Exploring sexually transmitted infection prevention and transmission among Canadian international retirement migrants wintering in Yuma, Arizona

by

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B.A., University of Havana, 2020

Thesis Submitted in Partial Fulfillment of the
Requirements for the Degree of
Master of Arts

in the
Department of Geography
Faculty of Environment

SIMON FRASER UNIVERSITY
Summer 2024

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Abstract

In a practice known as international retirement migration (IRM), tens of thousands of older Canadians – popularly known as ‘snowbirds’ – seasonally relocate to locations with better climate during the winter months. Despite the popularity of IRM among older Canadians, little is known about their sexual health in this transnational context. In this thesis, I present two qualitative analyses informed by a case study methodology that explore factors influencing sexual health outcomes for Canadian international retirees wintering in Yuma, Arizona – a popular destination for snowbirds where the local population is doubled during the winter months. The first analysis identifies three types of sexually transmitted infection risks associated with Canadians’ seasonal travels to the area. The second analysis examines opportunities and barriers to sexually transmitted infection prevention and sexual health promotion in Yuma. Overall, both analyses underscore the need for destigmatizing sexual health interventions targeting mobile older populations, age-sensitive education for medical providers, and more efforts toward transnational care coordination.

Keywords: International Retirement Migrations; qualitative; sexually transmitted infection; United States; Canadian

Dedication

For Leo and Lola, always present, and baby Natasha.

Acknowledgements

I am eternally grateful to Valorie, who gave me the nourishment and guidance I needed throughout this journey. Thank you, John, working side by side with you really grounded me and helped me grow. And to the rest of the team, thank you for enriching my experience and sharing your knowledge; I am fortunate that I could count on all of you, Jeremy, Trudie, Benjamin, Leah, and Tyler.

I am indebted to my cousin Carol, who changed my life in more ways than she can imagine, and to Earendil; thank you for your unwavering support and advice, and also for all the memories and fun moments we create together!

To my family, especially to my mom, dad, and brother, so far away but always on my mind and heart; you are the reason why, you are my fuel and inspiration…

To my friends all over the world, Amanda, Angie, Alfredo, Bryan, Kely, Pedro, and Sury; I learn from each one of you every day. May our paths cross again soon.

Finally, to my husband, Mauri, my greatest solace and biggest prize; this journey didn't begin with you, but without you it wasn't complete. Las palabras no bastan para agradecerte por todo lo que tu corazón y tu luz han traído a mi vida…

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List of Acronyms

BBV	Blood-Borne Viruses
HIV	Human Immunodeficiency Virus
IRM	International Retirement Migration
RV	Recreational Vehicle
SFU	Simon Fraser University
STI	Sexually Transmitted Infection
US	United States

Chapter 1. Introduction

International retirement migration (IRM) refers to the movement of people nearing retirement age or thereafter who choose to relocate seasonally from regions with typically cold winters to places with warmer climates (Pickering, 2021). This migratory pattern has given these travellers the moniker ‘snowbirds’ (Coates et al., 2002; Longino et al., 2002). This phenomenon, also known as residential tourism (Huete et al., 2008), second-home tourism (Haldrup, 2009) or geronto-immigration (Rafael Durán Muñoz, 2012), can occur either temporarily or on a permanent basis (Pickering et al., 2020), involve second-home ownership (Betty & Cahill, 1998) or dual citizenship (Pynn, 1992). It is important to note that distinctions between seasonal, temporary, and permanent moves, as well as between ‘residential tourism’ and migration, or between ‘retirement’ and ‘return’ migrations, are often blurred (Warnes, 2009), making this mobility difficult to measure. My thesis research is focused on older Canadians who travel abroad for weeks or months of the winter as international retirement migrants to a particular destination in the United States (US).

Although population geographers have significantly advanced our understanding of international migration in the lives of older adults, there is still considerable potential for increased collaboration between geographers and gerontologists to better comprehend the role of residential mobility in older people’s lives (Warnes, 2009). For instance, little is known about the context of cross-border sexual health and behaviours of international retirement migrants, with only one study explicitly examining the frequency of sexually transmitted infection (STI) testing in the Canadian snowbird population (i.e., Mairs & Bullock, 2013). This is an important issue since high-income countries have seen an increase in overseas-acquired human immunodeficiency virus (HIV), other blood-borne viruses (BBV) and STIs (Crawford et al., 2016), which is compounded by the lack of interventions in sexual health promotion targeting older people (Ezhova et al., 2020).

A number of studies have shown a rise in the rates of STIs among older people (including those who are around the IRM life stage) (Jameson, 2020) – both globally (Ezhova et al., 2020; Fileborn et al., 2018; Minichiello et al., 2012) and within Canada (Fang et al., 2010). Furthermore, with several studies pointing out the link between travelling and STI transmission (Crawford et al., 2016; Vivancos et al., 2010), it seems plausible that migrating for the winter may increase the sexual health risks, and specifically

STI exposure and transmission risks, for Canadian snowbirds. Therefore, action is required to better understand the needs of these international seasonal retirees, particularly using approaches that are sensitive to their culture and context and do not reaffirm stigmas (Crawford et al., 2016). My thesis research, which is qualitative in nature and undertaken from a health geography disciplinary perspective, is focused on addressing this knowledge gap. I aim to improve the sexual health and wellbeing of Canadian snowbirds. This group represents a steadily growing segment of the population and is increasingly experiencing better physical and mental health (Freixas et al., 2012), which enables them to travel at more advanced ages.

1.1. Situating this research in health geography

> "Health geographers examine the relationship between people and their physical, social and symbolic environments. They focus on the distribution of and engagement with health, illness and a wide variety of resources for health, from the most intimate level of the body through to regional and global scales." (Skinner et al., 2017, p. 31)

My thesis research is informed by a health geography disciplinary perspective, with clear ties to geographical gerontology and the study of ageing and mobilities as well. Health geographers exploring aging have sought to understand the movements of older people as these interact with relevant services and supports, and to identify patterns of mobility and migration related to retirement age such as the movements of 'young old' people to leisure destinations (Skinner et al., 2017). Geographical gerontologists in particular have examined what mobilities such as IRM reveal about the dynamic nature of cultural values and identities as they are renegotiated within migratory/transnational contexts (Andrews et al., 2007). Therefore, the 'geographies of ageing' encompass a wide range of research within which there is a strong focus on ageing and migration (Skinner et al., 2015).

According to Warnes (2009), interest in the relationship between aging and mobility by gerontologists and geographers, among others, can be traced as far back as the 1940s. Since then, research has heavily explored the risks and factors associated with moving at an advanced age, whether to a care facility or a new location. During that same decade, IRM destinations popular among Canadians were strongly developed in the US, especially in the states of Florida, California, Arizona, and Texas. This development brought the seasonal flow of Canadian retirees to Florida in particular, which was the first

IRM destination for Canadians explored in research (Warnes, 2009). In the past decades, a body of literature has been developed around this mobility, highlighting the need to take into account the various stages of the life course and the unique migration patterns and motivating factors for groups like the 'pre-elderly'. For example, this research has explored the commodification of healthy aging and the representation of retirement communities as places for consumption (Andrews et al., 2007).

My thesis research will contribute to the aforementioned subfields through my qualitative exploration of STI risks and sexual health promotion for the Canadian IRM segment wintering in the US. My research provides opportunities to draw attention to the interaction of ageism and sexuality, and its consequences for the provision of health care and health promotion among older populations. Sexual health biases act in the disinterest of older people, putting them at greater risk of STIs due to a lack of information and campaigns inclusive of their age group (World Health Organization, 2021). Hence, the scope of my research will be aimed at addressing this gap by proposing ways to improve the sexual health outcomes of older Canadians who engage in IRM as both a social and spatial practice.

1.2. Literature review

1.2.1. Canadian international retirement migrants

Due to the lack of verifiable numbers, seasonal retirement migrants are a group of unknown size in most of the destinations they visit (Marshall et al., 1989). Although it is a very difficult group to measure, data from 1999 suggests that the Canadian snowbird population in the US and Mexico may range from 300,000 to 375,000 retirees every winter (Coates et al., 2002; Statistics Canada, 2019). Even more recently, research has placed those figures closer to 500,000 to more than one million Canadian snowbirds annually travelling to the US during the winter (Desrosiers-Lauzon, 2009). The fluctuation of these numbers is subject to several conditions like border access, ease of movement, regulatory environments, and even the exchange rate of the Canadian dollar (Coates et al., 2002; Northcott & Petruik, 2011; Tate et al., 2022).

According to Warnes (2009), the international retirement segment of the American and Canadian populations is mostly comprised of couples aged in their late 50s and early

60s, many of whom are relatively affluent and seek a warm climate as the main attraction. Northcott and Petruik (2011) identified this age group as the 'younger elderly' and categorized their moves abroad in the following forms: return migration to the place where one was born and raised; kinship migration to locate near adult children and grandchildren; and amenity migration involving a move to a place deemed to offer a more attractive quality of life. Canadian international retirement migrants who travel to the US seasonally are heavily amenity migrants. Several scholars have studied the factors influencing the outcomes of older people's moves (Warnes, 2009) and retirement migration decision-making (Hays, 2002; Longino et al., 2002; Wiseman, 1980), both of which include affordability and the appeal of lifestyle amenities.

Retirees most likely to relocate are those with the least ties to their current homes, whose desired lifestyle in retirement is not aligned with their present situation, and who have the means required to relocate (Longino et al., 2002). The retirement migrants' accommodation arrangements may include homes, condominiums, rented apartments, park models in trailer parks, and recreational vehicles (RVs such as motor homes or trailers) that they drive or tow to RV parks or campgrounds (Northcott & Petruik, 2011). Generations of international retirement migrants have embraced nomadic lifestyles, often congregating in trailer parks, tents, and caravans or large, or quasi-legal temporary RV settlements (Coates et al., 2002; Counts & Counts, 2001; Haldrup, 2009). Canadian snowbirds who opt to participate in IRM typically do so for less than six months of the year so they can maintain their public health care coverage at home (Counts & Counts, 2001; Northcott & Petruik, 2011; Pickering et al., 2021).

