on considering implications for immigrant health and well-being. Chapter 3 discusses the methods used for this study which includes the area of study, methods of data collection, data privacy, and data analysis. This chapter explains the research design for data collection such as the use of qualitative methods through focus groups and in-depth interviews with immigrant participants as well as key-informant interviews with immigrant service providers and rural decision-makers. Included in this section is an explanation of the strategies used for data collection, including recruitment and analysis. Chapter 4 explains the key findings of the study, and Chapter 5 provides a discussion of research and policy

implications. Chapter 6 discusses the limitations of study, areas of further research, recommendations, and conclusion.

Chapter 2: Literature Review

2.1 Immigrant settlement patterns in Canada

Canada accepts over 300,000 immigrants annually constituting 22% of the total population (Statistics Canada, 2018). It is anticipated that by 2036, 30% of the population could be immigrants (Canada Immigration Newsletter, 2017). The Figure 2.1 beneath shows the annual number of immigrants that arrived in Canada in the past years. Like the rest of Canadians, immigrants are mostly urban dwellers (Guo & Guo, 2016; Omidvar & Richmond, 2003), they made up 7.5 million Canada's population with Toronto, Vancouver, and Montreal attracting more than half of that population (Canada Immigration Newsletter, 2017). The Toronto metropolis alone received approximately 40 per cent of all newly arrived immigrants in recent years (Edmonston, 2016). Research shows that urban areas are attractive to newcomers because these environments seem to present good opportunities for community building and access to settlement centres and services (Qadeer & Kumar, 2006; Veronis, 2010). Moreover, very few newcomers settle in small towns and rural areas due to a lack of awareness and reliance on information prior to migration from pre-established networks (e.g. families) whom are typically located in urban areas (Qadeer & Kumar, 2006; Hou, 2007; Valades, 2016).

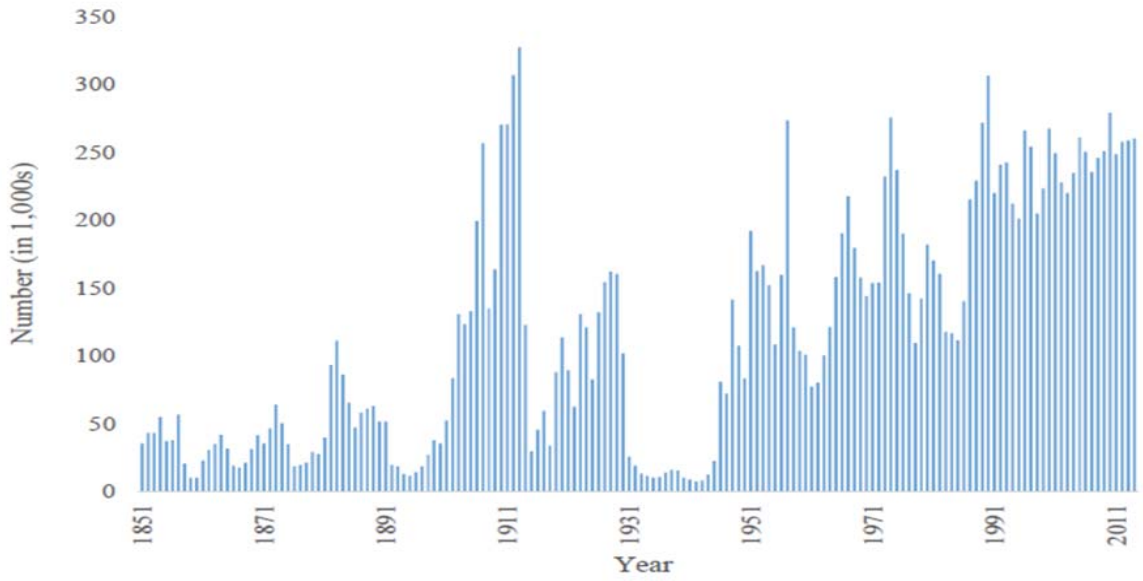

Figure 2.1 Annual number of immigrant arrivals (in 1,000s) for Canada, 1851-2014. Sources: Citizenship and Immigration Canada, 1999 and 2014; annual figures adjusted for 1851 to 1861 from Keyfitz, 1950; for 1861 to 1931 from McInnis, 2000a and 2000b; and for 1931 to 2014 from Statistics Canada, www.statcan.gc.ca/tables-tableaux/sum-som/l01/cst01/demo03-eng-htm and CANSIM Table 051.004.

In the past few years, there has been renewed interest in a more balanced geographic distribution of immigrant settlement. The number of newcomers in Canada's largest cities makes competition for employment and affordable housing ferocious (Ley & Smith, 2000; Kazemipur & Halli, 2000). Immigrant dispersal could potentially reduce these pressures, in addition to helping to replace an aging work force, contribute to economic development and promote of multiculturalism in smaller and rural locations in Canada (Government of Canada, 2019; Card, 2001; Reitz, 2001; Citizenship & Immigration, 2001). Efforts are being made in Canada to encourage newcomers to settle in smaller urban or rural communities, in order to reduce economic disparities and labour shortages in rural regions (Aubry, 2002; Krauss, 2002; Usborne, 2002). For instance, in January 2019, the Federal Government of Canada developed the *Rural and Northern Immigration Pilot Program* to help spread the benefits of economic immigration to smaller communities throughout Canada and attract foreign skilled workers. This program will see new immigrants arrive in rural towns and communities in Ontario, Manitoba, Saskatchewan, Alberta, British Columbia, Nunavut, the Northwest Territories, and Yukon over the next five-years (Government of Canada, 2019).

More locally in April 2016, the Newcomer Center of Peel (NCP) in partnership with Community Futures Ontario administered the Rural Employment Initiative (REI) project to assist rural communities in developing and implementing newcomer attraction and retention strategies and facilitate the movement of immigrants from the metropolitan Greater Toronto Area (GTA) to rural Ontario (Community Futures Ontario Newsletter, 2016).

Research evidence suggests that a rural community suitable for all residents is one that has established inclusive policies in relation to transportation, housing, and social services (Caldwell et al., 2007; Caldwell et al., 2013). Rural communities that are in earlier stages of strategic growth and immigrant attraction are facing growing concerns that built amenities and infrastructure that are currently in place are inadequate for supporting the settlement, integration and well-being of incoming immigrant populations (Patel et al., 2019; Caldwell et al., 2015; Sibley & Weiner, 2011).

Since it is anticipated that immigrants will continue to make up a growing percentage of Canada's population (Hiebert, 2005), recognising their health experiences after immigration is important to advancing equitable standards of living in Canada (Dean & Wilson, 2010; Beiser, 2005). It is widely established that new immigrants (particularly from developing countries) to

developed countries such as the USA, Canada, UK, and Australia enjoy significant health advantages in comparison to native-born individuals in these countries. This phenomenon is known as the healthy immigrant effect (HIE) (Kennedy et al., 2015). Many scholars have emphasised the healthy immigrant effect whereby the health-status of new immigrants which is typically better than Canadian born populations, undergoes quick deterioration towards that of the native-born within a few years of arriving in Canada (De Maio & Kemp, 2010; Newbold, 2009; Beiser, 2005).

Earlier work by Fowler (1998) suggests that limited access to and use of healthcare services may contribute to these changes in health status over time. Other factors such as downward economic mobility, weak social capital, language barriers, adoption of unhealthy lifestyles (e.g. diet, lack of physical activity), have also been suggested as contributors to immigrants' deteriorating health status (Beiser, 2005; Dunn & Dyck, 2000; Dean & Wilson, 2009; Newbold, 2005; Newbold, 2009; Oxman-Martinez et al., 2000). Yet the impacts of the built environment have received little analytical attention with respect to shaping access to known determinants of health (Eby et al., 2012).

2.2 Built environment and health

The built environment impacts both the physical environment (e.g. air quality, noise, greenhouse gas emissions, etc.) and social environment (e.g., civic involvement, societal interactions, etc.) that ultimately impact physical, mental, and social health and the ability to reach one's fullest potential (Kheirbek et al., 2016; Dannenberg et al., 2011; Younger et al., 2008; Jackson, 2003; Frank et al., 2003). The Institute for Clinical Systems Improvements (2014) and the Canadian Institute of Planners (2016) define the built environment as an amendable determinant of health that can interconnect with socioeconomic factors to impact health.

Similarly, the Interior Health Authority (2017) referred to healthy built environments (HBE) as planned and built settings with facilities and resources that have positive impacts on people's overall well-being. Furthermore, researchers have concurred that the built and natural environment connects with health and welfare, and it is an important determinant of health (Janzen et al., 2018; Bambra et al., 2010; Renalds et al., 2010). The built environment influences many factors related to public health, including obesity, physical activity (Li et al., 2008; Frank et al., 2003), and mental health (White et al., 2017).

Various elements of the built environment shape health outcomes (Janzen et al., 2018). For example, the mode of design of a neighbourhood and its associated walkability will impact the overall mobility and physical activities of adults as well as their health (Provincial Health Services Authority, 2014). The neighborhood environment has direct and indirect effects on transportation mobility, social exclusion and well-being (Boarnet & Sarmiento, 1998). Several studies have stated that people living in walkable, mixed-use neighborhoods have higher well-being through better connection to community, improved access to healthy food, and opportunities for recreational and related physical activity, compared to people living in areas designed for car users rather than pedestrians or cyclists (Frank & Engelke, 2001; Kent & Thompson, 2014). Transit and cycling both decrease air pollution emissions and provide options for exercise, such as walking to and from transit stations or riding a bicycle for health (Lindsay et al., 2011; Saelens et al., 2014).

Transportation and land use impact daily physical activity levels of the populace and access to jobs, schooling opportunities, access to goods, service and recreational facilities, social networks, parks and nature (Sreedhara et al., 2017). Also, transportation networks allow us to move from one location to another, and the way transportation networks are designed can affect the health of individuals. Availability of sidewalks, crosswalks, lightings and benches in urban and rural areas shape patterns of physical activities (Provincial Health Services Authority, 2014). There are well established linkages between transport, social exclusion and health outcomes (Currie et al., 2009; Delbosc & Currie, 2011a; Lucas, 2012; Stanley et al., 2011) with transportation access shaping participation in important life activities including paid employment, education and social interactions with friends and families (Lucas, 2012; Ettema et al., 2010), as well as self-care practices such as regular physical activity and healthy eating (Thompson & Kent, 2014). Also, poor access to transport occurs from the complicated interplays of built, cultural, socio-economic and demographic variables. The concentration of job opportunities at the centre of the city subsequently compels people to travel long distances and covering these distances can be problematic and expensive (Ma et al., 2018). Moreover, distance, and a lack of infrastructural provision, restricts walking and cycling for transport, as well as other substitutes to private car ownership such as car sharing (Daniels & Mulley, 2012). Subsequently, lower income households are often coerced into the expenses of private car ownership, necessitating an allocation of moderately more income to cover the costs of transport needed for social inclusion, and the maintenance of a healthy life and standard of living (Ma et al., 2018).

A lack of transportation is known to contribute to psychosocial stress (Krieger & Sidney, 1996; Krieger, 2001; Nazroo, 2003). Research conducted by Farber et al. (2018) in Durham Region (just outside of the GTA) used mixed methods consisting of focus groups, survey data collection, and accessibility analysis to examine transportation access for refugee newcomers within the context of suburban and rural areas specifically. They discovered how a lack of transportation (e.g., having no car or limited public transit systems) contributes to social exclusion through creating barriers to accessing opportunities and participating in activities that would contribute to settlement and integration (e.g., social, health and employment services). Also, Farber et al. (2018) found that a lack of access to transportation (for e.g., due to travel time, cost, or confusion about the system) can impede overall well-being by limiting newcomers' ability to participate in recreational activities. Transportation problems also increases newcomers' sense of boredom and loneliness, and it decreases their sense of belonging as well. (Farber et al., 2018). According to the Region of Peel's Poverty Reduction Strategy, immigrants residing in outlying sub-urban regions like Mississauga and Brampton, and in the fringe rural areas of the Region of Peel (e.g. Town of Caledon) have problems with transportation (Peel Poverty Reduction Strategy, 2013),

Naturalized *greenspaces* are another important element of the built environment. The term "green space" is referred to as the presence of vegetations in urban locations, usually designed by humans (Cronon, 1996). It consists of elements such as parks, lawns, gardens, trees, flowers, mountains, and forests (De Vries et al., 2003). In contrast to green space, "blue space" (presence of water) denotes urban aquatic environments such as lakes, creeks, and seaside (Volker & Kistemann, 2011; White et al., 2010). Research findings reveal a strong link between exposure to natural surroundings and greenspace and the reduction of stress, protracted illness, depression, and nervousness (Provincial Health Services Authority, 2014). For example, a short interaction with nature such as strolling or viewing of green space can have curative effects on people. Greenspaces are catalytic agents that promotes healthy lifestyles (Bell et al., 2008), and impact rates of heart disease, cerebrovascular ailment, cancer, and obesity (Willis & Crabtree, 2011). Green surroundings nurture social development (Maas et al., 2009; Seeland et al., 2009), and they are protective factors for health inequality linked to income deprivation (Mitchell & Popham, 2008).

With respect to immigrant populations specifically, researchers have found that memories inspired by water bodies (Cadzow et al., 2010), parks and greenhouses (Rishbeth, 2004a, 2004b;

Rishbeth & Finney, 2006) serve to bridge home and host country. Also, parks are pleasant locations where people can feel nature, connect and interact with others (Forsyth & Musacchio, 2005). Enough evidence shows that access to urban parks promote public health indirectly, particularly through increased physical activity and reduced obesity (Konijnendijk, et al., 2013). Direct health benefits through time spent in nature seems to reduce stress and stimulate mental restoration (Nordh et al., 2009). Tree planting in zones with low tree coverage may improve health through direct paths (e.g., trees filter out air pollutants, reduce the urban heat island effect) and indirect paths (e.g., aesthetic enhancements that motivate walking or provide a curative effect that improves mental health) Shanahan, et al., 2015).

Food systems are another identified element of the built environment that determine how people choose and have access to food, which inevitably impacts health (Provincial Health Services Authority, 2014). Studies tend to show that immigrants' traditional diet, which is usually low in processed foods, is healthier than that of the typical Canadian diet (Sanou et al., 2014).

Lastly, *housing* is a significant characteristic of the built environment. The quality, access, and affordability of housing all have impacts on the health of residents. These impacts can affect the health of individuals in positive or negative manners in the short and long-term. This implies that the mode of design of a building is extremely important to the health and safety of inhabitants (Provincial Health Services Authority, 2014). The relationship between inferior housing and health has been known for a long time (Sharfstein et al., 2001; Thomson et al., 2001). However, recent evidence discloses that physical and mental health problems - anxiety, depression, attention deficit disorder, substance abuse, hostile behavior, asthma, heart disease, and obesity - relate to poor urban planning and insufficient housing (Raffestin & Lawrence, 1990; Fullilove & Fullilove, 2000). For instance, inadequate housing, may increase the likelihood that residents are under substantial physical and mental stress (Sharfstein et al., 2001; Bashir, 2002). Further, lower-socioeconomic status communities usually have limited access to quality housing stock and live in vicinities that do not enable outdoor activities or provision of various healthy food options (King et al., 2000).