Few studies have uncovered the strategies used by Canadian snowbirds to cope with health care needs that might arise while being away for the winter in the US or elsewhere. Canadian travellers who wish to have health coverage while abroad can obtain it by purchasing private travel health insurance (Pickering, 2021). However, older Canadians may have a preference for their home country's health system due to concerns about the high out-of-pocket cost of care in the US, and therefore they avoid accessing it while abroad. This results in 'stocking up' strategies, including pre-trip physician visits, filling prescriptions, taking out travel health insurance, and making plans to return to Canada in case of a medical emergency (Marshall et al., 1989; McHugh & Mings, 1994). Overall, it is known that some Canadian retirees skillfully manage their entitlements to health care, public pensions, and other benefits, along with their tax liabilities, in both their

home and destination countries through strategic relocations between the two (Warnes, 2009).

Participating in seasonal relocations raises concerns about how those older migrants who end up in distressing situations due to poor planning, environmental disasters, or sickness will manage. These situations can lead them to be isolated, financially stressed, and without formal and/or informal support onsite (Warnes, 2009). This is particularly true for those travelling after the passing of a spouse or friends who had previously formed an important social support network while abroad (Tang & Zolnikov, 2021). Aging abroad, far away from family and friends, and sometimes facing language barriers and reduced entitlements to public-sector health care, personal social services, and 'social' housing, can seriously compromise retirement migrants' quality of life (Tang & Zolnikov, 2021; Warnes, 2009). Therefore, snowbirds must be prepared for the time when health and income decline, and other potential challenges come along, such as not being able to find adequate housing (Warnes, 2009). In relation to this, it was found that those international retirees whose health is below a certain threshold, mostly due to age-related health conditions, stop migrating (Daciuk & Marshall, 1990; Marshall et al., 1989; McHugh & Mings, 1994), which results in IRM communities often being heavily populated by reasonably healthy older people. This may result in international retirement migrants being more sexually active than their age peers, given that health status is often an important contributor to sexual activity among older people (Gott & Hinchliff, 2003).

While geographical gerontologists have studied how older people access, use, and experience health care services in the face of reforms to health services and economic shifts (Andrews et al., 2007), only a few studies have explored how international retirement migrants cope with health issues encountered while abroad. For instance, Lardiés-Bosque (2016a; 2016b) focused on older US citizens in Mexico planning trips home to use the US health system. Sloane et al. (2013) documented the health care experiences of US retirees living in Mexico and Panama. Finally, McHugh and Mings (1994) explored how Canadian international retirement migrants navigated the private health care system while wintering in the US. Despite these existing explorations of health care use and health management by international retirement migrants, studies have yet to fully address the broader context of sexual health risks and outcomes for these retirees across borders (Bach et al., 2013; Mairs & Bullock, 2013).

1.2.2. Travelling and STI transmission

International travel has been broadly linked to the spread of viruses and infectious diseases, yet investigating travel-related STI acquisition is hindered by the incubation period and the often asymptomatic presentation that causes difficulties when establishing connections between the journey and diagnosis (Crawford et al., 2016; Croughs & Van den Ende, 2013; Rogstad, 2019; Svensson et al., 2018; Vivancos et al., 2010). It has been estimated that more than 1 million of the 30 different bacteria, viruses, and parasites causing STIs are acquired every day globally, with eight STIs account for most infections (Rogstad, 2019). With evidence closely linking population mobility with deleterious impacts on sexual health, it is critical that we understand how people's movements, in contexts such as IRM, might also aggravate existing risk factors or make people more vulnerable to acquiring HIV, other BBVs, or STIs (Crawford et al., 2016).

Travellers represent a group at risk for the international transmission of STIs for several reasons. Sexual activity during travel can result in STI contraction because of increased risky behaviours, contact with high-risk groups, a higher risk of sexual assault, and exposure to infections that are less prevalent at home (Rogstad, 2019). Sexual risk-taking is influenced by factors such as the duration of travel, whether one travels alone or with friends, expectations and experiences of casual sex, binge drinking, and drug use (Svensson et al., 2018). Travel can remove social mores in place at home and taboos that inhibit sexual freedom since it is perceived as a getaway from everyday social expectations (Matteelli et al., 2013; Memish & Osoba, 2003; Rogstad, 2019; Svensson et al., 2018). Therefore, when people feel less inhibited due to a perceived or experienced relaxing of social and moral constraints, and/or a sense of enhanced anonymity, they might modify sexual behaviours and risk potential exposure to STIs (Gareau & Phillips, 2022; Svensson et al., 2018; Vivancos et al., 2010). Similarly, there is an association between casual travel sex and the use of drugs and alcohol, which reduce inhibitions and impair judgment even further, in turn, facilitating unsafe sex (Bauer, 2007; Crawford et al., 2016; de Vlieg et al., 2021; Gareau & Phillips, 2022). Moreover, in the case of older people, when disinhibition is coupled with erectile dysfunction and a disregard for pregnancy, condoms are seldom used (Justice et al., 2022).

An STI risk factor applicable to IRM is associated with the duration of the stay abroad. People who stay abroad for longer periods are at greater risk of becoming

involved in new sexual relationships and casual encounters (Vivancos et al., 2010). This is also the case for those who travel frequently to the same place. But, both groups may not perceive their risk to be high due to their familiarity with their destination (Crawford et al., 2016). The odds of engaging in casual sex are four times higher for long-term travellers in particular (Svensson et al., 2018). It has been found that travellers experience a 4% weekly increase in the total number of casual sexual contacts on average, with the risk of engaging in unprotected sex increasing by 20% with each additional casual partner (Whelan et al., 2013).

Sexual risks for travellers may be impacted by their awareness of how STIs spread, access to health services (for testing, diagnosis, and treatment), and the availability of travel advice (Crawford et al., 2016). Concerning the last one, in one study it was found that specific information on sexual health and hepatitis B, including risk factors and vaccination, was not discussed in 50% of pre-travel health consultations (Crawford et al., 2016). Similarly, Gareau and Phillips (2022) found that discussions about sexual health risks are infrequent during pre-travel consultations in travel medicine clinics due to several barriers, including: a lack of time for addressing sexual health relative to other important topics (e.g., vaccines), lack of suitable resources, and the view that sexual activities of adult travellers are a private matter.

Significant gaps remain in our knowledge related to STIs and travel, especially in the context of IRM. Studies that exclude this segment of travellers might do so to focus on the highest-risk groups (e.g., Croughs et al., 2008). There are some insights relevant to STI risks for international retirement migrants in the literature that surrounds older peoples' sexual health. For instance, Svensson et al.'s (2018) relevant systematic review found at least three studies that associated older age with sexual risk-taking, yet also concluded that most research is focused on sexual health risks for people aged 30 or under. Therefore, they make a call for studies focusing on older travellers (among other understudied groups) in order to prevent the spread of STIs. Likewise, Crawford et al. (2016) affirmed that tackling issues related to mobile populations and the transmission and acquisition of HIV, other BBVs, or STIs requires more than just sharing prevention information, and suggested that it may involve providing on-site information in collaboration with local organizations such as community organizations.

1.2.3. STIs among older people

The Public Health Agency of Canada (2015, n.p.) stated that “although younger people continue to account for the highest rates of sexually transmitted and blood-borne infections…, epidemiological data indicate that rates among older adults are increasing.” This is consistent with the findings of several studies reviewing the incidences of STIs and HIV in older populations globally (Minichiello et al., 2012) as well as in Canada (Fang et al., 2010) and the US (Foster et al., 2012; Htet et al., 2023; Jameson, 2020; Minichiello et al., 2011). These increases might be caused by both social and physiological factors related to midlife and older ages. Among them, Fang et al. (2010) mentioned the availability of drugs to combat erectile dysfunction, the difficulty of initiating discussions about sexual health with care providers due to feelings of fear and/or embarrassment, and changes in social patterns leading to being single later in life.

Relationship transitions can lead to changed social environments that heighten vulnerability to contracting STIs by encouraging sexual risk-taking, limiting chances for informal support concerning sexual relationships and health, and reducing the ability to prioritize one's sexual health amidst increased caregiving responsibilities (Lewis et al., 2020). The absence of a marital or steady partner over the past five years was associated with having multiple sex partners in older adults according to Melasio et al. (2021), which can be compounded by the rising rates of relationship ruptures and the advent of online dating sites/apps (Youssef et al., 2018). Similarly, widowhood increases the risk of STI diagnosis, especially for men who take drugs for erectile dysfunction, since the loss of a partner may make older men more motivated and able to pursue new sexual relationships (Smith & Christakis, 2009).

In general, older people are more likely to engage in unprotected sex if they associate condom use with preventing an unwanted pregnancy rather than STIs (Bodley-Tickell et al., 2008; Fileborn et al., 2018; Graf et al., 2021; Lewis et al., 2020). This belief may be more prevalent among older people because they did not benefit from receiving contemporary sexual health education earlier in life (Ezhova et al., 2020; Fileborn et al., 2018). Overall, the loss of fertility (e.g., due to menopause, sterilisation/vasectomy) negatively affects the motivation to use condoms from midlife and onwards when the risk of pregnancy no longer exists (Lewis et al., 2020; Peate, 2012). In addition, some older men have indicated that the dampening impact condoms have on sexual pleasure, which

is a common complaint across all age groups, is heightened in older ages (Fileborn et al., 2018).

Older people sometimes do not see themselves at risk of STIs and BBVs due to early depictions of HIV as a disease only affecting younger or gay populations (Youssef et al., 2018). Self-identification with being a ‘serial monogamist’ or ‘relationship person’ also bears a sense of being protected from STI risk, especially when believing that the new partner(s) has similar attitudes (Lewis et al., 2020). This was confirmed by Fileborn et al. (2018), where participants often saw monogamous, long-term relationships as 'low risk' for exposure to STIs and discontinued condom use once the relationship became stable, regardless of whether or not they had STI testing. Older adults’ lack of knowledge about safer sex practices and STI transmission is a major barrier to their risk assessment, which highlights the need to challenge the false notion that monogamy protects against STIs and the belief that only ‘promiscuous’ people need to have safer sex (Fileborn et al., 2018).

Health care providers often do not see older people as ‘at-risk’ for STIs due to assumptions made about their sexual activities and because they often feel uncomfortable addressing sexual health with older patients (Gareau & Phillips, 2022; Justice et al., 2022; Peate, 2012). Condoms are a difficult topic to discuss with older adults for several reasons, including the perception that condoms are associated with youth and the belief that they aggravate erectile dysfunction (Lewis et al., 2020). Meanwhile, the occurrence of erectile dysfunction tends to increase with age (Hinchliff & Gott, 2011). Some older people may feel embarrassed purchasing condoms in settings like shops because of fear of ageist judgment (Lewis et al., 2020). Moreover, embarrassment about poor condom-handling skills may act as a barrier to safer sex for certain older men (Fileborn et al., 2018).

Specifically in the context of IRM, only one study has been found that explicitly examined the frequency of STI testing among Canadian snowbirds (Mairs & Bullock, 2013). It was conducted in Florida and used a convenience sample of 265 retirees. This exploratory study found that even though a significant proportion of older Canadians engages in risky sexual behaviours with their relationship partners, the rate of HIV testing was low. Furthermore, this study also pointed out some major gaps related to our knowledge of IRM. For instance, since it was only conducted in Florida, the results may not apply to Canadians wintering in other southern US locations. Therefore, my thesis

research aims to set out the first study that examines the sexual health behaviours and provision of care among Canadian international retirement migrants in the transnational context of Yuma, Arizona. Yuma is a popular destination for Canadian international retirement migrants, with the city's population doubling in the winter months as a result of the influx of retirees. Raising the profile of STIs as a relevant health issue for international retirement migrants will help to identify factors conducive to sexual risks as well as opportunities and barriers for STI prevention and sexual health promotion for Canadian international retirees who winter in the US.

1.2.4. Yuma as a destination for Canadian International Retirement Migrants

It has been stated that, behind Florida, America's leading winter retirement state is Arizona, where it was estimated that a quarter of a million Canadians spend more than $100 million each year, and more than 20,000 stay for the winter (Pynn, 1992). American Community Survey data indicated that between 2006 and 2011, over 60% of US emigrants aged 55 and older lived in Arizona and Florida (Bérard-Chagnon, 2018), both of which are states that host a large number of Canadian snowbirds. Yuma, Arizona (Figure 1.1) is among those popular destinations for IRM seniors (Pickering, 2021) with estimates of 80,000 to 100,000 additional residents in the winter between American and Canadian snowbirds (Good Sam Camping, 2017). Furthermore, it has been estimated that about 13% of the overall Yuma seasonal homeowner population is Canadian (Lindblom et al., 2019). This is a popular destination due to its warm and dry climate and other amenities like RV resorts and parks, golf courses, and recreation centers (Yuma Arizona Snowbird and Winter Visitor AZ Destination, n.d.).

Yuma's surrounding deserts attract snowbirds who prefer to 'boondock', which involves parking their RVs or motorhomes on open land without water or sewer services to enable them to live inexpensively or for free during the season (Pickering, 2021). A short trip away from Yuma is Los Algodones, Mexico (seen in Figure 1.1), a city with seemingly affordable pharmaceuticals and dental care available (Adams et al., 2017; Pickering et al., 2020, 2021), where snowbirds can easily access drugs (such as sexual performance-enhancing Viagra and Cialis) with robust discounts (Pickering, 2021). Since the Yuma Regional Medical Center (YRMC) is the sole provider community hospital within reasonable driving distance of the Yuma area, workers at this facility have frequent contact

with older Canadian retirees. Canadian snowbirds are estimated to generate around 1400 patient visits or admissions to YRMC per year (Pickering, 2021). In 2023, the YRMC opened a new facility: the Foothills Medical Plaza, which includes a 22-bed emergency room (Rangel, 2023). This new center is a response to the increase in volume during the winter months and community assessments that found that the Fortuna Foothills residents, which is an area that houses many snowbird communities, wanted access to care services closer to their region (Rangel, 2023).

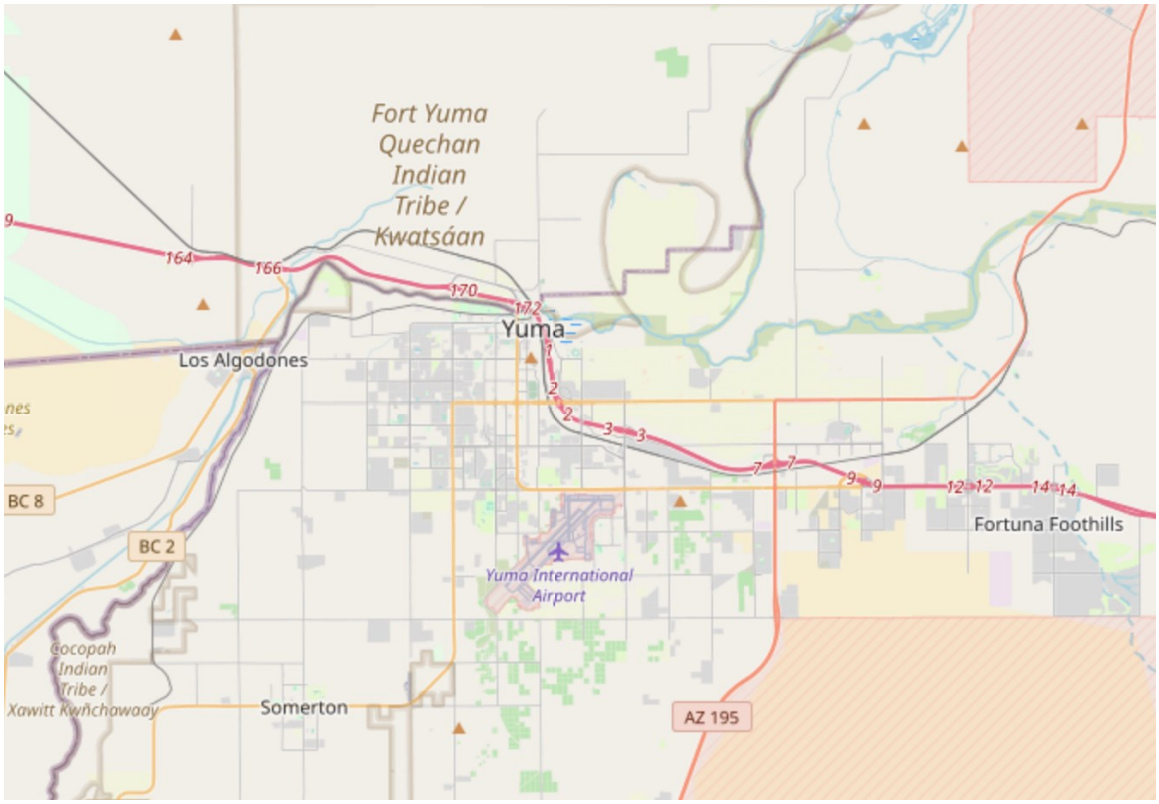

Figure 1.1. Map of Yuma, Arizona, United States.
Source: Map from OpenStreetMap.

Yuma offers the perfect study case location for conducting this thesis research, which contributes to a multi-year qualitative case study carried out by members of my research team. Previous studies have identified key factors influencing seasonal migration decisions, explored the complexities of health care access and provision for these migrants in Yuma, and analyzed how they prepare to manage their health while abroad. By focusing on the sexual health of this population, my research not only builds on this comprehensive body of work that has examined the motivations, challenges, and health care strategies of Canadian retirement migrants in the US, but also adds a crucial

dimension to understanding the broader health care needs and support systems required for these aging migrants in transnational retirement settings like Yuma. Specifically, one of the aforementioned analysis identified the concerns held by YRMC medical staff about the risky sexual practices engaged in by Canadian snowbirds while in Yuma and their lack of education about safe sex (Pickering et al., 2020). Similarly, that same study also revealed the party atmosphere that surrounds IRMs in Yuma and its heavily social atmosphere. An environment characterized by easy access to drugs and alcohol, and like-minded peers, often encourages sexual risk-taking (Svensson et al., 2018). Hence, this IRM destination is ideal for investigating the STI risks among Canadian snowbirds wintering in the US.

1.3. Dissertation rationale

To explore the STI risks, and opportunities and barriers to sexual health promotion for Canadian retirees wintering in Yuma, I defined the following objectives and related research questions:

Objectives:

1. Understand the socio-sexual environment in Yuma for Canadian international retirement migrants and factors conducive to sexual health risks; and

2. Identify the challenges and opportunities for STI prevention and sexual health promotion for Canadians in communities like Yuma.

Research questions:

1. How can the environment of IRM communities in Yuma influence sexual health, and specifically STI transmission?

2. In which ways are sexual health interventions (e.g., education, testing, counseling, prevention initiatives) hindered or facilitated for Canadian international retirees in the Yuma region?