2.3 Healthy built environments in a rural context

The built environment plays a crucial role in the health and well-being of people residing in rural and remote areas. Figure 2.2 below depicts a modified diagram of Caldwell et al. (2015), consisting of key elements of healthy built environments that are important in rural areas including

active transportation, air and water quality, access to affordable healthy foods, safe and affordable housing, livelihood and economic opportunities, as well as natural spaces/greening of communities.

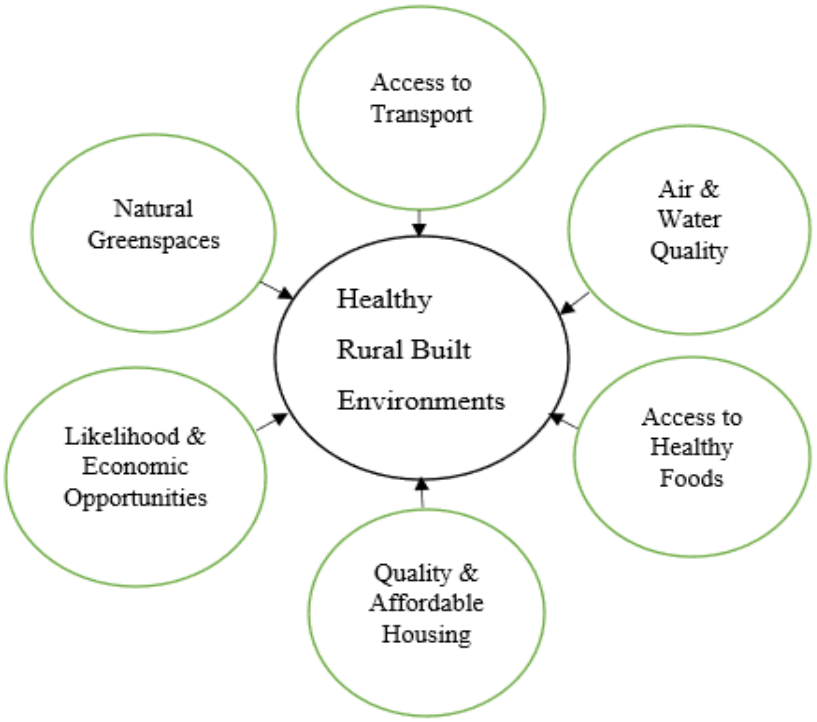

Figure 2.2 Elements of healthy built environment in rural areas. Source: Adapted from Caldwell et al. (2015).

Active transportation encompasses all human powered forms of transportation, specifically walking and cycling. It includes the use of mobility aids such as wheelchairs, variations such as in-line skating and skateboarding (Transport Canada, 2010). Also, active transportation can be combined with public transit (Transport Canada, 2010). Infrastructure and facilities necessary for active transportation are generally less prevalent in rural areas. Recent Canadian research, supported by the US and international data, has linked the built environment, including active transportation and physical activity infrastructure, with more physically active lifestyles (Health Canada, 2011). Often in rural communities, transportation planning is focused on infrastructure for roads and cars (Young, 2008). As a result, there are less sidewalks and bike lanes (this implies less physical activity) in rural areas, which decrease opportunities for residents to partake in active transportation. Regular physical activity is important as it helps to prevent depression, and improve mental health (Venhaus, 2012).

Food systems: There are various means by which the built environment can either promote or hinder a person's ability to consume healthy foods. Ironically, despite being areas of agricultural production, many rural communities could be considered food deserts. "A food desert is a socio-economically distressed neighbourhood where there is no nutritious food source within walking distance" (Gilliland & Sadler, 2012). A previous study by Gilliland and Sadler (2012) demonstrated the presence of food deserts in the predominantly rural region of Chatham-Kent, Ontario. They describe this as an issue of health equity, given unequal access to healthy food may further worsen health inequalities brought on by socio-economic difficulties (Gilliland & Sadler, 2012). The major food related issues in rural areas are different from those in urban areas given the low population density, lengthier distances between retailers, and rapid rise of supercenters and their effect on other food retailers (Karpyn & Treuhaft, 2010). Another issue connected with access to healthy food, is the availability of local food. A big amount of food available in grocery stores or supermarkets is imported. Imported foods often consist of chemicals emitted through the burning of fossil fuels during transportation. This has consequent effects in addition to contributions to global climate change (Xuereb, 2005). Thus, community gardens and farmer's markets can be a viable option to provide fresh, affordable and culturally appropriate food to those who would not otherwise have access. The physical, social and mental health benefits of community gardens and farmer's markets have been explored (Wakefield et al., 2007). Increasing the availability of healthy foods through community design contributes to improved dietary health of a community and increased levels of physical activity (Hastings & Prince Edward Counties Health Unit - HPECHU, 2012). Lastly, food system planning can inspire a built environment that is beneficial to local food production and consumption (Bergeron, 2012 as cited by Hastings & Prince Edward Counties Health Unit - HPECHU, 2012).

Safe and affordable housing is also important to healthy rural built environments. Rural Ontario differs in several significant ways from patterns found in the rest of rural Canada (Delaney, Brownlee, & Slick, 2001 as cited in Elias, 2009). Despite generally lower incomes, the level of poverty is often lower in rural areas because of lower costs of living, principally the cost of housing (Runic et al., 2001 as cited in Elias, 2009). Affordable housing is a tool for making communities more liveable (Allison & Peters, 2011). For example, The Ministry of Municipal Affairs and Housing (MMAH) has been focused on increasing the supply of affordable housing units in rural areas through its Sustainable Building Planning Project which aims to increase the supply of

affordable, denser housing units without changing the community's rural character (MMAH, 2011). The combination of pursuing affordable housing and heritage preservation can help in improving both the built environment and liveability of small communities. Access to safe and affordable housing can be improved through flexible policies and zoning provisions for different types of rural community buildings, and rehabilitation of heritage or historic buildings into affordable housing for low-income residents in rural communities (Allison & Peters, 2011). The mode of construction of a building in rural communities can also create health challenges to residents, for example, a building that is not properly sealed, or with unattended leaks and water intrusion after construction can affect the health of individuals (Jackson & Sinclair, 2012).

Greenspace: Effectively designed *spaces* can improve mental health and overall ability of site users to manage major life issues (Venhaus, 2012). Hence, incorporating nature when enhancing and revitalizing a public space has important positive effects for community residents and visitors. The availability of green space is associated with increased levels of social capital, and exposure to nature reduces stress levels, anger and anxiety, and replaces these with feelings of pleasure (Canadian Institute of Planners - CIP, 2012). Community gardens and parks connect people, and enables them to interact with their neighbours, reducing social isolation. Mental health and stability are influenced by nature and green spaces. Overall, individuals are pleased when they are outside and surrounded by nature (Jackson & Sinclair, 2012). Nature plays a critical role in making public spaces successful and healthy for people; however natural elements also have the effect of environmental sustainability and health (Venhaus, 2012). A limited number of studies have begun to discuss the social and environmental benefits of greenspace for immigrants living in smaller city and rural contexts specifically. For example, in their mixed-method study of immigrant attraction and retention in the rural Cochrane District in Northeastern Ontario, Khan & Labute (2015) concluded that immigrant participants (who were worried initially about relocation to this rural area) reported that the small community feel and proximity to nature contributed to their well-being and feelings of staying in the area (Khan & Labute, 2015).

The existing literature on built environments has been linked to a number of health outcomes, yet less attention has been given to the ways in which built environments can interact with social determinants of health to shape outcomes related to health and well-being.

2.4 Social determinants of health

This section clarifies the social determinants of health. Brief summaries on what is known about the significance of each determinant is provided with additional attention given to the degree in which social determinants have been explored in rural contexts, and in relation to immigrant populations specifically.

The World Health Organization (WHO) defined the Social Determinants of Health (SDOH) as "the conditions in which people are born, grow, live, work and age" and "the fundamental drivers of these conditions." Figure 2.3 illustrates a typical model of social determinants of health.

Figure 2.3. The determinants of health in broader perspective. Source: Dahlgren, G. & Whitehead, M. (1991).

In Canada, SDOH include income, education, gender, race, employment situations, food insecurity, social exclusion, social safety net, housing, and health services (Raphael, 2009, p.9). The SDOH approach concentrates on structural factors, aside from medical care, (e.g. social and economic policies, status and circumstances) that have important effects on health (Braveman et al., 2011; Castaneda et al., 2015).

There is evidence indicating that rural communities have unique characteristics with respect to health determinants, including demographic, economic and social factors, as well as physical environment factors (Goel et al., 1996; Government of Canada, 1995). Rural communities face quite a lot of socio-demographic and economic challenges. In general, rural communities have different socio-economic and demographic profiles than urban communities (Canadian Institute for Health Information (CIHI), 2006). An aging population, economic difficulties and geographic isolation are among the factors that could contribute to specific health vulnerabilities in rural areas and small towns in developed countries such as Canada (CIHI, 2006). The SDOH of a rural population is depicted in Figure 2.4 underneath. While the determinants themselves are similar to more general frameworks above, the way in which they shape health, and their relative importance are likely different in rural contexts.

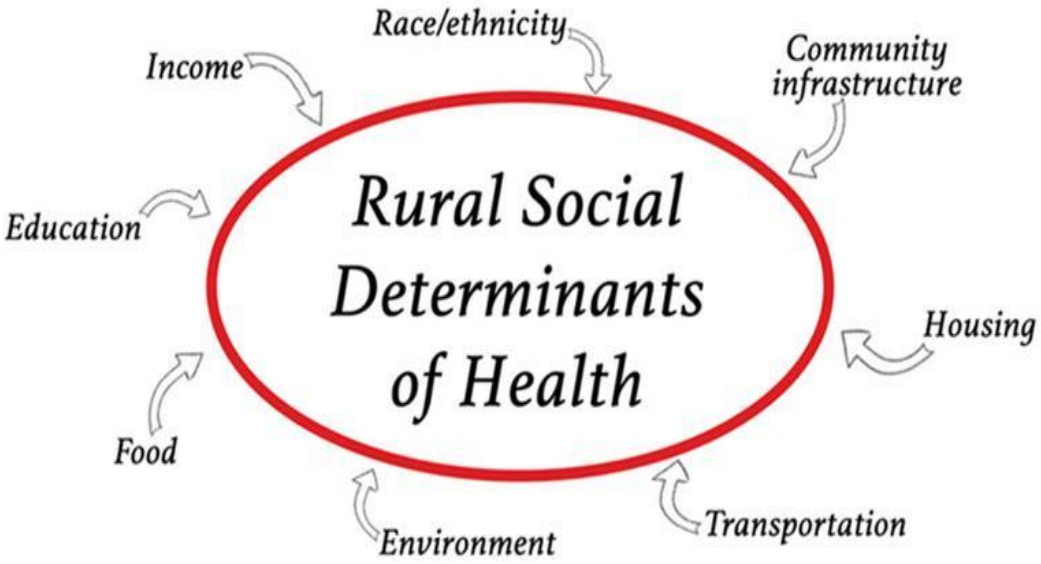

Figure 2.4 Rural SDOH. Source: Rural Health Information Hub. (2002-2018).

Moreover, rural residents face many environmental challenges. For example, hazardous materials often end up in remote areas where the land is cheap putting people's health at risk. Rural industries such as mining and farming may also pose hazards and environmental impacts (Rural Health Information Hub, 2002-2018).

2.5 Elements of SDOH in Canada

2.5.1 Health care access

Health service availability or access is concerned with whether various health services are supplied in the right place and at the right time to meet the general needs of the population (Mclntyre & Rondeau, 2009). The health care system and access to quality healthcare services is an essential element of the complex formula that makes people healthy (McGovern et al., 2014). There is growing evidence that immigrants have difficulties accessing healthcare in Canada (Lebrun, 2012; Stewart et al., 2006). Barriers to accessing care commence early on for newcomers. In Ontario, a three-month waiting period is required before qualifying for Ontario Health Insurance Plan (OHIP) (OHIP, 2015). Subsequently, the waiting period results in newcomers being unable to access healthcare services in the early days of their arrival in Ontario. Also, recently arrived immigrants to Canada are twice as likely to have difficulties accessing healthcare than people who were born in the country (Gushulak et al., 2011). Similarly, recent immigrants in Ontario are three times more probable to face barriers accessing specialist care than the Canadian-born population, which largely perseveres with time spent in the country (Harrington et al., 2013).

With respect to accessing health care in rural regions, a research study by Walton-Roberts (2005) with South Asian immigrant women in Squamish, a small rural town in British Columbia, shows that overstretched healthcare infrastructure creates accessibility issues for immigrants in Squamish (Walton-Roberts, 2005). Moreover, scientific findings reported that rural and remote locations have been regularly considered as generators of inequity for healthcare access and use (Canadian Population Health Initiative, 2006; Bourke et al., 2012). Research findings on health care access shows that rural residents have poorer access to both primary (Crooks & Schuurman, 2012; Curtis & MacMinn, 2008) and specialized (Harrington et al., 2013; Karunanayake et al., 2015) health care services. The utilization of preventive services, screening for certain cancers, and mental health services is also known to be lower in immigrant populations in general (Hyman, 2004; Latif, 2010). A recent scoping review suggests that immigrants settling in rural areas may experience of ‘double burden’ for health inequities given independent health disparities exist for both immigrant populations and rural populations (Patel et al., 2019).

In an attempt to cast greater light on immigrant settlement challenges unfolding in smaller urban areas and/or rural settings, Sethi (2013) conducted a study on newcomers’ health in

Brantford and the Counties of Brant, Haldimand and Norfolk, Ontario, Canada. Results showed that newcomers faced barriers to accessing health services because of a shortage of culturally appropriate health care services and a limited amount of health physicians and nurses, in addition to women being further impacted by poor access to health services due to unaffordable and culturally inappropriate child care available to them in this area (Sethi, 2013). Other barriers that hinder immigrant women's access to health care in Brantford and the more rural Counties included long waiting time in clinics, cultural and language issues, and stigma linked to mental health (Sethi, 2013).

Research on longitudinal trends in mental health between different ethnic groups across Canada living in urban and rural regions, showed that immigrants' general health deteriorated over time because they do not seek help for their mental health due to cultural barriers (Pahwa et al., 2012). Similarly, in a study by Khan and Labute (2015) in the City of Timmins, Ontario, and surrounding rural areas within Cochrane District, immigrant participants reported challenges with having minimal medical specialists in the area resulting in the need to travel farther distances to seek medical attention (Khan & Labute, 2015).

In Sethi's (2013) study, settlement service providers reported that the agencies providing health care services in the region need to be more culturally appropriate as physicians tend to be white which results in them misunderstanding newcomers' mental health issues (Sethi, 2013). Also, upon analyzing interview and survey responses provided by immigrants and immigrant health service providers, Sethi (2013) found that there are cultural differences between service providers' perception of health and how newcomers perceive their health.

Distrust of physicians can occur due to previous negative healthcare encounters and discrimination experienced by immigrants in their home countries (Feldmann et al., 2007). Also, discrimination is associated with negative consequences such as poor physical health (e.g. hypertension, cardiovascular, respiratory), mental health (e.g. nervousness, depression), and dangerous lifestyle behaviours (e.g. smoking and drinking) (Williams et al., 2008). Immigrant women are susceptible to discriminatory health care; and they are discouraged from seeking health care when providers do not accept them as new clients (based on perceived complicated health needs) (McKeary & Newbold, 2010). However, immigrant women or newcomers' vulnerability to discriminatory treatment has not been explored explicitly within more rural, outlying regions.

Sethi argues it is necessary to increase cultural diversity (i.e., more diverse staff or culturally competent care) within agencies providing health services to immigrant women. Cultural competency and inclusion must include the whole healthcare workforce to provide a diverse and culturally competent workforce that can effectively serve varied populations as diversity increases (Cooper & Roter, 2002; Cohen, 2003). Cultural competency and inclusion is imperative to the delivery of equitable quality care (McDougle, et al., 2011; Kumagai & Lypson, 2009).

2.5.2 Education, employment and income

Education and employment are both very crucial factors influencing mental health. Education is highly correlated with employment and financial success (Mikkonen & Raphael, 2010). Higher education can lead to advanced training and enhanced professional development, resulting in better job opportunities (Mikkonen & Raphael, 2010). Income is a determinant of health, but it is also a determinant of employment and working conditions (Raphael, 2007e). Higher income and social status have been linked to better health due to increased access to essential services, like food and housing, as well as services that enhance the quality of life (Mikkonen & Raphael, 2010). Historically, immigrants have experienced lower income levels than the general population, even when their length of stay in Canada is controlled (Picot & Hou, 2014), and have been more likely to accept precarious work.

Unemployment is one of the most significant stressors for mental health that has been identified by immigrants (Khanlou et al., 2008). In the same vein, unemployment is a stressful experience linked with low self-esteem, isolation and family conflicts that can subsequently lead to mental health problems. For example, constant unemployment may lead to poverty, which is linked with poorer nutrition, or the adoption of unhealthy coping skills, including smoking, and alcohol or drug abuse, which may jeopardize health (Dew et al., 1991). Unemployment and low income can cause immigrants to develop negative feelings towards their quality of life and well-being (Randall et al., 2014; Williams et al., 2015; Wilson-Forsberg, 2014; Khan & Labute, 2015). Research findings suggest that there is potential for newcomers to achieve higher incomes in small towns and rural areas due to less competition for jobs which would increase the speed of immigrants' economic integration relative to that which might unfold in major urban centres (Bernard, 2008). For example, Bernard (2008) found that university graduate immigrants from any

country of origin attained income parity with the Canadian-born population within 1-4 years within small towns and rural areas Bernard, 2008). This implies that" immigrants living outside the major urban centres can translate their foreign credentials into a relative income advantage more easily" (p.14) within smaller cities and rural areas (Bernard, 2008).

A study conducted by Wilson-Forsberg (2015) with Latin newcomers within the smaller cities of Cambridge and Brantford found that when skilled immigrants faced challenges with credential recognition upon relocating, it negatively impacted their economic integration, social status and independence resulting in a lower quality of life than what was felt in their home countries of Argentina, Columbia, or Mexico. Moreover, a study carried out by Drolet and Moorthi (2018) with newcomer refugees residing in both large urban and smaller cities of Alberta showed a decline in standard of living because of their experiences with inadequate income and employment opportunities and limited health resources in comparison to their lives in Syria. In history, immigrants have been treated as a secondary labour force (Hakim, 1982), and they find it difficult to obtain better jobs or full employment (Canadian Task Force on Mental Health Issues, 1988; Gastaldo et al., 2005). This experience is often linked to discrimination regarding to language, colour of skin and underrating of foreign credentials (Dean & Wilson, 2009).

2.5.3 Social support

Social support is a 'cognitive appraisal of being connected to others and knowing that support is there if needed' (Barrera 1986, cited in Weber, 1998, p. 1). Social support can be provided through informal webs of friends, relatives, and ethnic groups, as well as through formal networks of health-care/social work professionals (Guruge & Humphreys, 2009; Gagnon et al., 2013). Social support is one of the key social determinants of health (Public Health Agency of Canada, 2004) as it affects mental and physical health, health-related thoughts and conducts (Dennis et al., 2009, Thornton et al., 2006, O'Mahony & Donnelly, 2010). Very importantly, support from relatives, friends, and communities can help people to solve their problems and deal with hardship, as well as to have control over life situations. Social relationships bring forth caring, esteem, and sense of satisfaction, which appear to act as shields against health problems (Public Health Agency of Canada, 2004, p. 10).

Immigrants often leave behind families and friends who provide emotional and intellectual supports that are necessary in maintaining health. These supports are difficult to access in a new

country, and the absence of support structures and isolation contributes to stress and mental health problems (Beiser, 2005; Canadian Task Force on Mental Health Issues, 1988). Others have demonstrated that emerging social support networks across social sectors and ethnocultural groups in smaller communities can be beneficial and provide a sense of belonging and support to newcomers (Reitmanova & Gustafson, 2009; Khanlou et al., 2008). Much of the stress encountered by immigrants in the settlement period is caused by financial worries, and formal and informal sources of support can help immigrants build social networks that can facilitate finding a job (Sword et al., 2006; George & Chaze, 2009b). To address this unemployment problem, it is necessary to advocate for supportive work environment and fair wage as well as social inclusion of immigrants into the larger society (MacDonnell et al., 2012).

2.5.4 Social exclusion

Social exclusion refers to specific groups being denied the opportunity to participate in Canadian life (Galabuzi, 2009). Social exclusion leads to the marginalization of immigrant populations, resulting in lower rates of employment and limited access to health and social services (Mikkonen & Raphael, 2010). Immigrants who are medical doctors and engineers for example are restricted from practicing in their professions due to regulations requiring Canadian-specific training. This lack of opportunity for immigrants to pursue their intended career may diminish the possibilities of their inclusion in society, further creating a sense of hopelessness and depression that endanger their health (Galabuzi, 2009).

2.5.5 Language barriers

Language abilities are critical when accessing services and are a large contributor to health inequalities (Brisset et al., 2014). Inability to properly communicate with medical professionals can lead to inappropriate or wrong diagnoses, higher rates of treatment dropouts, and increased risk of medical errors (Brisset et al., 2014). Canadian scholars agree that language is the most common barrier faced by immigrants when seeking mental health services (Canadian Task Force on Mental Health Issues Affecting Immigrants and Refugees, 1988; Partners for Applied Social Sciences (PASS), 2008). Health literacy is the ability to “obtain, process, and understand basic health information and services to make appropriate health decisions” (Healthy People, 2010). Immigrants face barriers on communication (Poureslami et al., 2011; Boateng et al., 2012; Dastjerdi et al., 2012), and low levels of literacy (Sheikh-Mohammed et al., 2006; Simich, 2009),

and they may be neglected in the health system due to unequal access to health services, resulting in a lower quality of care (Bowen, 2001; PASS, 2008). Similarly, immigrants that are not well-educated are likely to struggle with reading and writing and may not comprehend written medical instructions. Therefore, immigrants with low health literacy and limited English proficiency are known to have poorer health out-comes (Sentell & Braun, 2012). Moreover, barriers due to language have related to delays in seeking care, reduced compliance and injurious health outcomes (Government of Canada, 2002; Ng et al., 2011). Such barriers are progressively acknowledged as a source of health disparities between immigrants and native-born populations (Fennelly, 2006; Lebrun & Dubay, 2010). For example, in a cross-sectional study of 212 newcomers in the Brant–Haldimand–Norfolk region in Ontario, 54% of participants reported language as a major barrier in accessing physical or mental health services (Sethi, 2013). Furthermore, a 2018 survey conducted among Hmong Americans disclosed that half of them did not understand health information well, and they had difficulties with functional aspects of health literacy such as medication management (Khuu et al., 2018).

Regarding language services and settlement for newcomers in smaller areas, Bernard (2008) found that 25 percent of immigrants living in small towns or rural areas are unable to speak and/or comprehend any of Canada's official languages (Bernard, 2008). Thus, English as a Second Language (ESL) program is highly required in smaller areas which requires built infrastructure so that newcomers can improve their communication with residents in their community where there is typically less linguistic diversity (Sethi, 2015; Agrawal & Zeitouny, 2017). Similarly, more access to Language Instruction for Newcomers to Canada (LINC), a federal government program provided by local settlement agencies is needed to stimulate social and economic integration (Sethi 2015; Agrawal & Zeitouny, 2017).

2.6 Literature summary

In summary, theoretical frameworks and literature focused on healthy built environments (see Figure 1), healthy rural built environments (see Figure 2.2) and social determinants of health (see Figures 2.3, 2.4) are each helpful in partially explaining how immigrant settlement into rural built environments may be impacting immigrant health and well-being. The two former frameworks place greater emphasis on physical environmental features (e.g. infrastructure, transportation, housing, public space), while the latter focuses more on social or demographic features (e.g.

income, education and employment opportunities, language, ethnicity, inclusion/exclusion, access to health services, etc.). Healthy built environments still remain underexplored in rural contexts, particularly with respect to lived experiences of immigrant populations specifically. Overall, there remains a significant gap in knowledge on how life in rural environments impacts immigrant health (Patel et al., 2019). I hypothesized bringing these frameworks together in an integrative fashion may help to enable a more comprehensive understanding of how settlement within rural environments may be impacting immigrant health and wellbeing, and specifically how environmental features may serve as "mediating" factors in accessing known social determinants of health (Edge et al., 2014). This study contributes to each of these theoretical bodies of work through focusing on the unique experiences of immigrant populations settling in rural environments in the Town of Caledon, Region of Peel outside of the GTA.

Chapter 3: Methods

3.1 Study Area

The study is situated in the Town of Caledon, one of three municipalities in the Region of Peel, located to the west and northwest of the City of Toronto and part of the Greater Toronto Area (GTA). Figure 3 below illustrates the map of the Region of Peel and the surrounding areas in Ontario.

Fig. 3.1 Region of Peel, Ontario. Source: Adapted from Region of Peel Regional Maps-Surrounding Regions (2015).

The Region of Peel is geographically diverse with urban (Mississauga), suburban (Brampton) and rural (Town of Caledon) areas. Mississauga has the largest percentage of immigrants (53.4 %), followed by Brampton (52.3 %) and Caledon (24.6 %) (Statistics Canada, 2016). Concerted efforts are being undertaken to settle immigrants into the more rural areas of the Region (Newcomer Centre of Peel, 2017).

Caledon is a developing area although it remains primarily rural. It consists of an amalgamation of a number of villages and hamlets with Bolton being its most populous urbanizing centre. In 2016 The Regional Municipality of Peel passed a by-law to amend the Regional Official Plan to expand the 'Bolton Rural Service Centre' to accommodate planned growth in Caledon and

the broader Region of Peel over the next twenty-five years in accordance with the Provincial Growth Plan (Region of Peel, 2016). The Region of Peel is one of the fastest growing regions in Canada, with a population of 1.3 million residents (Peel Data Centre, 2013). This has resulted in robust pressure for new development across the region with future growth slated in the hubs of Bolton, Caledon East and Mayfield West (South Albion-Bolton Community Plan, 2006). The Region of Peel's high growth rate is largely attributed to immigration because it is a major destination for immigrants in Ontario (Statistics Canada, 2012). The Region attracts the second highest percentage of recent immigrants in the Greater Toronto Area at 15.5 %, and immigrants contribute to over half (50.5 %) of the total population of the Greater Toronto Area (Peel Data Centre, 2013). Almost 50% of Peel's population are immigrants; large immigrant or visible minority groups (Peel Data Centre, 2017a) include South Asians, Filipino, Chinese, and Blacks. Other immigrant groups include South East Asian, West Asian, Latin American, Japanese, and Korean communities (Drackley et al., 2011). Visible minority people from South Asia make up the largest ethnic group in Peel (51 % of the immigrant population) (Peel Data Centre, 2017a).

Caledon comprises natural features such as the Oak Ridges Moraine and Niagara Escarpment as well as attractive river valleys, green spaces and useful agricultural land. These natural areas offer social, ecological, recreational and economic benefits to the residents (South Albion-Bolton Community Plan, 2006). The Town of Caledon is a key focal point within the *Rural Employment Initiative* (REI) project, which is a partnership between the Ontario Association for Community Futures Development Corporation (OACFDC) and the Newcomer Center of Peel (NCP). This project connects internationally trained professionals with employment opportunities in rural areas of the Region of Peel, thereby facilitating the movement of unemployed immigrants from the overloaded metropolitan Greater Toronto Area to rural settings (Newcomer Centre of Peel, 2017).

The growing rate of immigrants' settlement in the municipalities of Peel Region, and the increasing significance and occurrence of more rural, peripheral settlement makes this location appropriate for researching the impacts of these changing settlement patterns on immigrants and the role of rural environments in shaping access to health supporting resources.

3.2 Research design

The research proposal was submitted to the University Research Ethics Board on May 30, 2018; the protocol was approved on July 20, 2018 (REB: 2018-225) before the commencement of data collection involving human participants. This study employs qualitative methods which are known to be effective when undertaking research on marginalized or minority populations (Winchester, 2005; Letherby, 2003; Parr, 2001; Katz, 1994). Qualitative research methods are exploratory, and may include focus groups, semi-structured interviews, in-depth interviews, case studies (Salkind, 2017, p. 160), and analysis of texts and documents including government reports, media articles and websites (Hammarberg, Kirkman, & de Lacey, 2016). These methods are used to answer questions about experience, meaning and perspective, most often from the views of the participants (Hammarberg et al., 2016). Data collected through qualitative research are descriptive, and they are in textual, verbal or visual forms. Qualitative methods have the potential to generate significant insight into the personal, in-depth perceptions held by immigrant residents, service providers and key stakeholders regarding changing immigrant settlement patterns into rural environments and related implications for health and service access. This type of research design is known as phenomenological research in which researchers analyze the lived experiences of individuals about a phenomenon as described by the study participants themselves, and usually involves conducting interviews and focus groups (Giorgi, 2009; Moustakas, 1994).

3.3 Data collection

The study involved purposive sampling, a non-probability sampling technique in which the selection of the sampling units is subjective (i.e. not random) with the researcher relying on his or her experience and judgment (Guarte & Barrios, 2006). There is no cap on how many informants should make up a purposive sample. The goal is to continue to collect data until saturation is reached (Bernard, 2002). Purposive sampling was used to recruit participants for the focus groups and in-person interviews. These participants were adult immigrants residing in the rural Town of Caledon for varying degrees of time. Four interview participants had lived in Canada for less than 5 years; 8 participants arrived 5-10 years ago; while 2 participants had lived within Canada for more than 10 years. An *immigrant* is the term used for a person after arriving in the destination country (UN DESA, 1998). In the same vein, the International Organization for Migration (IOM) defines a migrant as any person who is moving or has moved (whether voluntary or involuntary)

from his/her place of abode, across an international boundary regardless of the person's legal status (McAuliffe & Ruhs, 2017). The original intention was to divide focus groups participants into groups according to the length of time since arrival to Canada, however due to recruitment challenges focus group interviews involved groups of immigrants of varying lengths of residency in Canada. Participants also had varying immigration circumstances. One participant said that her family relocated to Canada through the skilled workers class, while others stated that they came to Canada through family sponsorship. None of the participants in our sample came to Canada as refugees.