1.4. Methodology

My thesis research is qualitative in nature and has a case study methodological orientation, defined by a geographic focus on Yuma. This approach has been endorsed previously when studying sexual risk-taking during international travel since qualitative

research can help gain deeper insights into travellers' motivations and inform hypothesis generation for posterior studies (Svensson et al., 2018). Given the substantial amount of literature pointing to the intersection of sexual risk in older adults and travellers and the concurrent lack of research on sexual health in the field of IRM, an instrumental case study such as the current one is deemed adequate to gain a broader knowledge the face of a lack of existing theory (Crowe et al., 2011; Merriam & Tisdell, 2015). Furthermore, case studies are suitable for producing concrete and practical (context-dependent) knowledge (Flyvbjerg, 2006), generating an in-depth, multi-faceted understanding of complex phenomena in their real-life context (Crowe et al., 2011), uncovering intervening causal mechanisms and exploring reciprocal causation within a system (Gomm et al., 2009; Levy, 2008, p.6). The specific methods of data collection and analysis are detailed at length in Chapters 2 and 3 and so are not repeated here.

1.5. Dissertation structure overview

My thesis is organized around two empirical chapters, presented as scholarly journal articles. Chapter 2 *"Are they going to recollect who they need to contact?": Understanding sexually transmitted infection transmission risks among older Canadians who winter in the United States* has been submitted for publication in Tropical Diseases, Travel Medicine and Vaccines. Chapter 3 *"The stigma is starting to lift": Exploring opportunities and barriers to sexual health promotion for Canadian retirement migrants wintering in the United States* has been submitted to BMC Public Health. Both chapters draw from in-depth, semi-structured interviews (see Appendix) conducted with 10 key informants in Yuma who have extensive expertise in relevant health care provision or administration roles.

Chapter 2 identifies three nuanced types of risks conducive to sexual risk-taking and potential STI transmission, which are: (1) the social dynamics within the tight-knit retirement migrant communities facilitating unsafe sexual practices; (2) the barriers to accessing diagnostic services in Yuma; and (3) the challenges in ensuring treatment and follow-up care that can lead to continued infection spread. Chapter 3 highlights opportunities and barriers for STI prevention and sexual health promotion in Yuma through three distinct pathways: system, community, and individual. In sum, the findings of these analyses help to contextualize the topic of sexual health and STI risks for international

retirement migrants, specifically by examining the factors influencing the sexual outcomes of Canadian retirees in Yuma through a qualitative lens.

1.6. Positionality and Reflexivity

I consider myself to be an 'outsider' in relation to the participants of this study as I am not trained as a health care provider nor had I engaged with IRM in any way before conducting this research. Nevertheless, as an international student, I do feel I share some common ground with international migrants, who are the subject matter of my thesis. For instance, my personal experience navigating a new health system upon coming to Canada to pursue higher education provided me with an awareness of the challenges that Canadian international retirement migrants may face when accessing health care services in Yuma. Visa constraints limited the fieldwork for me as I was not able to travel to Yuma to recruit participants in person, which was circumvented by conducting interviews remotely. Still, this obstacle complicated and delayed the data collection phase. In the journey of carrying out my research, I counted on the extensive experience of my supervisor in this field, the funding from the Canadian Institutes of Health Research that she had been awarded, and her collaborators on-site, which facilitated and supported my research process in many ways. My position as a note-taker during interviews allowed me the great privilege of learning from a much more experienced researcher during data collection who had familiarity with Yuma, John Pickering. The opportunity to work closely with John as second author on the analyses shared in Chapters 2 and 3 also deepened my own analytic insights, greatly enriching the quality of this thesis.

Overall, conducting this research has allowed me to deepen our research team's body of work on the mobility of Canadian international retirement migrants to the US, and hone my research skills as a health geographer. For me, this was an opportunity to review updated academic literature and identify further knowledge gaps in the provision of health care services for mobile populations, which has been my major research interest since my undergraduate education. Moreover, this thesis also aligned with my personal commitment to researching marginalized segments of the population, particularly in how older adults, like Canadian international retirement migrants, face ageism and stigma concerning their sexual health needs. By highlighting the overlooked challenges these migrants encounter in this regard, I aimed to contribute to this multi-year case study focused on Yuma by shedding light on the biases and limitations that hinder their access

to comprehensive care and compromise their sexual health outcomes. I believe I accomplished this through my research by recommending targeted interventions that promote more equitable health care systems and ensure that older adults receive the respectful and inclusive care they deserve, regardless of their location.

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Chapter 2. "*Are they going to recollect who they need to contact?*": Understanding sexually transmitted infection transmission risks among older Canadians who winter in the United States

2.1. Abstract

Background: Sexually transmitted infections are on the rise in older populations globally, including among older travellers. International retirement migrants are older people who have retired from the workforce and travel abroad seasonally, typically during the winter months in their home countries. The transnational nature of this practice may challenge public health efforts to control the spread of sexually transmitted infections and encourage treatment. This study focuses on Yuma, Arizona, a popular destination for Canadian international retirement migrants who winter in the United States, to examine the sexual health risks associated with their seasonal travel.

Methods: Utilizing a qualitative case study approach, this research involved semi-structured interviews conducted remotely with key informants in Yuma (n=10) who held various health care and administrative roles. Participants provided insights into sexual health risks based on their extensive interactions with Canadian seasonal migrants and their knowledge of the social dynamics within retirement communities. Interviews were transcribed verbatim, coded using NVivo software, and thematically analyzed to identify risk factors for sexually transmitted infections among Canadian international retirement migrants wintering in Yuma.

Results: Findings revealed three main risks that may contribute to exposure to sexually transmitted infections and potential transmission: social dynamics within tight-knit retirement migrant communities that facilitate unsafe sexual practices (i.e., risky practices); barriers to accessing diagnostic services, such as costs and lack of established local care (i.e., risky care access); and challenges in following standard treatment and public health protocols due to logistical difficulties in ensuring follow-up (i.e., risky treatment decisions). Key informants noted that lifestyle choices, including the use of alcohol and drugs, can exacerbate these risks. Health care access barriers driven by travel health insurance and mobility limitations further complicate the diagnosis and treatment of

sexually transmitted infections for Canadian international retirement migrants while abroad.

Conclusions: This study highlights the complex interplay of social behaviours and health care barriers that heighten the risk of sexually transmitted infection transmission among Canadian retirement migrants in the transnational context of Yuma. Extended diagnostic and treatment services, comprehensive sexual health education in pre- and post-travel consultations, as well as inclusive travel health insurance coverage could significantly improve the sexual health outcomes for this population.

2.2. Introduction

International travel has been broadly linked to the spread of sexually transmitted infections [1–4], even though the early asymptomatic nature of many of these infections and their incubation time cause difficulties in establishing connections between the place of transmission and diagnosis [3,5]. Each year, significant numbers of new sexually transmitted infection cases are reported worldwide, with estimates suggesting that over a million new curable urogenital infections occur daily among adults aged 15–49 [6,7]. This underscores the global impact of these infections and the critical need for promoting safe sexual health practices [6,7]. Travel can be perceived as a temporary escape from social and moral norms, fostering a sense of anonymity that can lead to altered sexual behaviour and increased exposure to sexually transmitted infections [2–4,8–10]. Moreover, the impairing effects of drugs and alcohol, sometimes consumed during leisure travel, can act as catalysts for engaging in unsafe or casual sexual practices. These practices are significant risk factors for acquiring sexually transmitted infections [1,4,9,11,12]. Despite these risks, discussions of sexual health are seldom addressed in pre-travel health consultations due to various barriers, including time constraints, limited resources, and prevailing social norms that deem sexual behaviours to be a private matter [1,9]. However, it is imperative to better understand the increased sexual risks faced by travellers, particularly those who frequently travel or stay abroad for extended periods, given the implications for public health and health systems. Longer stay travellers may especially underestimate their vulnerability to exposure due to familiarity with the destination, leading to more opportunities for engaging in risky sexual encounters [1,3,4].

International retirement migrants, typically people around the age of retirement and beyond, engage in seasonal relocations, usually from colder to warmer climates and during the winter months [13]. International retirement migration is referred to by various terms, including residential tourism [14], second-home tourism [15], or geronto-immigration [16]. These migrations can range from seasonal stays to permanent relocations [17] and may involve second-home ownership [18] or acquiring dual citizenship [19]. Our focus here is on Canadian international retirement migrants who travel seasonally to the United States (US) for weeks to months of Canada's winter. This group, largely comprising affluent 'baby boomers' [20], is drawn to destinations that offer climates conducive to outdoor activities and enhanced health, cultural and natural attractions, robust social networks, and lower costs of living than at home [21]. These seasonal travellers are untracked, untraced, and unregulated, making precise numbers impossible to determine. However, estimates from 1999 suggested 300,000-375,000 Canadian retirees wintered in the US and Mexico annually [13,22], with more recent figures ranging from 500,000 to more than one million older adults wintering annually in the US alone [23]. Those whose health declines – typically due to age-related conditions – usually cease their annual travel [24–26], resulting in seasonal expatriate communities throughout the southern US composed predominantly of healthy, active seniors. This vitality often extends to continued sexual activity, as barriers to sexual engagement are generally not prohibitive until health decline is severe [27,28]. Understanding how sexual health is impacted by the lifestyle of international retirement migrants is critical, particularly given the global rise in sexually transmitted infections among older adults and the significant numbers of older people who travel abroad seasonally [29–32].