In addition to immigrant residents of rural Caledon participating in interviews and focus groups, key informants were also recruited to participate in in-depth interviews including representatives from service agencies that provide settlement, integration and other supports to immigrant populations, in addition to stakeholders with influence over local social and environmental planning in the Town of Caledon. These participants were recruited based on their unique specialized knowledge. Additional key informants from outside of the Region of Peel were also interviewed based on their specialized expertise on immigrant health and rural settlement.

3.4. Data collection methods

In this study, focus groups, in-depth interview and key informant interviews were conducted using a semi-structured approach based on a loose structure consisting of open-ended questions (Robson, 2011). The ordering and wording of questions were modified based on the flow of the interview, with additional unplanned questions asked to follow up on and probe for more detail on useful insights raised by study participants (Robson, 2011).

3.4.1. Focus groups and Phenomenology

Focus groups were initially used in market research, and it originated in the 1940s from the department of Applied Social Research at Columbia University (Bloor et al., 2001). A focus group (also known as a focus group interview) is an open-ended group discussion that is guided, monitored and documented by a researcher/facilitator (Kitzinger, 1994; Morgan, 1998). According to Salkind (2017), the researcher or moderator ensures that participation in the process is not hijacked by any members of the group and that members who are reluctant to make comments are included in the discussion. Focus groups encourage group interaction which helps to generate

information on collective views. Also, focus groups enable researchers to understand the participants' experiences and convictions (Morgan, 1998). Moreover, focus groups are a great technique of collecting data from several people simultaneously within a short period of time (Salkind, 2017). Focus groups are particularly effective in establishing trust and rapport with diverse minority groups with historically limited power (Kidd & Parshall, 2000; Umaña-Taylor & Bámaca, 2004) and/or various levels of education (Robinson, 1999).

Moreover, focus groups can be phenomenological; thus Wilkinson (1998) argued that the focus groups within the context of phenomenology relies on data collection based on people's daily experiences, views, and beliefs. This type of data collection enables the researcher to extract the participant's understanding of the issues under question (McLafferty, 2004). Phenomenology was derived from two Greek words: "phenomenon" and "logos". "Logos" can be interpreted as "the science of", which makes phenomenology 'the science of phenomena' (Heidegger, 1962, p. 50). In phenomenological research, descriptions of a phenomenon are obtained from the participants by the researchers (Giorgi, 1975).

During the focus groups held in October 24th, 2018 at Caledon Community Services, fourteen immigrants participated in one of two focus groups. Each focus group included seven participants. Besides, we did not collect demographic data on the focus group participants, however, there was a mix of genders (4 males and 10 females). Participants also freely offered up their countries of origins and their ethnocultural backgrounds. The breakdown shows that 9 participants originated from Asia, and 3 participants came from South America, as well as 2 participants from Western Europe. The focus groups lasted between 1.5 hours, and followed a semi-structured format with the aid of an interview guide that included the following questions: 1) why/how immigrants decided to move to Caledon/Bolton and the nature of their rural settlement experience; 2) ability to access health and social services and other opportunities and how this was enabled or constrained within rural environments, and 3) implications for accessing social determinants of health and/or elements of healthy built environments, e.g., employment, natural environment and greenspace, housing, transportation, social inclusion, etc. (see Appendix 1, page 61, for detailed questions).

3.4.2 In-depth interviews

In-depth interviews involve direct, one-on-one engagement with individual participants to obtain more detailed information and insights on the topic of interest (Public Health Action Support Team, 2017). Moreover, the participant's experience, behaviour and feelings may be queried more completely by the researcher when this method is employed (Public Health Action Support Team, 2017). In-depth interviews enable a researcher or interviewer to establish rapport with participants (Boyce & Neale, 2006), encouraging participants to communicate much more freely and to provide more detailed descriptions (Public Health Action Support Team, 2017). Therefore, in-depth interviews provide valuable information for research, particularly when supplementing other methods of data collection (Boyce & Neale, 2006).

In this study, focus group participants were invited to participate in individual in-depth interviews. Fourteen immigrants participated in the in-depth interviews, at a later date, in the same location (Caledon Community Services) which lasted approximately 30 min to 1 hour. Participants were asked more detailed questions on their migration history and settlement experiences, what life was like in Canada and in Caledon, in addition to experiences and perspectives on health and environmental issues (see Appendix 2, page 64).

In addition to in-depth interviews involving immigrant rural residents, a total of 28 key informant interviews were also conducted. Interviews took place between December 2018 to April 2019. Twelve of these involved local service providers who support immigrants in the Town of Caledon (e.g. representatives from community services, employment counselling) in addition to stakeholders involved in local social and environmental planning. The remaining 16 key informants involved individuals who resided or worked outside of Caledon yet had significant expertise on immigrant health and rural settlement. Twelve of these key informants were from different parts of Ontario while *four* key informants interviewed were consulted outside of the Province to get more information from diverse opinions. Examples included health/medical professionals, researchers, planners as well as settlement officers at the Newcomers Centre of Peel and other multicultural or ethno-specific agencies in Peel (the region in which Caledon is situated). These professionals were asked questions related to immigrant settlement patterns; what comprises healthy and inclusive rural communities; challenges and opportunities impacting immigrant health; and environment/health planning and policy (see Appendix 3, page 67).

To show appreciation for participants' time and input into the research project, each participant in the focus groups and in-person interviews involving immigrant residents received a $20 cash honorarium and light refreshments. Providing an honorarium to participants is a common practice in community-based research (Bell et al., 2015).

3.5 Data privacy

During the research process, confidentiality of data was maintained. Ryerson University stipulates that all research involving human subjects in data gathering must be approved by the University's Ethics Board, and that all involved participants agree to sign the consent form. The protocol approval policies were strictly adhered to. Thus, written informed consent was obtained from all participants. The personal names of participants are not disclosed, and responses were kept confidential. Collected information was stored on encrypted files.

3.6 Data Analysis

Focus groups and interviews were audio-recorded and transcribed verbatim by the researcher and a professional transcriptionist. In qualitative research data analysis, researchers need to "sort through" the data, in order to focus in on the most significant aspects of the data (Guest et al., 2012). The impact of this process is to aggregate data into a small number of themes that are most salient (Creswell, 2013).

Data analysis was done using thematic analysis aided by NVivo 12 which is a computer-assisted qualitative data analysis software (CAQDAS) tool that is widely-used, and it can organize and code large data sets (Peace & van Hoven, 2005) in an efficient and organized manner (Creswell 2014, p.195). Thematic analysis is a method for identifying, analysing, and reporting repeated patterns of experiences and meaning across a data set (Braun & Clarke, 2014). For this study, we utilized both inductive and deductive approaches. This implies that data was thematically analyzed using both an inductive (grounded in empirical data) and deductive (guided by existing literature and theory) approach (Bergdahl & Berterö, 2015; Elo & Kyngäs, 2008).

The inductive approach allows research findings to emerge from the frequent and dominant themes inherent in raw data (Thomas, 2006). A deductive approach enables a researcher to find other explanations that are buttressed by the empirical data, and it is a method of avoiding bias associated with inductive approach (Bergdahl & Berterö, 2015; Elo & Kyngäs, 2008). Deductive

analysis was informed by pre-existing theoretical constructs related to healthy rural built environments, social determinants of health, and policy and planning to support healthy rural communities and immigrant settlement. Also, we allowed for new themes to emerge from the ground through asking very general questions about why one chose to move to Caledon, what were their favourite things about living in Caledon, what were the challenges faced, and so on. This helped to bridge daily lived experiences with key themes comprised within pre-existing theoretical constructs. In the first stage of data analysis through inductive approach, transcripts were read many times to become familiar with the data. Then, a list of preliminary codes was developed which were refined into categories and then condensed into themes. The final stage of the analysis consists of thematic categories for data interpretation.

Chapter 4: Results

This chapter presents the results of interviews with key informants/service providers, and in-depth interviews and focus groups with immigrant rural residents. It is divided into two main sections. The first section discusses the perceived characteristics and impacts of rural built environments on immigrant health. Key themes relate to rural/agricultural lifestyles, food systems and accessibility, affordable and available housing, transportation restrictions, use of green space, parks and recreational facilities access to culturally appropriate services and/or religious amenities, and rural built environments and employment opportunities. The second section deliberates on policy and planning in supporting healthy inclusive rural built environments and immigrant settlement.

4.1. Perceived characteristics and impacts of rural built environments on immigrant health

4.1.1 Rural/agricultural lifestyles

Seven key informants stated that immigrants' decision to settle in rural areas may be due to a preference for a quieter lifestyle and open greenspace rather than the busy, densely populated city. Others explained the preference for rural settlement is sometimes related to immigrants having a previous rural, agricultural background prior to coming to Canada and a desire to maintain a similar lifestyle. Typical sentiments are indicated in the quotations below:

> "Some of the South Asian groups are buying agricultural lands, and then continuing to agriculturally use those lands for garden… markets" (Manager, Policy & Sustainability, Town of Caledon).
>
> "In Peel Region, a lot of our new Canadians are South Asian. Rural community farming may resemble the life they had in India and Bangladesh. More so than if they were to go to downtown Toronto" (Manager of Recreation, Town of Caledon).
>
> "Quite a few of them have had an agricultural background, so they kind of want to be able to be in an area that would enable them to grow crops" (Manager of Economic Development, Town of Caledon).

During an in-depth interview, one immigrant participant explained that he settled in Caledon because of the rural lifestyle, and because he previously lived in a rural area in India before migrating to Canada.

All the immigrants that were interviewed indicated that Caledon is peaceful, safe and not crowded and this has greatly impacted their health and well being. A typical sentiment is reflected below:

> "Caledon is peaceful, there is no crowding, there is trash everywhere in Brampton" (Participant #1).

4.1.2 Food systems and accessibility

With regards to rural food systems and access to healthy foods, two immigrants who were interviewed positively accounted how they were able to get fresh vegetables and organic foods in the community, which they believe has contributed to their good health:

> "I live in a clean environment; drink clean water and the foods are also clean. Compare to adulterated foods in India everything is clean here. I also have access to organic foods, and good quality milk" (Participant #6).

> "Healthy things you should eat, like lots of vegetables. Lots of water" (Participant #9).

Another female explained how she has a big space in her backyard which permits her to grow her own food:

> "There is fresh air, good people and good foods. There are a lot of fresh food around here, there is organic food. You know where fresh egg come from, there are family farm around. We have access to fresh food from the farm and I do my own farming" (Focus Group Participant, Female #1).

One focus group participant described how Italian and Spanish foods can also be purchased at Walmart in the community. Another participant who was a Laotian Buddhist monk explained how people bring cultural foods for him to the temple.

In contrast one focus group participant explained how she has to go to the urban centres of Brampton, or Vaughan to obtain her native foods. This account was in line with four key informants who argued immigrants might have difficulty accessing their ethnic foods in rural spaces.

4.1.3 Affordable and available housing

Five key informants identified housing as one of the prime reasons for immigrant rural settlement. Housing is more affordable in rural communities compared to the city. Apart from the cost of housing, one key informant elaborated that the houses in rural areas are bigger with spaces to accommodate newcomers who often pool their financial resources by having multiple generations or families living under one roof:

> "I think that the cost of housing in larger communities is becoming a barrier for people to live in those communities. So, I think they're looking elsewhere. Regardless of whether

> it's rural or smaller or medium sized communities, I think that real estate certainly seems to be playing a part in it" (Program Manager, YMCA Brantford).
>
> "Affordable housing, and the houses are bigger for their extended family, most of the newcomers, they live altogether. There are parents, grandparents, children, so the houses are bigger, the lots are bigger, and they still can afford it" (Development Officer, Caledon Community Services (CCS)).
>
> "Yea. So, housing and the ability to maybe have larger houses that could be multi-generational" (Economic Development Officer, Town of Caledon).

Findings from the focus groups revealed that most of the immigrant participants are living with their families. They concurred how multiple generations are often living in one home and crowding in the house is not an issue due to the spaciousness of general rural housing stock:

> "My first time I lived in Toronto but then I get pregnant and I just didn't have, Toronto too small. Everything too tiny. It is expensive and don't have for the kids. I try to move, and I move out to Etobicoke. It is still like not really what I been thinking, that my husband starts to look a little bit out. Then he found some good, good place. Big space. Not really big house, but we have big space around our house. It is good for my daughter. Move here about three year now. I live alone in the acre, twelve acres, but the people so friendly" (Focus Group Participant, Female #1).
>
> 'There is small yard. I am living on the corner. A lot of space. That is why I buy the house" (Focus Group Participant, Male #2

On the other hand, one participant who came to Caledon independently said it is difficult to get an apartment to rent, as there is a lack of apartment buildings. They argued that available rental units are generally part of someone's house although even these units are limited in availability. Another participant commented on affordability challenges when it came to rent:

> "The house in Bolton or in the area is cheap. More cheap than Woodbridge. More cheap than Toronto. More cheap than Etobicoke. You can buy. But the rent is difficult for the cost. It is more expensive for rent. You don't find rent in this area. There are no buildings for rent" (Focus Group Participant, Male #1).

Another participant elaborated that the cost of hydro is also very expensive:

> "The house has lot of space, but the cost of hydro is too much" (Focus Group Participant, Female #1).

Five key informants also emphasized how there is typically a lack of rental properties within existing housing stock in rural environments which poses a challenge for some immigrant populations. As one immigration consultant explained:

> "There is a lack of market rental housing sometimes. Newcomers do sometimes want to purchase a house but often they want to test out a market and they may not want to be in a position – especially if you're coming as a refugee or something, you're not ready to purchase a home. Sometimes there's a lack of rental housing in smaller communities and that's an issue for policymakers" (Consultant, City of Hamilton).

Another unanticipated issue of relevance to the use of existing housing stock was raised by a municipal manager. They reported that some of the immigrant groups have lots of celebrations that take place in their houses and during those occasions people park their cars on the road disturbing other road users. Or they rent big houses in the community for a weekend from Air B&B or Home Away for celebrations such as weddings. There have been incidences of other residents complaining of the noise levels during those occasions. There is a by-law that says you cannot host a large event in one's private home, but many are likely unaware of it or choose not to abide. As another policy manager commented:

> "People are not adhering to our by-laws, as they should. We don't have an active enforcement. We are reactive in by-law enforcement here at the town. So, it is only done on a complaint basis" (Manager of Policy & Sustainability, Town of Caledon).

4.1.4 Transportation restrictions

All the key informants concurred that transportation is a major concern for immigrants residing in rural communities and that it is an important factor in relation to shaping other social determinants of health (e.g. employment, social inclusion). One Health Educator stated that a lack of transportation means immigrants are unable to go about their daily routine uninterrupted which can lead to isolation, and poor health outcomes. The Coordinator for Transportation Development in the Town of Caledon similarly argued that efficient public transit can be a mechanism for newcomers to obtain a feeling of independent living and help them in knowing their neighbourhood well which helps them adapt to their new society and community (Coordinator, Transportation Development, Town of Caledon). The Transportation Coordinator also explained how there is no well connected internal public transit in Caledon which is a big challenge. They went on to say that Trans Help, the community social transit service that is provided for aging populations and people with disabilities, along with Metrolinx and GO transit that connects Caledon to Brampton and Union station in Toronto are not meeting the needs of the people living in the community. Another municipal planner concurred stating:

> "We are very auto dependent. We don't have any regular transit throughout the Town in general. We do have some GO bus connections to Orangeville, and to Bolton, but they don't run all day, they are not set up for all day service" (Municipal Planner, Town of Caledon).

The transportation manager also explained how a lack of transit and persistent car dependency can be detrimental to physical activity and health:

> "Any mode of transportation, sustainable transportation including for example transit, it can motivate you know residents to at least walk to bus stops at the first and last mile. So, with that it can really actually contribute to improving the health within the community, because instead they just rely on their cars which prevents them to be as active as possible" (Coordinator, Transportation Development, Town of Caledon).

Interviews and focus groups with immigrant residents unanimously confirmed that transportation is a major challenge. For example:

> "I love my house a lot, but there is one thing I don't like we don't have transportation" (Participant #3).

> "The transportation is 90 percent of the problem. The [ESL] students rely on the transportation from the Community Centre, many newcomers don't have car" (Focus Group Participant, Female #2).

A couple of focus group participants indicated that the only alternative is to make use of taxi or Uber which is very expensive. Another also relayed the restrictions related to the GO bus transit only going into Toronto once a day, stating that it leaves Bolton at 5:30 a.m. to Toronto, and leaves Toronto at 5p.m to Bolton which doesn't always fit with one's schedule or needs. Others stated that they rely on their family members to drive them around and a few had access to their own vehicles. One interviewee recounted "my son has been denied from a job because of transport" (Participant #9). When focus groups were asked about what was most stressful about settling in Caledon, most stated problems related to transportation with three elaborating specifically on the inability to go places or having no means of getting around. A few talked about how residents can make use of transportation services offered through Caledon Community Services or Trans Help when they have an appointment to get to, yet they also emphasized how this was inconvenient because it involves so much time in planning and you have to reserve well in advance. One focus group participant also argued that most immigrants want to stay in this area, but if and when they do move out it is mostly because they have obtained a job outside the community and they are

forced to move because of the transportation problem, which raises important challenges for immigrant retention.

The Coordinator of Transportation Development discussed how local government recently completed a transit feasibility study to know the pros and cons, as well as the costs of providing local transit. Costs continues to be a key challenge in considering the implementation of sustainable transit in the community. The cost of public transit must commensurate with the demand, and this requires widespread public support for transit:

> "In order to have public transit with feasible options… There should be demand there so people need to support the transit. For example, we do not like to see empty buses, because it is taxpayers' money" (Coordinator, Transportation Development, Town of Caledon).

There must be enough people willing to patronise the service, which can be a challenge in less populated rural areas. The transportation problem is also compounded due to different levels of government not taking up the obligation of who should be responsible for providing transportation in the community. The municipality does not fund specialized transportation, saying it should be the duty of the provincial government. Whereas the provincial government believes the transportation should be a regional concern (Coordinator, Transportation Development, Town of Caledon).

There was some discussion related to active transportation in Caledon. The local government is working on policies and directions that support walking and cycling. For example, the local government has recently created active transportation maps, and the Recreational Manager mentioned that a new recreational hub facility is expected to be completed by 2020. The strategic approach was to put recreational facilities, libraries, the police station, and other social service agencies together in close proximity to further encourage a more walkable community or active transit. The same respondent also emphasized how the area offers lots of outdoor space for cycling and trails, yet this is largely for recreational as opposed to utilitarian travel.

During interviews four immigrants made mention of the fact that regular exercise through cycling and walking was an important part of them being able to maintain good health. For example:

> "Go for a walk, it makes me younger. My son and his family like bike, they ride bike to stay healthy and stay active" (Participant #2).

A couple others commented that there is very heavy trucking on the main arteries and roadways throughout Caledon which can make it very unsafe for cycling.

4.1.5 Use of green space, parks and recreational facilities

Green space was identified by ten key informants as being important to health and well-being in rural areas. Being in a rural setting was cited as being a great source of peace, along with others benefits from being close to nature:

> "When I am doing my work here in the Brampton office, and I don't have any windows and stuff it is a factor on my health I am sure, and then when I go out and I am up in Caledon and it is so greener, and the air seems cleaner and everything is better, my mood is better. I think there is definitely benefits of being closer to nature. if you are in a very urban place, you probably are not getting that much time with trees and so forth, and there is a lot of research now emerging around oh people should walk barefoot on the green and you know a certain amount of time every day, or people shouldn't be sitting at their desks so much. People should be standing and walking and so like there is, there definitely has been an impact on our health overall" (Manager, Community Outreach & Program Development).

According to the Recreational Manager, there is an abundance of land for recreation and parks in Caledon, literally thousands of acres of green space which is part of the attraction of living in Caledon. This includes multiple conservation areas.

From the immigrants' in-depth interview findings, four participants said they relocated to Caledon because of their preference for space and green space with another seven similarly stating that they decided to live in Caledon because it is a quiet place, with no crime and they feel secure living there. Also, three immigrant participants emphasized that access to green space, nature and parks in Caledon is good for their health, and the community and is a good place for kids.

During interviews immigrants were also asked about how moving to Caledon may have impacted their health, and nine of the participants said their health has improved since coming and that the environment has great influence on their health. For example:

> "I think here because Russia environment is not good, there is no clean water. Also, the air and the smoke in the city is very bad. (Participant #2).
>
> "Headache problems. Stomach problems. Too much time I go hospital. Then here in Caledon, I have never been to hospital" (Participant #7).

Another participant similarly narrated how her husband's health has improved tremendously since relocating to Caledon, and when prompted on what she thought could be responsible for this improvement she said, 'fresh air, less stress, and not seeing people crowding'.

Overall focus group participants agreed that there is lots of green space and trees in the Caledon community and access to parks and trails. A few participants spoke about how the parks are within walking distance from their home. One participant expressed some reservation in using the trails and greenspace, especially with her young daughter explaining that she is a little bit scared now because her dog was attacked by a wolf or coyote. Despite these largely positive accounts, interviews with key informants that are involved in planning and recreational services revealed that gaining access to or making use of recreational, social and spiritual spaces can still pose some challenges for some immigrant residents in Caledon.

For example, one of the service providers said that the parks were not well developed to accommodate the needs of certain immigrant groups, and there has been some observable increase in land use conflicts as the demographics of the community change along with the ways in which parks and greenspace are used:

> "Like seating in a park around a tot lot for parents… bringing their child to use the play equipment and the parents would sit there and watch their children. Well now you have a South Asian community, where maybe the men in the household have to leave the household during the day and they have no place to go, because we just don't have the facilities and so they are using the park and then they are sitting in those seats and I know our park staff here have told us that they get numerous complaints from the public that there are men in the park sitting, looking at the kids on the tot lot and they don't have children on the tot lot" (Manager of Policy & Sustainability, Town of Caledon).

> "They were in the park every day, all day. Other users of the park, because there is such a large contingent of them, I think that people in the rest of the community felt like they were taking over the park. It is strange because you know twenty years ago, it would have been skateboarders in the plaza doing you know curb jumps. They are loitering. They had nowhere else to go prior to us building the skateboard parks, but they found that they could do their activity in these concrete parking lots and store owners were upset. People didn't want to go to the stores, because there are always skater boys, skater kids. So, either way large groups of men are hanging out in our parks and other people don't feel comfortable going to use the parks. Yet this should not deter others from using the parks – this activity is a cultural norm for both New Canadians and Canadian born. It simply means we need to develop more parks to handle the increased demand (Manager of Recreation, Town of Caledon).

It was also reported that given the lack of infrastructure for ethno culturally specific places of worship, certain immigrant groups have attempt to make use of parks as a space for religious activities which can sometimes result in conflict or tensions. A Recreational Manager elaborated on a specific example:

> "Part of the religion is to wear a small, blunt dagger around your body and so when people don't understand that that is just a part of religion and it is not to be used as a weapon, then there have been complaints. We have had some complaints come into our department to say people have knives in the park. When we look further into it, that is not the case" (Manager of Recreation, Town of Caledon).

During focus groups when our sample of immigrant residents were asked whether they gather in the parks or community centre to socialize with family and friends, the general consensus was that they socialize everywhere in the community, and there is no place they do not feel welcome.

4.1.6 Culturally appropriate services and/or religious amenities

The availability (or lack thereof) of religious, spiritual amenities along with culturally appropriate or inclusive service and recreational facilities was also identified as being linked to rural environmental conditions. One key informant said that existing faith communities in Caledon can sometimes become a site where strong, caring, compassionate connections are made with newcomer populations and their families, and/or where immigrants are able to receive assistance with their settlement process.

Yet, five other key informants indicated that overall there is a lack of diverse places of worship within the existing stock of built religious facilities, making it difficult for many immigrants to practice their own religion locally:

> "It is a challenge. Yea, like especially for the religious, and we may not have all the temples, churches, or wherever they want to go to in this area. They may have to drive further…. Yes, we don't have that many supports for each different group." (Development Officer, Caledon Community Services).

Five immigrant participants similarly argued that they did not have a place of worship in Caledon but must go outside the community to find an appropriate place to practice their religion. During one of the focus groups it was emphasized, that there is an Italian church in the community, and there are lots of Italian immigrants that reside in Caledon, many of whom have been settled for some time. Another participant stated that she sometimes attends the Buddhist Temple in the

community or has to go outside of the community to the cities of Brampton or Markham. One focus group participant was actually a Laotian Buddhist monk and has been living in the local temple for the past 18 years and that the temple was what brought him to Caledon.

Key informant service providers spoke about service access in Caledon. The Program Coordinator for Language Instruction for Newcomers to Canada (LINC) (offered through Caledon Community Services) talked about the importance of providing various services in one location, and why this is particularly beneficial within a rural context as this provides a one stop place where immigrants can get access to all the services that are needed. For example, in addition to English language training there are programs available at the hub that are focused on nutritional food support, poverty reduction, and youth programming. This is in addition to general settlement and immigration services, and an employment and training division. The hub provides services that assist people who are having issues with paying their bills, people with domestic issues and other kinds of challenges. The Program Coordinator of LINC stated there are about thirty-five plus programs and services that are beneficiary to the residents of Caledon, including immigrants.

The CEO of Caledon Community Services (CCS) described the hub approach this way:

> "So, the nature of direct services for CCS, you know the organization tends to use terms like cradle to grave. It is Caledon's largest human service organization that probably as the result of its breadth of services touches about 50% of the community at any given time. There are three direct divisions. The largest is health and health covers a range of senior care services, specialized accessible transportation, specialist clinics that brings in specialists to Caledon on a once a week or twice a week basis, so they don't have to travel to large urban centers. Health and Wellness activities, transitional care services from hospital to home and respite care services" (Chief Executive Officer (CEO), CCS).

Further, the LINC program coordinator explained that Service Canada and Service Ontario comes once a month to reduce the need for rural residents to have to travel into urban centres in order to make use of a single point of access to a wide range of government services and benefits (e.g. health card and license renewal, obtaining passports, etc.).

The importance of having built environments in rural spaces that enable integrated service provision was also emphasized by other key informant experts:

> "I know that certain settlement services in smaller cities offer a range of different types of services. For instance, in Toronto or big cities, a certain organization will focus on one or two whereas in a smaller city, it might be a "one stop shop" where you go to an agency and

> that particular organization may offer five or six different types of services (language, employment, mental health and other services) so I think it's important for organizations or social service organizations to be able to address more than one type of challenge for newcomers and immigrants because it just, you know, suits the geography or circumstances better in rural areas in terms of efficiency and you know, the convenience it provides to the newcomer clients" (Professor, Ryerson University Toronto).

Key informants also suggested that online services should be prioritized and made more accessible for the immigrants in rural areas. For example, more telemedicine and distance education should be introduced to overcome the challenge of travelling a long distance to access those services.

Immigrant interview and focus group participants also attested to the importance of a range of services provided at the Caledon Community Centre hub including the transportation program, employment services, and early years centre for young mothers and children, and the LINC. A number stated how thanks to the LINC, they have started communicating in the English language, or that they have experienced a lot of improvements since attending the classes. Others talked about how the LINC class was not only important for improving their English language skills, but it has been instrumental in providing an opportunity for them to build friendships and social contacts. Others talked about how the public library and public swimming pool provided physical space for newcomers to become more socially integrated.

The CEO of Caledon Community Services relayed that public built forms and spaces that allow for social interactions across diverse cultural groups is also beneficial to non-immigrant residents in the rural community:

> "I think another advantage is and I don't know if everyone views this as an advantage, but I do. We have local children and youth getting an opportunity to meet peers from all over the world and become good friends with them, thereby broadening their horizons of the cosmopolitan nature of the globe these days and what a great opportunity for young, rural kids who otherwise don't have a lot of contact with such a diverse swath of friends to meet new buddies" (CEO, CCS).

When it came to accessing health care services and amenities (e.g. physicians, specialists, and/or hospital care) many stated this can be a challenge within the rural environment of Caledon. For example, as one immigrant interviewee expressed "My daughter was sick, and it took us 30 days to get a doctor appointment" (Participant #4). Another local key informant explained:

> "Most of the doctors and medical facilities you know labs, and walk-in clinics and such are located in Bolton. So, they are really, really centralized in one area. So, I mean that is

> unfortunate in a way, because you do have to drive from the rural area into that area" (Economic Development Officer, Town of Caledon).

A number of focus group participants confirmed that they go outside the community to see their family doctors. One participant said she goes all the way to Toronto to see her doctor, while two of them said their family doctor's office is in the urban centre of Woodbridge. Four of the participants said they do not experience any communication issues whenever they visit their general practitioner, because they speak the same language (e.g. Spanish, Italian, Punjabi). Another participant said her doctor made use of an interpreter. Many also discussed the wait time and the difficulty of getting a specialist appointment or the long distance they have to travel to see a specialist. However, two focus group participants jumped in to say there is a specialist clinic downstairs in the Caledon Community Centre that is connected to a hospital in a neighbouring urban centre. One elaborated arguing:

> "You can find a family doctor in the community now. I used to go to Toronto to see my doctor before, and it usually take about one hour for me to go and then come back. There are doctors around now who relocated from Toronto to settle in the community" (Focus Group Participant, Female #1).

Key informants talked about how significant population growth in part brought on by an influx of immigrants into rural areas can sometimes put too much pressure on the limited services and built infrastructure that does exist in these spaces Many of the health care challenges facing immigrants, are also true for rural residents in general. Further, providing health care support for immigrants from different ethnic backgrounds creates a significant challenge.