The US is the primary destination for Canadian international retirement migrants. In the US, the rise in sexually transmitted infections, including among older people, has been widely documented [33–35] and highlighted by the media [36,37]. The majority of Canadian international retirement migrants congregate in a few US states – Florida, Arizona, California, Hawaii and Texas – where they spend the weeks or months of the winter season from November to April [20,32]. Research on Canadian retirees wintering in the US initially focused on Florida [20], providing early insights into their health care utilization patterns [20,25]. These first studies revealed a preference among older Canadians for using their home country's health system, attributed to the high cost of health care in the US. Consequently, many avoid using health care services while in the

US, opting instead for ‘stocking up’ strategies that include making pre-trip physician visits, filling prescription refills, and purchasing comprehensive travel health insurance plans to cover potential emergencies [25,26]. These strategies leave a gap when it comes to planning for accessing timely preventative and diagnostic care while in the US, both of which are critical for reducing sexually transmitted infection spread [1,38]. Existing research in Florida indicates low sexually transmitted infection testing rates among Canadian international retirement migrants while in the US despite engagement in high-risk behaviours [39]. Additionally, the seasonal nature of their travel allows Canadian international retirement migrants to maintain access to Canada’s publicly-funded health care, which results in some of these older travellers delaying care access for a range of needs until they return home [25,40].

The state of Arizona is a major US destination for Canadian retirement migrants due to its government and private sector efforts aimed at attracting seasonal and permanent-stay retirees to contribute to local economies [19,41]. Yuma is an isolated, small city in the southwest part of the state that attracts sizeable numbers of both Canadian and American retirement migrants due to its warm and dry climate. The city offers numerous amenities for seniors, including recreational vehicle (RVs) parks, resorts, golf courses, and recreation centers [42–45]. A 2018 study reported 71,000 seasonal winter visitors in Yuma County, contributing US$179 million in direct spending during that fiscal year [46]. The deserts surrounding the city are popular for what is known as ‘boondocking,’ where retirees live temporarily in RVs on undeveloped land at little to no cost [47]. In addition, very close proximity to Los Algodones, Mexico, allows easy access to affordable pharmaceuticals and dental care, enhancing Yuma’s appeal for older people [47,48]. Focus groups with health care providers in Yuma’s main hospital, the Yuma Regional Medical Center, about the challenges and opportunities of treating Canadian international retirement migrants highlighted concerns about risky sexual behaviours and inadequate safe sex education among retirees in Yuma, leading to what some thought were increased sexually transmitted infection rates [17]. Local public health monitoring of sexually transmitted infection rates does not isolate infections specific to older Canadians. This is because, for reasons discussed in the current analysis, identifying and tracking such transnational patients is challenging. However, popular news coverage and social media pieces underscore concerns that risky sexual health practices and the spread of

sexually transmitted infections are indeed happening in US retirement migrant communities such as those found in Yuma [e.g., 49–53].

Addressing sexually transmitted infection spread among older adults is highly stigmatized in health care settings, often leading to a lack of discussion by both providers and patients [30,31,35,54–56]. This stigma extends to public health educational campaigns, which frequently overlook older adults, reinforcing the false perception that they are at lower risk for sexually transmitted infections [29,31,55–59]. Research evidence is needed to support countering such stigma and creating public health and health system interventions that are responsive to the needs of older adults [30], including international retirement migrants. Building from this recognition, in the current study we qualitatively explore sexually transmitted infection transmission risks for Canadians wintering in Yuma. Drawing on key informant interviews with Yuma-based health care providers and senior administrators who have collectively supported care for hundreds of Canadian patients, we identify three specific types of transmission risk. Each of these risks has dimensions that are challenged by the transnational nature of this seasonal travel practice. We draw on the findings to identify proactive, age-sensitive strategies for promoting sexual health and lessening sexually transmitted infection spread among Canadian international retirement migrants while wintering in the US.

2.3. Methods

For several years, our team of social science health researchers has been qualitatively exploring Canadian international retirement migrants' experiences of this long-stay travel practice and access to health care while abroad [60–63]. Building on our prior research that has established Yuma, Arizona as a popular destination for Canadian international retirement migrants [17,40,60,62], in the current study we sought to understand if and how the social nature of destination communities may be shaping aspects of these older Canadians' sexual health while wintering in Yuma. We specifically aimed to understand, from a public health perspective, whether or not this transnational practice introduces any particular risks around contracting and/or treating sexually transmitted infections. To do so we employed case study methodology, which focuses on understanding experiences within the context[s] in which they occur [64]. This methodological approach was chosen for its suitability in understanding complex social phenomena and building on existing relationships and insights, which in our case has

involved years of qualitative data collection in Yuma through studies involving local partners.

This study relied on interviewing key informants, which allowed participants to speak to their domains of expertise [65,66]. We sought to talk to key informants who could speak to their professional roles, perspectives shared among them and their colleagues, and across interactions with great numbers of Canadian international retirement migrants wintering in Yuma. In January 2020, members of our team held a series of on-site meetings with a collaborator at the Yuma Regional Medical Centre to identify the range of professional perspectives that may contribute expertise and insight to the case study. Together, we collaboratively developed a list of fifteen professional groups to potentially include in data collection, with the goal of conducting at least ten key informant interviews. Based on input from our local collaborator regarding the small size of some of the professional groups and our existing awareness of the challenges of recruiting health professionals for interviews, we collectively agreed that it was strategic to have more professional groups identified than the target number of participants. Target professional groups from which we sought to identify key informant participants included: hospital case managers, family physicians, public health epidemiologists, health educators, urologists, nurse practitioners, community outreach specialists, community pharmacists, clinical nurse specialists, service organization representatives, seasonal nurses, pathologists, infection prevention specialists, urgent care clinic physicians, and senior health care administrators. To ensure breadth in the perspectives gathered, it was agreed that no more than two representatives from a single professional group would be interviewed as key informants. Following agreement on the approach to data collection, a semi-structured interview guide was collaboratively created using an iterative process of feedback and input among team members and the local collaborator. Upon finalization of the guide, ethics approval was received from the Office of Research Ethics at Simon Fraser University – the Canadian home university of our research team.

We sought to identify key informants through a number of strategies. Our collaborator at the Yuma Regional Medical Center identified potential participants whose expertise related to the professional groups we aimed to hear from. A member of the team reached out to these participants via email, inviting them to take part in a remote interview via Zoom. This strategy led to six interviews being scheduled over several months of reaching out to potential participants, waiting to hear back, and identifying further contacts.

The remaining four interviews were scheduled based on contacts our team was able to identify through organizational websites, LinkedIn profiles, or introductions facilitated by existing interviewees. Outreach and interviewing took place over the course of one year, from February 2023 to February 2024. This length of time was needed to accommodate the very busy professional schedules of the key informants and the seasonal nature of international retirement migration that placed exceptional demand on local public health and health care systems for approximately six months each year.

Prior to being interviewed, key informants were informed of the purpose of the research and their rights to withdraw from the study at any point. Their consent to participate and be recorded was obtained verbally at the start of each interview. Interviews were led by the second author, who had extensive on-site experience in Yuma and therefore a deep familiarity with the local health care system and residential communities popular among older Canadians. The first author participated in the interviews as a note-taker. Interviews were scheduled for one hour and typically lasted around that length of time, with some limited variability. An initial series of five interview questions contextualized participants' professional roles and familiarity with both international retirement migrants and sexually transmitted infections among older populations. Following these, the next four questions probed issues related to exposure to sexually transmitted infections and sexual behaviours. The subsequent five questions explored services and access to care, while the following three explored preventative outreach opportunities. To close, participants were asked if they wanted to touch on any matters not explored in the questions or expand on any points they had raised. Following each interview, the interviewer and note-taker conducted a debrief recorded in fieldnotes that synthesized important conversational directions as well as points of convergence with, and divergence from, other participants.

All interviews were digitally recorded and transcribed verbatim. Following a process similar to that described by Braun and Clarke [67], a thematic analysis of the dataset was conducted. Thematic analysis involves identifying, analysing, and reporting patterns within qualitative datasets, organizing and describing them in rich detail [67,68]. Our first analytic step involved two members of the research team independently reviewing transcripts to inductively and deductively identify conversational directions that both related to the topics probed in the interview guide and those that were deemed significant. This led to the identification of two meta-themes for deeper analytic consideration, one of

which is explored herein. The scope and scale of the meta-themes were characterized by the other team members in order to confirm dependability via a triangulated process [69]. The first author then developed a coding scheme that organized themes and sub-themes central to the analytic directions following a line-by-line review of the transcripts. Members of the team provided feedback on the scheme, after which the transcripts were imported into NVivo in preparation for coding by the first author. Coding ensued using the scheme. Data extracts were then shared as a way to provide feedback on the scheme and its application, which was followed by a second round of coding undertaken by the first author. Upon finalization of the coding, extracts were again circulated to the team to support interpretation. Consistent with the reporting of thematic analysis [70], existing knowledge of factors related to the themes developed from the dataset and confirmed by the extracts were explored in the existing literature and with our collaborator at Yuma Regional Medical Center. This process supported both the identification of novel findings and the criticality of our engagement with the data. In the section that follows we present the findings related to the risk meta-theme, integrating verbatim quotes throughout to support authenticity.

2.4. Results

We interviewed key informant medical and public health practitioners as well as senior administrators based in Yuma (n=10) who collectively represented seven distinct professional groups. Groups that had multiple key informant participants reflected instances where each interviewee represented a different professional domain, such as senior administrative leaders from different care sectors. To lessen any threats to anonymity given Yuma's relatively small size, in the remainder of this section we attribute verbatim quotes either to 'health care providers' or 'senior administrators' and we do not disclose professional titles or roles. On average, participants had held different positions within Yuma's health system for almost 13 years ($\bar{x}$=12.95), which gave them considerable insight into factors such as seasonal patient influxes driven by retirement migration to the area, health care use and demand among this group, and generally the integration of these seasonal residents into the local landscape. While all participants were knowledgeable about medical care for retirement migrants, having collectively interacted with or supported care for hundreds of Canadian international retirement migrants, their expertise in treating and/or preventing sexually transmitted diseases was varied. All key

informants expressed familiarity with the social dynamics of retirement migrant communities and comfortably spoke to behaviours that could expose residents to sexually transmitted infections as well as other dimensions of risk.