This is particularly the case when it comes to providing culturally sensitive or appropriate mental health supports in rural areas:

> "One of the things that we've found is that many of the immigrant women and refugee women were, you know, really suffering from a lot of mental health issues. The role of women in the societies that they come from is very different. They weren't very comfortable and often their spouses weren't very comfortable with the way services were delivered. When they went to access services, there was a bit of cultural clash and they felt very uncomfortable and some of them just turned away from help. I think the lack of services and particularly the lack of services that suit the culture and language issues that some of these people face, is one of our biggest challenges. And you know those services can be mental health services" (Retired Professor & Researcher, University of Winnipeg).
>
> "Services in rural areas differ because we often don't have the mental health services to the degree that urban centres do and when we're talking about refugees, often the mental health

> services are as important possibly even more important than other services in rural areas. So, that certainly is one of those areas of, I think, of particular challenge that some rural areas that are distant from larger urban centres would be facing. Often the health services are largely around family and family relations, so the psychological and the mental health., are much more challenging in rural areas because of the lack of practitioners and the lack of, medical professionals in this area" (Professor, Brandon University).
>
> "I think mental health is an issue. Depending on the culture they come from and whether or not mental health is even a thing or addressed or looked at… things can be very challenging, and they might not know what resources are available…. And, there is a lack of services for mental health for newcomers" (Local Immigration Partnership (LIP) Coordinator, Timmins Ontario).
>
> "I think it has been the hardest to try and figure out how to help with mental health and counselling. I think the very fact that there is fewer people seeking that kind of counselling in these rural areas, it is harder for someone who is going through that to admit that they need that mental health counselling" (Pastor, Holy Roman Catholic Parish, Caledon).

Immigrant participants also spoke about shortage of hospitals in the community. They said they sometimes have to go outside to be able to have access to hospital care.

4.1.7 Rural built environments and employment opportunities

Throughout the course of the interviews and focus groups there were a number of points made that revealed how the characteristics of rural built environments and develops shape employment opportunities. For example, participants described how spacious rural settings and cheaper land are often ideal sites for processing plants and factories which require a lot of labourers. While these jobs might not always be lucrative or in one's desired field of profession, they provide a means to pay the bills. Two key informants also explained how immigrants who have a desire to run a business that requires a lot of space prefer to relocate to a rural community like Caledon because of availability of land mass:

> "They are also purchasing a lot of agricultural lands for… businesses that require space… a lot of South Asians are in the sort of logistical transportation business and they need to house those trucks somewhere, and they can't have them in Brampton, Mississauga on an individual lot. There is just no parking available" (Manager of Policy & Sustainability, Town of Caledon).

Seven key informants believed that the skills, experience and expertise of immigrants from around the world is beneficial to rural environments as it is helpful in addressing population decline and associated labour shortages which in turn has important implications for economic development and/or maintenance of existing local businesses that comprise the streetscape in Caledon, There is

a growing number of aging and retiring baby boomers in the rural population and an influx of immigrants provides opportunity for revitalization:

> "Many small business owners are getting older and looking towards retirement or starting to retire and there may not be anyone there locally to take over the business. Small towns are beginning to lose their bakery or their butcher shop or their auto mechanic shop. You know those kinds of things. It's unfortunate in smaller communities, people are then forced to drive to other places to consume and to spend their money for services and a life… the work ethic of immigrants is the stuff of legend. Immigrants are hard working and have a positive impact on the community. Immigrants are also more likely to start a business or to be a business owner in comparison to the Canadian population" (Immigration Consultant, City of Hamilton).

> "Well the immigrants are doing jobs for which there is a demand for in the community. I don't think any immigrant takes a job away from a non-immigrant in a rural community" (Retired Statistics Analyst/Economist, Statistics Canada).

Four key informants also spoke about how immigrants are contributing to the economic growth of the community through investing their money in local businesses and bringing international connection or exposure to the community. Moreover, one key informant expressed that they believed immigrants' settlement in the rural area adds to the richness of the culture, including the menus and architecture in restaurants or the community at large.

In contrast, four key informants responded that employment hubs and infrastructure tend to be sparser in rural environments and as a result the labour market is not so lucrative. Small towns and rural areas do not have the same range of diversity in terms of businesses or employment opportunities reflected in their built form and design, unlike the big cities where there might be range of infrastructure and opportunities that might fit with the skill-sets or experience of immigrants:

> The labour market is a lot smaller. If they're in the city, there are a lot more employers to choose from so maybe they can find a niche for themselves" (Program Coordinator, Government of Manitoba, Immigration & Economic Opportunities).

> "The benefit for settling in a larger city (Toronto, Montreal, Vancouver) – there's a range of job opportunities that are available for newcomers that have a range of qualifications or skills or experiences that newcomers can sort of fit into – rural areas or small towns don't have that same diversity in terms of jobs or employment opportunities. There may be limited opportunity or no opportunity with finding employment there. So, that's a big challenge" (Professor & Researcher, School of Geography & Earth Sciences, McMaster University).

4.2 Policy and planning to support healthy inclusive rural built environments and immigrant settlement

As part of the key informant interviews, experts on rural planning and/or immigrant rural settlement were asked about what needs to be in place to ensure rural built environments are healthy and inclusive for all residents, including incoming immigrant populations. Housing, schools, and culturally appropriate health care facilities were all cited as essential elements of the built environment that need to be considered from a diversity planning perspective along with how to support the ability of immigrants to access their ethnic food, transportation, religious or spiritual needs which are often missing or inadequate in small, rural, predominantly white communities. This is important according to one of the service providers to retaining immigrants who have settled in the community.

One local service provider spoke about adaptive planning strategies that the community is considering as a means of improving transportation, particularly due to the fact that it continues to be financially prohibitive to implement a more robust public transit system:

> "We are looking at Uber. We are also looking at having five hubs or stations that transportation will go" (Program Coordinator, LINC, CCS).

It was suggested that developing service hubs or clusters is not only good from a walkability or convenience perspective for residents, but it increases efficiency and therefore the likely sustainability of programs like CCS or Trans Help shuttle services that local agencies are currently providing to help fill existing transportation gaps and lack of infrastructural capacity.

It was also recommended that there should be designated bicycle lanes in Caledon because there is no bicycle lane presently, and this might be very dangerous for bicycle riders.

The need for funding and supportive policy for improving transportation was also underscored:

> "I think we need policy that is supportive, I think we need funding. I don't think rural communities are always funded in the manner that they should be in comparison to urban communities. Often, they're neglected… We certainly put a lot of emphasis on transportation in the GTA, but no one in rural communities" (Health Educator, Chatham Kent Public Health Unit).

Another key informant who works as a Diversity Policy Analyst for Newcomers in Caledon rental units is:

> " In order for someone to relocate they need houses and good transportation, and I have been to the community about these discussions, and the communities they are not for

> having public transit. They are not for newcomer families because it will devalue their properties. …" (Diversity Policy Analyst for Newcomers, Caledon).

One of the service providers argued that it is hard to really say what kind of planning policies will be effective for each rural community, stating this is likely to differ from place to place and depend on the unique needs of different ethnocultural groups:

> "It's kind of different. From place to place, because a lot of rural areas kind of have to do the pilot project type of thing and come up with ways to do things outside of the box. It's kind of hard to say what kind of policies specifically, for rural areas, because it's different from place to place" (LIP Coordinator, Smiths Falls).

A few senior planners were able to provide insight into some of the challenges that are arising that underscore the need for strengthening inclusion and diversity in planning for healthy built environments, including what this means or looks like:

> "We are getting requests now for the ability to build more temples. In sort of our agricultural areas where you need like a large piece of property for parking and associated kinds of uses, and they are just not permitted under our prime agricultural requirements in the province. Institutionally they are not permitted in prime agricultural lands. And they'll ask why is this case? Because you know it doesn't seem right when you have … churches in agricultural lands in the community. So, trying to explain that to you know a group that sees these large areas of land and they are like oh… we don't understand why. That doesn't make any sense" (Manager of Policy and Sustainability, Town of Caledon).

> "We would like to expand the Town's Official Plan, institutional land use planning policy that would allow for flexibility and range of uses. I find providing community services at the community level requires more support in order to serve the various community stakeholders. I find the program delivery is being stretched because of limited resources." (Municipal Planner, Town of Caledon).

These same respondents acknowledged that there is a need to strengthen engagement and relationships between the local government, leading service agencies and newcomers so that perceived prejudices are addressed, and miscommunications or misunderstandings are minimized. Evolving needs and potentially clashing uses of parks and green spaces was cited as another example politics around land-use that are emerging where more community engagement and consultation is needed in ways that are inclusive of new immigrant populations.

Another key informant spoke about the need for inclusive deliberation in the context of considering trade-offs related to employment creation and land-use decision-making:

> "In rural communities, there can be – you want a good planning outcome in terms of land use, but you also want to make sure that there are opportunities from an employment

> perspective. That can lead to some, uh, tension but also complementarity between planning and community economic development." (Professor & Researcher, University of Guelph).

Senior planners also talked about how their Official Plan is currently under review, and new considerations that have to be made as their rural community grows and becomes more diverse:

> "We are looking at our long-range plans and primarily focusing on the interpretation and development of the Official Plan itself and the components related to that official plan. So, providing interpretations of our old policy, developing new policies, staying current… We are launching our next twenty-year review, which is our Official Plan 2041 plan… In terms of what we are planning for this is usually getting down to us from the province. They kind of gave us direction that you know growth until 2041, but that can change too, you know depending on the direction the current government wants to go" (Manager of Policy & Sustainability, Town of Caledon).

According to a Diversity Policy Analyst, planning for diversity and immigrant inclusion effectively requires holding conferences and educational outreach events with newcomers, employers and settlement agencies to share knowledge with newcomers about the attributes of the rural community and obtain firsthand information from them about their lived experiences and needs (Diversity Policy Analyst for Newcomers, Caledon). Also, one municipal planner commented on how immigrant settlement is beneficial to rural environments because it is bringing about more diverse inputs of opinions and exchange of ideas in decision-making. Another key informant who was a Director of Planning had similar sentiments stressing the importance of having face to face discussions and interactions with immigrants in order to gain a better understanding of their needs and challenges and what they need to stay in the community (Director of Planning, Grey County). A manager of the English language program stated:

> "What would be even better is if when they know people are immigrating, especially with refugees, because the government has more control over that…that they do an information session when they get here" (Program Coordinator, LINC, CCS).

A number of key informants suggested that more bridging programs between immigrants and non-immigrants was needed to integrate the newcomers into the community and local systems of governance and decision-making. During focus groups and key informant interviews, participants were asked about immigrant inclusion and/or participation in community meetings or public consultations with the government or other key organizations in the city. Only one focus group participant had been to a public meeting or consultation before, and this was a program she attended through her grandchildren's school. All the other participants said they have not

participated in any political activity or public debate but would be willing to do so if given the opportunity.

The CEO of Caledon Community Services responded that diversity is not adequately reflected in the leadership structure of the community, which can pose many disadvantages.

> "Not as extensively in Caledon as non-newcomer residents. In my experience, they don't feel as welcomed to share their opinion and they also have a variety of other stressors in their lives that won't allow them to participate, because of so many other more important needs that they have to address… I think it is a combination of being given a seat at the table in a very warm and welcoming way…. I don't think that happens enough in our community. I don't see community leadership stepping up in that way and being intentional in their request of diverse communities to participate. I see more examples of tokenism that is symbolic…and then nothing that was what people said." (CEO, CCS).

This respondent and a number of other key informants indicated that there remains limited guidance from the province when it comes to best practices in diversity planning, with little prescriptive guidance in any provincial documents.

> "I think that in our organization we have not found yet the right way to bring aboard a diverse community and get them to invest in generic broad community services as donors, and we are wanting to find ways to bring them into our organization and we haven't figured that out yet. So, I suspect that that is probably a challenge that council experiences as well. How can we bring in those in the business community to order to belong to the initiatives of ours and you know I would say that if we want them to invest in us, we need to show that we are investing in them" (CEO, CCS).

Immigrant participants were asked about whether they experienced discrimination in their rural community, and no one reported having ever experienced such an occurrence. Many commented on how their neighbours were friendly, or how they felt welcomed and generally had positive experiences, with one even stating that the community is like a family. Only one of the members of the focus groups stated that she had heard about an incident of discrimination but thought it might be an isolated case. Nevertheless, this relatively inclusive informal social behaviour did not appear to translate into more inclusive citizen engagement or participatory planning.

It is possible that language may pose a key barrier. Eight key informants reported that language and cultural differences can impact how immigrants interact within the broader governance system and create barriers to social inclusion and social networking. This system includes decisions related to their access to culturally appropriate amenities, healthcare facilities, community infrastructure or social services.

Many service providers commented on the importance of making information available in different languages, and the settlement support which is currently offered for three years to newcomers should be extended so that the needs of some sub-groups can be met. This is essential because some of the immigrants especially women might not be able to access language programs within the first three years because of other pressing issues.

Further, in contrast to our sample of immigrant participants, key informants had more concerns about discrimination continuing to pose barrier to diversity planning and inclusive environmental decision-making:

> "I think there's a number of challenges that can occur – all the way from, uh, comfort and I mean that in a social and cultural sense, perhaps, even a religious sense, religion might be an issue. And unfortunately, there can be issues of prejudice and racism. As much as we might hope that they don't exist, uh, they do and they can exist. It can sometimes be overt, and in some instances, it can be unintentional… And as much as these communities try to deal with that in a really positive way, it still can be an issue" (Professor & Researcher, University of Guelph).
>
> "I also know that for some communities it's a challenge because they don't have people from other cultures in their lives for a while. They're not comfortable with groups that don't speak the same language as them, or are dressing differently, or acting differently. It can cause some discrimination or racism that can happen because people aren't used to it, or aware, or educated about it" (Program Coordinator, Government of Manitoba, Immigration & Economic Opportunities).
>
> "But you know people still turn their head as they see a person of color walk the street, because you really are the minority if you are a person of color in Caledon" (CEO, CCS).

An Economic Development Officer spoke about how the community in general might not recognize all the tremendous advantages that newcomers bring, particularly to rural economies. For example, he explained how employers and business owners may not fully appreciate how educated and experienced some immigrants are. He suggested that local employers could benefit from greater orientation on or exposure to how the experience, skills and expertise of immigrants might benefit their work places.

Chapter 5: Discussion

The objective of this study is to analyze how changing immigrant settlement patterns into more rural environments impacts service access and social determinants of health for immigrants in the Town of Caledon. This chapter briefly reiterates key findings and considers the novel knowledge contributions to theory and practice.

It is noteworthy that when social determinants of health frameworks or related scholarship has begun to acknowledge the importance of environmental factors, they tend to focus on exposure to chemical toxins or pollutants (e.g., Rural Health Information Hub, 2002-2018; Hsieh et al., 2016; Ceballos et al., 2016; McKernan et al., 2008; Panikkar et al., 2014), with less attention on built environmental factors or infrastructure. This is largely true with respect to immigrant populations. For example, migrant workers in rural settings are recognized as particularly vulnerable because they often engaged in dirty, hazardous, and demeaning jobs (Quandt et al., 2013). In Canada, immigrants working in agricultural industries experience high rates of occupational injuries and fatalities (Preibisch & Otero, 2014). Migrant workers tend to be employed in jobs that carry increased exposure to environmental toxins, including extreme temperatures, pesticides, and chemicals, and this can be detrimental to their health and well-being (Quandt et al., 2013). For example, immigrants employed as housekeepers, drycleaners, and construction workers are exposed to various chemicals; all these could lead to negative health outcomes. (Hsieh et al., 2016; Hsieh et al., 2013; Ceballos et al., 2016; Jo & Kim, 2001; McKernan et al., 2008; Panikkar et al., 2014). Yet, my current study explores the role of built environment in mediating other known determinants of health (e.g. housing, income/employment, social inclusion, health-care access, etc.) through qualitative explorations of immigrants lived experiences in these contexts.

This study is one of the first to integrate healthy built environments frameworks (see Figures 1, 2.2) with social determinants of health frameworks (see Figures 2.3, 2.4), and findings indicate that this contributes a more comprehensive understanding of the effects of changing immigrant settlement patterns into rural environments on immigrant health and well-being. Food system infrastructure; housing and rental stock; inclusive greenspaces are all factors that are important to the health and well being of immigrants in Caledon. The major challenge faced in terms of built form is inadequate public transit, which could have impacts on their mental and

physical health. Further this study flags the importance of culturally appropriate religious and spiritual built amenities and services, something that is overlooked in healthy built environment research, underscoring the importance of an equity, diversity and inclusion lens (Zupancic & Westmacott, 2016).

From the research findings, it is noticeable that immigrants' preference for rural agricultural lifestyles could be due to their desire to maintain similar life patterns to that which they were familiar with before migrating to Canada. For example, a growing number of South Asian populations are acquiring lands in Caledon that they are utilizing for agriculture, or to grow food for household consumption. Finding also suggested that many immigrants appreciate the peacefulness of the rural environment and believe that this has been positive to their health.

Given the link between rural background, cultivation of crops, and access to healthy foods for some immigrants, food systems and accessibility is a crucial aspect of the built environment that shapes their well-being within rural contexts. Findings suggest that fresh, organic foods as well as some ethnic foods are available to immigrants in Caledon with other ethnic food having to be sourced from outside in more urban environments. Access to ethnic foods has been shown to have positive impacts on the health of immigrants with some reporting that immigrants' traditional diets are healthier than the usual Canadian diet (Sanou et al., 2014). Within our sample, some were established immigrant communities where availability of ethnic food has slowly become more abundant and consumed by other Canadians (e.g. Italian, Thai). This may not be the same for more recent immigrants coming from other ethno-cultural backgrounds. Community gardens and/or food shares between immigrant residents that are growing their own food may be an effective way for promoting greater social interaction and inclusion within rural environments. Frank and Engelke (2001) and Kent and Thompson (2014) have argued that neighbourhoods with improved access to healthy foods have higher well-being. Given the abundance of greenspace in Caledon, the need for promoting greater inclusion within existing greenspaces, and the increasing propensity in rural planning to situate amenities in clustered hubs, ethnic community gardens may be an ideal strategy for improving the rural built environment in a way that will promote immigrant health and well-being.

The results were in line with existing healthy built environment literature that attests to the importance of housing stock (Jackson & Sinclair, 2012; King et al., 2000; Runic et al., 2001 as

cited in Elias, 2009). Housing is more expensive in the cities, but relatively affordable in the rural areas. Housing in Caledon was described as relatively cheaper, and bigger with respect to overall space. These attributes were deemed as favourable to immigrant communities, particularly given many reside with their extended, intergenerational families. Findings concur with other reports that housing affordability is a tool for making a community more liveable (Allison & Peters, 2011), and the mode of design of a building has important implications for the health and well-being of individuals (Provincial Health Services Authority, 2014). Nevertheless, while owners may be relatively happy in rural environments, the study showed that gaining access to rental properties can be a real challenge for rural immigrants due to paucity of apartment buildings in Caledon. This reality of the current built environment could lead to physical and mental stress for immigrant residents given indications by previous studies on the effects of inadequate housing (Sharfstein et al., 2001; Bashir, 2002). This study provides further evidence to the importance of affordable and available housing, particularly rental units in rural environments for immigrants. The federal and provincial governments in May 04, 2018 made a pronouncement to invest over $44 million to create 298 more affordable housing and rental units across the Region of Peel through the Canada-Ontario Investment in Affordable Housing (IAH) agreement. This project is part of Ontario's plan to support care, create opportunity and make life more affordable for Peel residents (MMAH, 2018). There is a limitation in this agreement because it excluded consultation with immigrant populations in ensuring the housing stock is suitable for their needs, thus, it is recommended that immigrants should be considered within this government initiative in order to promote the socio-economic well-being of the entire residents of the Peel Region.

Transportation as a crucial aspect of built environment was the most prevalent issue in Caledon. Findings reveal that most participants in the study identified lack of adequate public transit as the major challenge for immigrants in Caledon. Also, there is no well connected internal public transit in Caledon, even, the available transit services that connect Caledon to other parts of the GTA are not meeting the needs of the residents. It is worth noting that the GO transit route that connects the Town of Caledon with other communities in the GTA was recently cancelled in June 2019 by Metrolinx, the provincial government agency responsible for regional transportation. This prompted numerous complaints from commuters and management officials from the Town of Caledon, which compelled Metrolinx to restore the route until January 2020 in anticipation of the Town of Caledon’s final plans for a similar service (Cyprien, 2019). Transit is crucial to the

residents of Caledon, and the cancellation of GO commuter routes would deprive them of this vital means of transportation, and potentially aggravate the transportation problems identified in this study. Thus, proper implementation of bus transit projects and efficient transportation management are required to help alleviate the challenges associated with transit in Caledon.

It is also evident that attempts are being made to overcome lack of demand for full transit infrastructure investment (e.g. use of Uber, use of CCS shuttle services) in Caledon. The Caledon municipal government is exploring some of these alternatives and other options as part of their recently completed Caledon Transit Feasibility Study and in an effort to improve transportation choice and community access in rural environments (Town of Caledon, 2019).

There is a need for greater infrastructure that will help enable walking and cycling particularly given strong existing evidence that walking to and from transit and cycling provide options for exercise which is good for well-being (Lindsay et al., 2011; Saelens et al., 2014).

Accessible transportation in rural environments, is likely particularly important to immigrant populations, given transit challenges may prevent immigrants from having meaningful social engagement leading to social isolation and exclusion with subsequent impacts on their physical health. These findings corroborate Farber et al's study (2018) on Syrian newcomers in the urban and rural areas of the Durham Region Ontario, which stated that lack of transportation could contribute to social exclusion, and create barriers to accessing opportunities, and this can affect the overall well-being by limiting newcomers' ability to participate in recreational activities. The current study therefore is one of the only studies that has examined transit infrastructure and impacts on newcomers.

Our findings from a rural case study align with other studies that have emphasized the importance of the geographic context of transportation, as this enables or constrains access to opportunities through the spatial arrangement of activities; the design, efficiency, and availability of the transportation infrastructure; and personal availability of transportation (Hanson, 1995; Hanson, 1998; Couclelis, 2000). For example, in our study, transit problems prevented some newcomers from being able to obtain or hold a job, and it prompted others to move out of the community when they did obtain a good job. This can be a challenge for immigrant retention in Canada.

G*reenspace* was reported as another environmental factor that could improve the well being of people living in Caledon; and it is one of the most attractive features of settling in that community. Also, the study disclosed that immigrants were happy with green space in the community, because it enables them proximity to nature. This is in line with the general literature on green space and health, which demonstrates that greenspaces serve as catalytic agents to healthy lifestyles (Bell et al., 2008). Khan and Labute (2015) found that closeness to nature amongst immigrant populations contributed to their well-being and desire to stay in a rural area in Ontario.

Moreover, the *parks and recreation centres* were identified as sites that attract immigrants to reside in Caledon. Immigrant participants also stated that access to parks and recreation improved their quality of life and well-being. This result is comparable with research findings by Forsyth and Musacchio (2005) who stated that parks can help people feel nature and interact with other persons; and access to parks promote public health, reduce stress, and stimulate mental restoration (Konijnendijk, et al., 2013; Nordh et al., 2009). Discussions with the recreational managers and other policy and planning leaders in the community indicated that conflict can sometimes occur in the community park when larger groups of immigrants, particularly men attempted to use the greenspace for social or religious activities, sometimes xenophobia was the result, along with cultural misunderstandings. There is need for modifying built greenspace and park environments in ways that cater to a diversity of needs, while also providing education and outreach so that residents can understand one another better. This is important because previous research has found that if recreational facilities are not accessible, physical activity levels are lower, and it is much more difficult to be active (Parks et al., 2003; Walia & Leipert, 2012; Kirby et al., 2007; Aronson & Oman, 2004). Our findings outline the importance of greenspace, parkland and recreational facilities as key elements of the built environment that shape immigrant health and well-being. There is a need for greater attention to the ways in which prejudice, stereotypes and exclusion can play out in these spaces, and how diverse immigrant populations can help shape their development or features.

The second aspect of this discussion reflects on the presence (or absence) of built form that provides culturally appropriate services and/or religious amenities. Some social services are available in the rural community of Caledon, and the services are increasingly located in a hub or "one stop place" where newcomers and other members of the community can get access

simultaneously to many of the services they need (e.g. English language support, the Public Library, Early Years Centres for kids, etc.). The above-mentioned services have been identified by immigrant populations as important features that should be integrated into new built developments in the form of service hub planning in rural communities to help facilitate the support of health, diversity and inclusion. However, when it came to health care services it was ascertained that few services cater to the needs of immigrants, and not all these services operate on daily basis. In the case of urgent or specialist health care needs, immigrants (like many other rural residents) go to nearby urban centres (e.g. Orangeville, Brampton or Mississauga) to access those services. The growth of immigrant populations in rural communities may put pressure on limited health care services and infrastructure in rural areas**.** This study's results concur with findings from various scholars which affirm that rural residents have poorer access to both primary and specialized healthcare services (Crooks & Schuurman, 2012; Curtis & McMinn, 2008; Harrington et al., 2013; Karunanayake et al., 2015; Khan & Labute, 2015). This finding corresponds with Walton-Roberts's study of immigrants living in the rural town of Squamish, British Columbia in Canada (2005) which discovered that overstretched healthcare infrastructure created accessibility issues for immigrants. Likewise, immigrants do not have access to enough culturally appropriate mental health care services in the rural communities, which aligns with previous studies (e.g. Sethi, 2013). This may be particularly problematic for immigrant populations who may need these services to help cope with challenges and issues related to their pre-migratory and post-migratory experiences.

Furthermore, some immigrants have become a member of existing *churches or places of worship* in Caledon, while others tend to go outside Caledon to practice their religion due to an absence of ethnoculturally specific built religious facilities in the locality. Immigration research that considers issues of religion is emerging in Canada (Bramadat & Biles, 2005; Conner, 2009; Koenig, 2005). Regarding healthy built environment and the importance of religious and spiritual buildings/infrastructure, this study infers that the sites of worship foster social networks, connections and capital between immigrants and other Canadians which helps to improve the overall well-being of the immigrant populations. Others have similarly documented the importance of faith communities in facilitating social networks (Ley, 2008). Built religious amenities facilitate opportunity for improved social interactions, which can help facilitate immigrant inclusion in a way that promotes their well-being (Kelly et al., 2000). Christian churches for example have been

found to offer social and spiritual programs for immigrants (Ley, 2008) and can serve as venues for improving their physical, emotional, intellectual, and social status (Huang, 2008). Such sites can also house community development programs for immigrants (Gonzalev y Perez, 1999). Within the built environment literature more generally, little to no attention has been given to the importance of religious or spiritual facilities, and or buildings that provide culturally appropriate services. Through exploring the built environment from the perspective of immigrant and newcomer populations, this study helps to forward scholarship on the importance of considering diversity, equity and inclusion in healthy built environment research (Zupancic & Westmacott, 2016).

The findings also reinforced the importance of rural built environments for *employment* opportunities for immigrants in the study area. *Employment* is the reason why some immigrants prefer to reside in rural settlements like Caledon. This rural location is easier for immigrants to get jobs in processing plants and factories, and this can help them in paying their bills until they get more lucrative jobs that can commensurate with their qualifications. At the same time some research participants expressed that the labour market is not so lucrative in rural areas, and there is no diversity in terms of jobs or employment opportunities available in contrast to big cities. Further, regulations were identified as obstacles to immigrants to start their own businesses. Research results substantiate similar studies that reveal that immigrants are treated as a secondary labour force (Hakim, 1982), and they have difficulties to acquire better jobs or full employments (Canadian Task Force on Mental Health Issues, 1988; Gastaldo et al., 2005).

Planning can help provide access to services, facilities, and programs that have a significant impact on individual and community health in rural communities (The American Planning Association, 2017). In order to improve the overall well-being of the newcomers, adequate knowledge of healthy public policy should be incorporated in planning rural settlements. Further, the involvement of different stakeholders (e.g., newcomer settlement agencies, Immigration, Refugees and Citizenship Canada (IRCC), local private sector) are required for meaningful healthy rural planning. Immigrant participation in public consultations, planning and decision-making was found to be limited. However, our sample indicated many immigrants are eager to become more involved if given the opportunity and proper supports. Participation of immigrants in community meetings and public consultation is therefore important in the planning of an inclusive and healthy

rural environment. According to Burr (2011), most Local Immigration Partnerships (LIPs) in Ontario have a community consultation mechanism which seeks the involvement of newcomers in rural settlement planning. This might involve providing information about available services in the community, or programs to improve health literacy among immigrant communities concerning primary healthcare. Related to this research findings, Bradford and Andrew (2010) reported that the LIPs in Ontario have adopted quite a lot of effective practices such as empowerment, positive communication strategies, and social learning/information sharing for community-level planning. These resources should be further adopted within Caledon.

There should be a focus on incorporating more culturally appropriate and preventive health care services into rural settlement planning. Yet this must be done in ways that are suitable for each unique community as needs and context differ from place to place. The onus is on policymakers to design policies that aligns with rural community needs of immigrants. Thus, "policy interventions must increasingly work from the ground up to generate solutions rooted in the particular concerns of local communities, attuned to the specific needs and capacities of residents" (Bradford, 2009 p.14). Further, the rural communities are not always funded like urban areas, thus, supportive policy and funding are needed to carry out meaningful programs for immigrants.