Participants talked about risk as it related to sexually transmitted infections, whether potential or realized, among Canadian retirement migrants in very nuanced ways. In its broadest sense, risk is conceptualized as the likelihood that being exposed to something hazardous will result in a negative outcome [71]. As noted in the introduction, older people oftentimes do not see themselves at significant risk of contracting sexually transmitted infections [31,55,57,58]. The key informants did not concur with this view and raised three types of risks throughout the interviews that they thought could, both individually and collectively, contribute to infection transmission. First, there were activities and practices inherent in the social environments associated with international retirement migration that had the potential to lead to exposure. Second, there were structural and personal factors that posed barriers to accessing testing services that could threaten diagnosis thereby allowing continued transmission. Third, and relatedly, there were challenges associated with these older Canadians obtaining treatment for diagnosed infections that could result in continued infection spread to others or re-infection among those already diagnosed. In the remainder of this section, we expand on these risks, discussing each separately to explore more deeply the sexual health landscape of international retirement migrants in Yuma as it relates to sexually transmitted infections.

2.4.1. Risky Activities

Participants depicted retirement migrant communities as tight-knit and heavily social, with over 100 residential RV parks in Yuma serving as hubs for constant activity and gathering. This environment, described by participants as "*100% social,*" facilitated close interaction and numerous opportunities for sexual encounters. A participant explained that "*there's constantly stuff going on, events and all sorts of stuff. (…) It's a whole different environment than [what] you might see when they're in their regular places.*" The geographic proximity and continuous social gatherings contributed to an atmosphere where traditional sexual health practices, including the use of prophylactics, may have been more relaxed due to a sense of belonging and trust among familiar residents. This presumption of safety, as one health care provider articulated, led to a diminished perception of risk by some: "*Maybe they feel like they can't get any sexually*

transmitted disease, maybe they feel safer because it is like-minded individuals. (…) Maybe the assumption is like, 'Oh, they're clean, we're good'." This was echoed by a senior administrator who highlighted how international retirement migrants may have intuitively ruled out the risk of pregnancy as a driver for using condoms, for example, but did not consider "*other health risks that are associated with having unprotected sex.*" Several participants agreed that such decisions were likely underpinned by generational differences in attitudes towards protection use during intimate encounters.

Lifestyle factors, notably drug (both recreational and prescribed) and alcohol consumption within retirement migrant communities were discussed as contributing to increased sexual activity and, consequently, exposure to sexually transmitted infections. A health care provider noted that "*[cannabis] gummies [are] legal in Arizona now*" and highlighted the availability of sexual enhancement medications (e.g., Viagra, which could be easily accessed without prescription nearby in Mexico). A senior administrator noted that: "*We're all very much aware of how easy it is to get that sort of stuff. (…) You just go across the border. (…) It's not a regulated substance.*" Not all Canadian international retirement migrant communities were the same. Participants noted that 'boondockers' who lived in make-shift RV encampments in the deserts surrounding Yuma and communities with the presence of "*swinger culture*" (i.e., couples engaging in intimate practices with other couples) presented particular risks around infection exposure and transmission. Participants used terms such as "*big sex-capade*" to talk about these types of communities. They also referenced "*casserole widows*" who provided support in times of loss to illustrate the complex social fabric and opportunities for "*promiscuity within… communities [of] older adults.*" Several participants carefully explained how this complexity was further enriched by the presence of other mobile populations in Yuma, such as military personnel stationed at a large nearby base and migrant workers arriving from Mexico and Central America daily. A health care provider with particular expertise related to disease transmission noted that this intersection of mobilities likely contributed to "*anecdotally higher*" sexually transmitted infection rates in the area.

2.4.2. Risky Care Access

Participants highlighted that there was likely an underdiagnosis of sexually transmitted infections within international retirement migrant communities. A noted challenge was the known low adherence to testing and preventative measures among

older Canadians while in Yuma for a range of health needs, driven by a preference to receive preventive care "*in their home country.*" This was often due to the prohibitive costs associated with screening services in the US, as they were typically not covered in the types of travel health emergency insurance plans that many older Canadians purchased for coverage while in Yuma. A senior administrator explained that these seasonal visitors typically did not want to access care in Yuma, including diagnostic testing, if "*their insurance doesn't pay for it.*" In more extreme cases, such as those involving 'boondockers' and others residing in the more isolated desert areas, the extensive distances they had to travel to access care contributed significantly to their expenses and served as a barrier to care access. According to participants, this added financial strain often led them to decline follow-up appointments, such as for testing and/or therapies that required them to return to clinics in Yuma.

Participants, especially those in care provision settings, mentioned that it was very common for providers to factor in uninsured costs when referring senior patients for diagnostic tests. Given the substantial seasonal senior population in the area, there was wide awareness among health care providers about reliance on pension income and the need for many retirement migrants to manage limited budgets. This thinking informed practices around referral for diagnostic testing, where it was known that providers may have limited diagnostic testing to avoid placing financial burden on older seasonal patients. Moreover, sexually transmitted infections may not have been the first prognosis considered for older patients unless there was noted sexual activity that had precipitated or led to symptoms, further challenging diagnosis. A senior administrator further remarked: "*Stigma. Yes, definitely. I'm sure that plays a part. But if you're not having horrible symptoms, you probably wait till you get back home [to Canada], I would imagine, because it's not easy also getting a provider here.*" The reluctance to engage in conversations about sexual history, combined with the absence of established local primary care relationships for Canadians visiting seasonally, were commonly identified as critical barriers to the timely detection of sexually transmitted infections. Such factors highlighted the complex interplay of individual and system-based challenges that may have prevented access to diagnostic care for Canadian international retirement migrants wintering in Yuma.

2.4.3. Risky Treatment Scenarios

The treatment of sexually transmitted infections contracted by Canadian international retirement migrants in Yuma was fraught with challenges, as highlighted by participants. They expressed concerns surrounding the risks of reinfection due to continued transmission within residential communities, even if some members had been diagnosed and treated, and also a likely general underestimation of infection risks due to transmission misconceptions. This laidback attitude, coupled with the transient nature of the retirement migrant population, complicated treatment efforts as tracking exposure risk as a public health measure became particularly onerous. A health care provider asked: "*Are they going to recollect who they need to contact? Because you need to bring them in to get treatment. (…) What if you give them a pill and you never see them and they end up with… side effects?*" Even for Canadian international retirement migrants who were able to access diagnostic services through referral from a primary care provider, participants noted that there were many ways in which the seasonal nature of their time in Yuma disrupted standard treatment protocols. There were also barriers to ensuring care continuity upon seniors' return to Canada due to differences in medical record-keeping practices and a general lack of cross-border care coordination.

Further compounding treatment challenges were logistical issues, such as the potential for outdated contact information and the lack of a permanent address in Yuma, which hampered efforts for providers to ensure timely treatment and follow-up care for older Canadians. A participant asked: "*What if you don't have the correct phone number for that person? Then how are you going to reach them? Are they going to send a letter to their house? Are they going to go knock on their doors?*" Moreover, some international retirement migrants had the option to receive treatment at either a primary care clinic or at Yuma County's Sexually Transmitted Disease Clinic. Information exchange between these clinics was limited, which served as a systemic informational barrier in Yuma's local health care system that could lead to uncertainty regarding whether treatment was obtained or not. Likewise, several care providers pointed out the difficulty of reaching out to sexual partners about a potential transmission given the sensitivity of the subject: "*What if they've been with multiple partners and are embarrassed to go call them and tell them, 'Hey, you need to get treated'.*" The sensitive nature of contacting sexual partners about a potential transmission and encouraging timely diagnosis and treatment within the close-

knit social context of retirement migrant communities created a challenging context for ensuring access to treatment.

2.5. Discussion

The findings shared above have elucidated nuanced understandings of risk as it related to sexually transmitted infection transmission among Canadian international retirement migrants wintering in Yuma, Arizona from the perspective of knowledgeable key informants. Risk was discussed in three ways, which related to the risk of contracting sexually transmitted infections, the risk of delayed or missed diagnosis, and the risk of unfulfilled or inadequate treatment of diagnosed cases. Complex social dynamics, barriers to health care access while abroad, and inconsistent treatment adherence collectively contributed to what was perceived by some key informants as an elevated risk of sexually transmitted infections among retirement aged Canadians in this seasonal transnational travel context. The findings not only highlight a significant, yet under-examined health issue for international retirement migrants, but also support calls for urgent targeted interventions such as enhanced sexual health education tailored to older adults [1,31,72]. They also support calls for more comprehensive travel health insurance coverage to be made available to Canadian international retirement migrants given their long stays abroad that may necessitate access to preventative or diagnostic care [4,73,74]. In the remainder of this discussion, we further contextualize the findings within the existing literature, highlighting their implications for those involved in supporting the health and wellbeing of older Canadians wintering in Yuma.

This analysis confirms existing research that has consistently documented the social and communal nature of international retirement migrant communities [75–81], which foster environments conducive to increased sexual interaction [27]. Key informants concurred that activities in these environments may also lead to increased exposure to sexually transmitted infections. This is consistent with travel health research that has shown that extended travel, especially for long-term periods [82], coupled with alcohol and drug consumption [83], significantly escalates sexual risk-taking behaviours [1–4,9–12,84]. Challenges in health care access documented by the key informants, particularly in diagnostics – which are often compounded by systemic barriers and insurance limitations [17,21,85–87] – have also been identified elsewhere. In the context of the current analysis, these barriers may hinder timely access to diagnosis and treatment for

sexually transmitted infections. The stigma surrounding discussions of sexual histories with older care recipients identified by participants is also well established [30,31,35,54,55,59,72,88–90]. In the context of the current study, stigma-informed care practices may lessen access to diagnosis and ultimately treatment for older Canadians who have contracted a sexually transmitted infection while in the US. This risk is amplified by the implicit trust that Canadian international retirement migrants have in their peers [31,58] that, according to participants, may extend to considering them to be 'safe' sex partners with no consideration being given to the potential for sexually transmitted infection transmission. These are among the established factors that contribute to the documented increase in sexually transmitted infections among older people [30,33,38,56,58,91,92], some of which are amplified in the context of international retirement migration.