Regarding *discrimination* and healthy inclusive rural communities, some scholars believe that discrimination could be a problem for rural immigrant residents because existing rural residents are not as exposed to diversity or people from different parts of the world. This concurs with the report of the Mental Health Commission of Canada (2016) that discriminations are known settlement challenges for immigrants and may be worsened in rural environments. However, our sample of immigrant residents reported that they had not been an object of discrimination or been treated unfairly by others in Caledon in their day to day lives and social interactions. The community is friendly and pleasant, and the immigrants have good relationships with their neighbours, and felt they belong to the community. However, when it comes to being visible leaders, influential citizens, engaged in consultation and decision-making, etc. that is where systemic discrimination or exclusion persists. The next step therefore is to have more immigrants in positions of influence and leadership, so they have greater influence in their living environments.

Chapter 6: Summary of conclusions

This chapter consist of three sections: the limitation of the study and areas for further research; recommendations; and conclusion.

6.1 Limitations of the study and areas of further research

It is important to mention the various limitations to this research and areas for further research. Interviews and focus groups rely on voluntary information; they are therefore subject to individual interpretations and potential sources of bias or misinformation. The findings from focus groups are difficult to generalize because they cannot be regarded as representative of the larger population (Robinson, 1999).

Some of the challenges experienced during this study centered on recruitment of rural immigrant residents for focus groups and in-depth interviews. For example, attempts were made to recruit additional participants through nine ethno-specific agencies in the Region of Peel that engaged with Tibetan, Afghan, African, Indian and/or multi-cultural immigrant populations. Unfortunately, repeated attempts at recruitment through these avenues failed to generate any response. To overcome some of these recruitment challenges, a partnership was formed with the Newcomer Centre of Peel and Caledon Community Services who assisted with recruitment as they have existing relationships with our target population and established trust. This resulted in two successful focus groups and fourteen follow up interviews with rural immigrant residents. While this yielded useful insights, the sample is not representative of all immigrants living in the rural Town of Caledon. The staff and executive directors were also able to put us into contact with other key stakeholders who ended up being important key informant interviewees. Moreover, we were ideally going to have greater numbers/representation based on varying lengths of residency, yet this was challenging to recruit and control for.

Further research should seek to develop strategies for more representative samples and explore how perceptions and experiences of the built environment may change over time for immigrants since time of settlement. Further increased sample sizes and/or comparative analyses across rural study sites would enable greater exploration into how variables such as gender, ethno-cultural background, etc. may further shape experiences of rural built environments and implications for health and well-being. As well, further research could explore how rural built

environments (specifically transportation) and social determinants of health have impacts on the health of the residents of Caledon.

It is also worth noting that Caledon has unique contextual factors that limit the ability to generalize findings to other rural contexts. For example, unlike many rural communities, Caledon is within close proximity to Toronto, a major urban centre that is ethno-culturally diverse and home to many employment opportunities. Further, Caledon is a relatively affluent community in comparison to many other rural communities. Given these factors, there remains need for greater comparative analysis across diverse rural contexts (in addition to further examining differences within and between different immigrant sub-populations).

6.2 Policy recommendations

Policy recommendations regarding healthy inclusive rural built environments and immigrant settlement are itemised in this section. Various suggestions emanate from the study on ways of improving immigrant's health through planning in Caledon. First, the lived experiences of immigrants will need to be better considered and incorporated into the design of built environments and associated services for the immigrants. This is timely to consider given the community is currently undergoing the review of their Official Plan. Planners should partner with local community and settlement service providers who already have trust and relationships with newcomer populations as a means of further engaging immigrants in policy and decision-making. Findings from this study should help inform provincial and municipal planning initiatives aimed at supporting diverse and inclusive community building (Ministry of Citizenship and Immigration, 2018) in addition to healthy built environment planners who seek to better understanding how their initiatives are impacting diverse populations so their decisions can generate more equitable impacts (Ontario Public Health Association, 2013). Also, effective collaborations between all levels of governments in Canada is required for the well-being of immigrants. Burr (2011) reported that LIPs support locally based collaboration among various stakeholders (including federal, provincial, and municipal governments), and it enables communities to develop strategic plans to address the opportunities and challenges associated with fostering inclusive and responsive environments. The eventual aim of the collaboration is to include immigrant settlement and integration into the broader community planning process (Burr, 2011).

Proper planning and provision of adequate resources should be put in place before attracting immigrants into rural communities. Improved bridging programs are necessary to properly integrate the newcomers into the system. The Rural Communities Impacting Policy project found people living in rural communities are often excluded from policy decisions (Dukeshire & Thurlow, 2002; Langille et al., 2008). The current study also highlights the need for programs that will help reduce social exclusion of immigrants within positions of leadership and influence.

Other suggestions for improved building heathy community for immigrants in Caledon are; recruitment of additional primary care physicians, better housing programs, planning of bicycle lanes, new roads and efficient public transit. City or town planners have a specific responsibility to support the welfare of all residents including immigrants by supporting investments that enable and encourage active lifestyles and other healthful practices (The American Planning Association, 2017).

6.3 Conclusion

The province of Ontario has recognised the relationship between the built environment and healthy communities with incorporation of the built environment into the Ontario Public Health Standards (OPHS) policies (Coghill et al., 2015). This current research utilized a descriptive qualitative approach to explore changing settlement patterns into rural built environments and impacts on social and environmental determinants of health for immigrants in Caledon, the Peel Region, Ontario.

Moreover, it is noteworthy that this study begins to connect lived experiences of immigrants living in rural places (e.g. Town of Caledon) with that of experts who identify as having expertise on rural health and planning and/or immigrant settlement.

The findings from this research help to clarify the role of rural healthy built environment and social determinants of health for immigrant populations for city planners, environmental professionals and policymakers. Commitment and cooperation from various stakeholders are required to enhance the health and well-being of newcomers in rural environments in Canada.

Appendices

Appendix 1: Focus group questions

Research objectives	What are the perceived health impacts of rural settlement patterns of immigrants in the Region of Peel Ontario? 1. Identify the anticipated and actual settlement circumstances for short-term (less than three years), mid-term (3-ten years) and long-term immigrants (more than ten years); 2. Identify the facilitators and barriers to accessing social determinants of health (SDOH) in rural areas for immigrant populations; **emphasis on the role of built environment on shaping access to SDOH & social isolation/exclusion; 3. Examine the self-reported impacts on health for immigrants living in rural areas.	
Construct	**Question**	**Prompt/Probe**
Deciding on rural settlement	-Why/How did you decide to move to Caledon/Bolton?	-What factors influenced your move? (housing, employment, landscapes) -Did you plan to live in a rural area/small town after migrating to Canada?
	-How did you first find out about Caledon/Bolton?	-Settlement agency, friends, website.
	What is your favourite aspect of this community?	-Geographic location (quiet, nature, distance from urban, proximity to highways, affordability)
	What aspect of living here is most challenging for you?	-Physical amenities (housing, transport, health care services, ethnic retailing, settlement services)
	How does this community compare to previous communities you have lived in? (Canada, abroad or 'back home')	-Social interaction (friendly, isolating, age/gender religious/ethnic, sexuality/ability diversity, opportunities for encounter)
Access to social determinants of health	*Employment* Are there adequate employment opportunities in this community?	-What types of employment would you like to see more/less of?
	Housing Was it easy or difficult to find a home here?	-Why is that?
	Transportation Is it easy or difficult to get around the area / to access services?	-What form of transportation do you typically use? -What form would you like to use? -What prevents you from using this more? -Is this a safe place to walk?

	Food Access Are you able to purchase culturally-appropriate food in your community? Would you like to grow your own food?	- Is this important to you to have this close to your home? What does close mean to you? (time/distance) -What would you grow if you could?
	Natural Environment/ greenspace Is it easy to access greenspaces / parks in your community?	-Where do you encounter green space/natural environment most often? -Do you travel to greenspace? How far/long? -Is green space access important to you? Has it always been important to you?
	Amenities Are there places to practice your religion here?	-Is it important to have this close to your home? What does close mean to you? (time/distance) -How far do you travel/would you be willing to travel to a place of worship?
	Are there adequate healthcare services here?	-Do you have a family doctor in the area? Do you have to travel for medical appointments? Specialist appointments? Emergency care?
	Is this a good community to raise a family in?	- What types of services are here for kids? Schools, sports, activities, parks? -What is missing?
	Are there adequate settlement services here?	-Language, employment, migration/citizenship services? -What is missing? -What would you add?
	Social inclusion Would you describe this as a welcoming community?	-Why is that? Examples? -Can you tell me about a positive experience you have had living here? Negative experience? -What would make it more welcoming?
	Are there public spaces in your community where you can get to know other community members?	-Where is that (e.g. libraries, community centres, people's homes, parks, local shops, etc.)? Do you make use of these public spaces? Is

	Where do you go to socialize or spend time with friends or family? Is it important for you to connect with other people of the same cultural background? Different cultural background?	this within your community? Do you travel to meet new people or visit friends? Are there any factors that prevent you from having the social life or social contacts that you would like? -Where do you meet people of the same background? Different background? -Can you do this within this community, or do you need to go elsewhere?
Health	Do you think living in this community influences your health, happiness and well-being? What parts of the community are good for your health? What parts of the community are negative for health? Is this a good place for young and older people?	-How so? e.g. ability to access services, socialize, get around, stay physically active, feel a sense of belonging, etc.
Retention	Does this community meet all your needs as a newcomer to Canada? For how long do you plan to stay here? Is there anything else you would like to add?	-What would you add/change? -What would make you stay longer?

Appendix 2: Questions for in-depth interviews

Migration history and settlement

1. How long have you lived in Canada?
    a. Where did you move from? (birthplace and last country)
2. Why did you want to move to Canada?
    a. Ontario?
    b. Caledon?
        i. Geographic location (quiet, nature, distance from urban, proximity to highways)
        ii. Physical amenities (housing, transport, health care services, ethnic retailing, settlement services).
        iii. Social interaction (friendly, isolating, age/gender/religious/ethnic, sexuality/ability diversity, opportunities for encounter)
        iv. Economic (housing, employment)
3. Can you tell me about your first month in Canada?
    a. What did you do when you first arrived?
    b. How did you know where to go?
    c. What were your priorities?
    d. What resources/services did you use?
4. Can you tell me about how you arrived here in Caledon?
    a. Where did you live before?
    b. How did you find out about this community?
    c. When did you find housing?
        i. What do you like or dislike about your housing in Caledon (e.g. conditions of the home, indoor and outdoor space, safety, proximity to amenities).

Health

5. How would you describe ‘good health’?
    a. Physical vs mental aspects.
6. How has your health been since migrating to the community of Caledon?
    a. Improved, worsened, stayed the same.
7. Compared to others your age, how would you rate your health? (Poor, fair, good, excellent) Why is that?

8. What factors in your community help you stay healthy?

a. Lifestyle vs. environment.

b. Physical vs. mental health supports (e.g. recreational/fitness opportunities, greenspace, service providers, access to doctors).

c. Spiritual/social health.

d. Unique for women/men? For age group? For people from ___ country? For other immigrants?

9. Are there any factors in your community that are bad for your health and well-being?

a. Do you have any safety concerns based on how this community is designed? Is it safe for your children to go out and play? Is it safe to walk/bike/drive around? Is it safe at night?

10. What was the most stressful part of moving to Caledon/Bolton?

a. Employment (have you been able to find a job in this community? How far do you have to travel for work? Is it the kind of job you want to be doing?

b. Are you able to get to where you would like to go easily? What is transportation like? Can you provide examples?

c. House, language acquisition, away from family, discrimination.

d. For your family members (spouse, kids)?

11. Would you describe the community you're living in as welcoming? Has it been easy or difficult to make friends? Have you ever felt discriminated or mistreated?

a. Do you think this impacts your health?

12. Do you feel like you belong in Caledon?

a. When did this feeling start?

b. When do you think it will start?

c. Have you ever participated in a community meeting or public consultation with the government to influence how decisions are made in this community? Would you ever? What prevents you?

Reflections on life in Canada

13. Are you satisfied with your current life here?

a. What would you change if you could change anything you wanted?

b. How long to plan to stay here?

14. Has your experience of moving to Canada or this community matched your expectations? Is it better or worse than you thought it would be?

a. Why or why not?

15. Would you recommend this community to other newcomers? Why or why not?
16. Anything else you would like to tell me about living here?

Appendix 3: Key informant interview questions

Note: Questions to be asked only if relevant to area of expertise.

We are interested in better understanding the challenges and benefits of immigrant settlement into rural areas including the communities of Caledon/Bolton as it relates to impacts upon overall health and well-being. I am going to ask you questions about this topic and then some more detailed questions about what policies or practices you use in your job. Just as a reminder, I will be audio-recording this conversation. Is that okay with you?

Section 1: General expertise

1. How long have you been working at (organization name)?
    a. In the field of X?
2. Can you please describe what your role is?
3. What is a typical day like for you?

Section 2: Immigrant settlement patterns

4. Studies have shown that immigrants are increasingly settling into smaller cities and rural areas instead of urban areas, why do you think that is?
    a. Is rural settlement beneficial for immigrants? How?
    b. Is this beneficial for communities?
        i. Probe: How so?
5. What do you think are the challenges with immigrants moving into rural communities?
    a. For immigrants?
    b. For settlement agencies or policy-makers?
    c. For rural communities?
6. What plans or policies, if any, are needed to support newcomer settlement in rural areas?
7. Do you see this trend of increasing immigrant settlement in rural areas impacting your own work and/or the mandate of your organization?

Section 3: Healthy and inclusive rural communities

8. What does the term “healthy community” mean to you in your work?
    a. What are the characteristics of a healthy community? (What factors help support people to stay healthy). Do newcomers in your community have equitable access to these factors?

9. In your experience do immigrant newcomers participate in community meetings or public consultations with the government or other key organizations in the city in an attempt to be informed or influence how decisions are made in the community?

a. What are related barriers and opportunities?

Section 4: Immigrant health

1. What do you think are major health issues for immigrants in Canada?

a. Stress, CVD, diabetes, injury.

2. What factors do you think have an impact on the mental and physical health of a newcomer in Canada?

a. Probe: stress, employment, discrimination, access to housing, language?

b. Probe: You said [ ], can you provide more information about that?

3. Do you think location plays a role in the health of immigrants?

a. Housing, neighbourhood, proximity to amenities (e.g. Physical/mental health care services, recreation, greenspace, social/spiritual spaces, transit, etc.

4. What difference, if any, does urban vs rural location make?

a. Housing, transport, access to amenities?

5. What have you heard from newcomers about health and well-being in rural communities or anything related to this matter?

a. Probe: Do you know of how newcomers overcome these challenges?

6. What could improve the health and wellbeing of newcomers who settle in rural Canada or in this community specifically?

a. Probe: You said [ ], can you tell me more about that?

7. What would be helpful to planning for a healthy and inclusive community in this area?

a. Information, policies, new practices, more resources.

Section 5: General questions

1. Are there any documents or policies that you guide your practice in _____? (government guides, professional guides)

a. Do any of these speak to immigrant settlement? Healthy rural communities? Immigrant health?

2. What do you think are the major health impacts of rural settlement of immigrants in Canada?

a. What information would be helpful to assess that?

b. Is this a consideration in your line of work? Do you think it will be a consideration in your work?

3. Are there any other related issues that you seeing being especially relevant to your area of work?

4. Thank you for your time. Is there anything else you would like to add before we end this interview?

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