The critical role that the local primary health care sector can play in detecting sexually transmitted infections and supporting treatment among Canadian international retirement migrants was underscored by participants. Previous research in Yuma shows that Canadian international retirement migrants, with their extensive experience of residing there seasonally and common access to local information resources, are reasonably adept at navigating the local health care system for acute care needs or planned chronic illness management [17,40]. However, the current analysis points to the fact that the lack of established, ongoing relationships with primary care physicians may serve as a barrier when it comes to gaining access to the diagnostic tests necessary to identify and treat sexually transmitted infections. This discrepancy highlights a critical gap between the available resources and the actual needed types of health care engagement of these long-stay travellers to protect their sexual health, emphasizing the need for targeted interventions to bridge this divide. Addressing this gap may provide more opportunities to discuss sexual health openly and receive tailored advice, which is essential for managing health effectively in a mobile lifestyle [74,93]. Furthermore, despite preconceptions of international retirement migrants as being predominantly affluent [20,76,81], our findings show significant cost-sensitivity among older Canadians when it comes to health care spending while abroad [25]. Lastly, the presence of a sexually promiscuous scene, akin to those reported in other retirement migrant communities in the US [49,50], was noted to be present in Yuma by participants. This observation compels a re-evaluation of common

perceptions about aging and sexual activity and how this may be informing public health practices surrounding sexually transmitted infection reporting and prevention.

The findings of this analysis hold critical implications for public health interventions and health care practice, emphasizing the need for comprehensive, culturally sensitive, and age-appropriate approaches to improving sexual health among Canadian international retirement migrants while wintering in the US. Routine screening initiatives are crucial to destigmatizing sexually transmitted infections [38] and promoting open discussions about sexual health, which should also include distributing informational materials [9,84]. Popular destinations like Yuma should explore if and how existing screening initiatives can be extended to include Canadian international retirement migrants given their sizeable seasonal presence in the community. Efforts to normalize testing for sexually transmitted infections, such as by offering home-based sample collection kits [94,95] – which may enhance testing accessibility for those who are long-stay travellers – are critical. Information on safer sex practices should also be amplified through targeted public health campaigns [54,89]. To further enhance these initiatives, integrating telehealth services may support better care continuity given the transnational context of international retirement migration and the fact that diagnosis may happen in an entirely different health system jurisdiction from treatment [94,96]. The effectiveness of travel medicine consultations must also be leveraged to provide pre- and post-travel sexual health education, which has been shown to reduce risky behaviours and sexually transmitted infection rates among international travellers of all ages [8,74,93,97].

Addressing the pervasive stigma surrounding sexual health discussions in older populations necessitates targeted training for health care providers in Yuma and other popular destinations for international retirement migrants [92,98]. Given the substantial seasonal immigration of older people to this destination, such training should be made readily available to care providers in Yuma and should focus on delivering non-judgmental care, proactively initiating dialogues about sexual health, and addressing the unique sexual performance challenges faced by older adults. Further to this, addressing systemic health care access barriers faced by Canadian international retirement migrants wintering in US destinations is essential [21,30,72,90,99]. Advocating for travel health insurance policies that cover preventive care and enhancing the capacity of local providers in destinations to engage effectively with this population via affordable treatment are critical steps toward mitigating the identified risks.

To deepen understandings of sexually transmitted infections and care provision among international retirement migrants, future research should focus on developing and testing intervention models that effectively reduce stigma. Universal screening programs are a promising area, with the potential to transform perceptions and behaviours towards sexually transmitted infections across different cultures and health care systems [38,100]. Further investigation into community-based initiatives and partnerships with local organizations can provide valuable insights into how sexual health literacy and risk communication can be enhanced across diverse retirement destinations. Longitudinal studies are also needed to assess the impact of policy or process-driven changes on health care access and outcomes for this population. Such studies can help to pinpoint areas where assistance to facilitate care access is most needed [8,12,57,101,102]. Further to this, the variability in retirement experiences, risk-taking behaviours, sexual desire, and sexually transmitted infection incidences across different sex and gender orientations necessitates focused studies. These studies should aim to identify tailored strategies that can effectively address these differences in meaningful ways by public health and health care provider communities. Expanding research to include other migratory populations and geographic contexts would support comparative analysis and enhance developing a more global understanding of the health challenges faced by retirement migrants across varied social contexts [103,104]. Such comprehensive research efforts are essential for developing more effective, inclusive, and sustainable health interventions for these transnational travellers.

Strengths & Limitations

One of the major strengths of this case study is the invaluable collaboration with an on-site partner at the Yuma Regional Medical Center. Their involvement from the initial stages of research design was instrumental in shaping the direction and focus of the study, ensuring the findings are relevant to knowledge user communities [65]. Another strength is that we interviewed a range of key informants working in Yuma's public health and health care delivery landscape. Despite their differently situated professional backgrounds, we were able to identify consistent approaches to understanding risk. A final strength worth highlighting was our use of triangulated processes throughout data analysis to support building rigour and credibility in the analytic process [105,106]. Investigator triangulation specifically assisted with determining the consistent scope and scale of each

risk theme, thus supporting the reliability of interpretation. An important limitation was our use of remote interviews. While offering logistical flexibility and enabling broader participation, they limit capturing non-verbal cues, which are often crucial for understanding the nuances of complex social interactions [65]. Nevertheless, it was our use of this medium that enabled data collection to take place and so this consideration outweighed any concerns of not capturing non-verbal cues during conversations.

2.6. Conclusion

This study has provided significant new insights into the sexual health risks encountered by Canadian international retirement migrants wintering in Yuma, Arizona. Through in-depth interviews with key informant health practitioners and senior administrators, we have highlighted the complex dynamics that increase these older travellers' susceptibility to becoming exposed to sexually transmitted infections. Specifically, we identified three principal areas of risk: social practices within retirement migrant communities that increase exposure, barriers to accessing diagnostic services, and challenges in obtaining effective treatment. The transient nature of older Canadians' seasonal stays in the US exacerbates these risks, disrupting continuity of care and highlighting the urgent need for targeted public health interventions tailored to the unique circumstances of older adults in international retirement settings.

We recommend enhancing access to diagnostic and preventive care for Canadian international retirement migrants while in the US by advocating for inclusive travel health insurance policies that better accommodate the realities of these retirees' transnational movements. Training health care providers in destination communities to proactively discuss sexual health, tackle stigmas, and navigate the complexities of ageing and sexual activity is also critical. Such training can improve the quality of care and empower providers to address these often-overlooked issues effectively. Implementing these strategies could significantly improve the sexual health outcomes for Canadian international retirement migrants, enhancing their seasonal stays and promoting a safe and healthy lifestyle for all older adults, regardless of their geographical location. By addressing these gaps, we can ensure that older adults receive the respect, care, and attention they deserve in all health care settings and ultimately enhance their opportunities for improved sexual health.

List of Abbreviations

US: United States

RV: Recreational Vehicle

Declarations

Ethics approval and consent to participate

Ethics approval was provided by Simon Fraser University's Office of Research Ethics (protocol 30000046).

Consent for publication

Not applicable.

Availability of data and materials

To maintain participants' privacy and anonymity, interview transcripts from this study are not publicly available.

Competing interests

The authors have no competing interests to report.

Funding

This study was funded by a Planning Grant (HIV/AIDS or STBBI initiative priority) awarded by the Canadian Institutes of Health Research (application #429696).

Authors' contributions

VAC conceptualized the study and led the funding application. TM supported conceptualization and assisted with recruitment and data collection planning. VAC led development of the interview guide, with input from JS and TM. JP led the interviews and ONE participated as a note-taker. ONE led data analysis and data synthesis with support from JP and VAC. JS supported confirmation of analytic directions. ONE led drafting this

manuscript with JP and VAC providing detailed support throughout. JS and TM provided feedback on drafts. All authors approved this manuscript.

Acknowledgments

VAC holds the Canada Research Chair in Health Services Geographies and acknowledges salary support provided by the Canada Research Chair Secretariat.

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Chapter 3. "*The stigma is starting to lift*": Exploring opportunities and challenges for sexually transmitted infection prevention aimed at Canadian international retirement migrants wintering in the United States

3.1. Abstract

Background: Older populations globally are experiencing a rise in sexually transmitted infections, and those who travel internationally and engage in unsafe sex practices are particularly at risk. International retirement migrants, who live abroad for extended periods each year, pose unique challenges for public health efforts to prevent, track, control, and treat these infections. This study investigates Yuma, Arizona as a popular winter destination for older Canadian retirees, and explores opportunities and challenges for sexually transmitted infection prevention, and ultimately sexual health promotion, for older mobile populations.

Methods: Using a qualitative case study approach, we conducted semi-structured interviews with key informants with deeply situated expertise in Yuma (n=10), including public health and health care providers and senior administrative professionals. Participants shared their insights based on their extensive experience treating or administering care for collectively hundreds of Canadian winter visitors. Interviews were transcribed verbatim, coded using NVivo, and thematically analyzed.

Results: Opportunities and challenges that emerged were connected to three distinct pathways: system, community, and individual. Opportunities included leveraging telehealth tools and outreach initiatives to increase awareness of sexually transmitted infection prevention, fostering local partnerships to destigmatize sexual health discussions, and promoting awareness and testing for sexually transmitted infections. Challenges included travel insurance limitations and digital literacy issues among Canadian retirees, staff shortages that limited public health outreach, cross-border care coordination challenges, and inadequate education among medical providers to support discussions of sexual health with older adults.

Conclusions: This analysis highlights multiple significant opportunities and challenges in improving sexually transmitted infection prevention efforts for Canadian older seasonal migrants in Yuma, Arizona. Addressing these barriers and enhancing the opportunities is crucial for public health and health system decision-makers to reduce disease spread and the heavy seasonal demand on the local health system.

3.2. Introduction

The World Health Organization reports an unprecedented rise in the number of older adults due to increasing life expectancy, among other factors [1]. By 2050, the global population of those aged 60 and older is projected to double from 1 billion (12%) currently to 2.1 billion (22%) [2]. This demographic shift includes a growing number of older people who are inclined to migrate short-term and travel internationally [3]. These transnational movements of sizeable numbers of older travellers hold significant implications for public health systems in relation to promoting health and preventing the spread of infectious diseases [4–6]. International retirement migration is one such transnational movement. It involves people around the age of retirement and thereafter relocating seasonally from colder regions to warmer and drier climates during winter months to enhance their quality of life, which may include gaining access to health care abroad that is more affordable than at home [7–9]. While the exact number of international retirement migrants globally is unknown due to a lack of tracking systems, those who participate in this type of seasonal travel typically identify themselves as healthy and were often previously employed in high-salary, high-skill sectors [3,10,11]. It is recognized, however, that growing numbers of the international retirement migrant population now include older people with limited incomes who are drawn abroad to live seasonally in places with lower costs of living [3,11,12].

The most popular destination for Canadian international retirement migrants, who are the focus of this analysis, is the southern United States (US). It is estimated that anywhere from 300,000 to 1 million older Canadians spend some or all of the winter season in the sunbelt states – which include Florida, Arizona, Nevada, and California [8,13,14]. Yuma is a small city on the southern border of Arizona, and is a popular destination for Canadian retirement migrants due to its senior-friendly amenities (e.g., recreational vehicle resorts and parks, golf courses, recreation centers) [15–18] and long-standing government efforts to attract retirees for their economic benefits [19]. Tracking of the seasonal influx of Canadians to Yuma is limited, but it is known that Yuma County

welcomed 71,000 seasonal winter visitors in 2017-2018, generating US$179 million in direct spending, with 13% of Yuma's seasonal homeowner population being comprised of Canadians [20,21]. The deserts around the city are well-known for attracting numerous retirement migrants who choose to live in trailers on undeveloped land due to the minimal costs involved [9]. Furthermore, Yuma's close proximity to Los Algodones, Mexico – which is a drive of less than 30 minutes from the city with ample parking at the border and walk-in access to Mexico – increases its attractiveness to retirees given the presence of affordable pharmaceuticals and dental care across the border [8,9,22]. The Yuma Regional Medical Center, the area's sole provider community hospital, treats around 1,400 Canadian patients annually [9].

Recent years have seen a rise in sexually transmitted infections among older adults in both Canada [23,24] and the US [25–28]. Yet, few studies have explored the sexual health of international retirement migrants, especially examining the sizeable number of Canadians who winter in the US and their access to sexually transmitted infection diagnosis and treatment while abroad (see exceptions: [29–31]). Older adults are more likely to engage in unprotected sex relative to their younger counterparts, associating condom use with preventing pregnancy rather than sexually transmitted infections [32–35]. This is often due to a lack of sexual health education and the perception that they are not at risk of contracting infections such as syphilis, gonorrhea, chlamydia, genital herpes, among others [33,35–38]. Age-related health conditions, decreased hormone levels, and longer times to achieve erection or orgasm also lead to an increased risk of sexually transmitted infections [28,36,39–41]. Public health campaigns rarely target older adults, reinforcing their perception of not being at risk [33,35–37]. This lack of public education about prevention is compounded by the hesitation that many health care providers exhibit around discussing sexual health with older patients, with these same patients then showing a reluctance to bring sexual health concerns forth during appointments [25,33,36,38,40,42–46]. In relation to older travellers, pre-travel health consultations also rarely include discussions of sexual health risks due to limited time and resources [47,48]. Finally, because relatively healthier retirees tend to participate in international retirement migration, this is a group of older people who may be more actively engaged in sexual practices than their peers [29,49] and thus at increased risk of exposure to sexually transmitted infections even when they deem this to be unlikely [50–52].

An study of Canadians wintering in the US state of Florida revealed that although many older Canadians engage in risky sexual activities, few have ever been tested for sexually transmitted infections [30]. Similar concerns about risky sexual practices and lack of education about safe sex practices were reported by medical staff at Yuma Regional Medical Center in Yuma, Arizona [53]. Given that frequent travellers constitute a risk group for transmission of sexually transmitted infections, especially those who travel frequently and for longer periods [47,54–57], it is essential to understand the opportunities and barriers to sexually transmitted infection prevention, and ultimately sexual health promotion, for Canadians wintering in the US. Through key informant interviews conducted with providers and senior administrators in Yuma's public health and health care systems, in this analysis we specifically explore individual, community, and system pathways that create such opportunities and barriers. Contributing to a multi-year qualitative case study of health care access and use by Canadians wintering in Yuma, this analysis specifically seeks to generate evidence that can enhance sexual wellbeing for these Canadian retirees and support destigmatizing sexual health care among older people from a disease prevention lens. This research has been conducted in partnership with a health system collaborator in Yuma who has identified the topic to be an actionable priority, and thus, the current analysis also responds to end-user needs in addition to filling a critical knowledge gap.

3.3. Methods

This analysis contributes to a multi-year qualitative case study exploring Yuma, Arizona, as a popular destination for Canadian international retirement migrants with a specific focus on health care access and use as well as the health system implications of this seasonal population influx (for example [53,58–60]). Case study methodology, suitable for generating context-dependent knowledge, often involves seeking multiple stakeholder perspectives and/or using multiple datasets to understand events within the context in which they occur [61,62]. Our case study has included multiple sub-studies, with the current one aimed at identifying opportunities and barriers for preventing sexually transmitted infections and promoting sexual health among this group of older transnational travellers. All components of this qualitative case study have been undertaken by our team of social science health researchers, in partnership with a local, senior health system collaborator in Yuma. This collaboration has ensured that an integrated approach to

knowledge translation has been embedded within our work, supporting end-user uptake and implementation of our findings into administrative and health care practices [63–65].

To accomplish our aim, we sought to conduct semi-structured interviews with key informants whose professional roles put them in positions to care, or coordinate care or health promoting activities, for Canadian international retirement migrants wintering in Yuma [66,67]. An on-site meeting with our local health system collaborator in early 2020 identified relevant professional roles and established agreement on sample size. Fifteen professional groups were identified for potential inclusion as key informants: hospital case managers, family physicians, public health epidemiologists, health educators, urologists, nurse practitioners, community outreach specialists, community pharmacists, clinical nurse specialists, service organization representatives, seasonal nurses, pathologists, infection prevention specialists, urgent care clinic physicians, and senior health care administrators. Given the exploratory nature of this analysis, our aim to gather in-depth insights, and Yuma's limited health system size, it was agreed that ten interviews with key informants would be sought. To ensure diverse expertise, interviews were limited to a maximum of two representatives per professional group.

Prior to data collection, ethics approval was received from the Office of Research Ethics at Simon Fraser University, the home university of the Canadian investigators. Some potential key informants were initially recommended by our local health system collaborator. After many months of outreach, our recruitment efforts expanded to include digital platform searches (e.g., LinkedIn profiles) and referrals from previous interviewees. Over the course of one year, from February 2023 to 2024, we achieved our goal of interviewing ten key informants. This extended period of outreach and data collection was necessary to accommodate participants' demanding schedules and to mitigate the additional strain placed on the health system by the seasonal influx of retirement migrants.

Each interview began by obtaining verbal consent and explaining the study's aim and participants' rights. The interviews were led by a team member with extensive local experience in Yuma [JP] and supported by a second member who acted as a note-taker [ONE]. Most interviews lasted the scheduled hour. A semi-structured interview guide developed following an extensive review of relevant literature and through collaboration with our local health system partner, was used to shape the conversations. This guide is available as a supplementary file. Discussed topics ranged from professional roles,

experiences with older Canadian patients and treating sexually transmitted infections, sexual behaviours and exposure, health care access, and preventive outreach opportunities. Consistent with semi-structured interviewing [68], participants were invited to discuss additional topics or to elaborate further on existing discussion points at the close of the interviews. Debriefing sessions held after each interview among the interviewer and note-taker were documented in fieldnotes, synthesizing key topics and emerging areas of consensus and discrepancy.

Interview recordings were transcribed verbatim and checked for completeness and accuracy by the first author. Following this, we conducted a thematic analysis using Braun and Clarke's method of focusing on identifying and organising patterns within qualitative datasets [69,70]. Initially, two team members independently reviewed transcripts to identify preliminary themes, incorporating fieldnotes to support interpretation. Investigator triangulation was employed to support theme reliability [71], with a third team member assisting in determining the scope and scale of specific analytic directions. The first author then developed a recommended coding scheme, which was revised by the team using a process of iterative feedback. The transcripts were next coded in NVivo using the scheme. Coded data excerpts were circulated for feedback, followed by a second round of coding to ensure theme consistency. Extracts were then organized to support analytic directions and were independently reviewed by team members to confirm thematic interpretation. In line with the reporting phase of thematic analysis [72], the identified themes were contrasted against existing knowledge in the literature and insights from our local health system collaborator to uncover new insights and support analytic depth. In the following section, we thematically explore the findings pertaining to opportunities and challenges for sexually transmitted infection prevention and sexual health promotion among Canadian international retirement migrants wintering in Yuma, incorporating direct quotes throughout to support narrative authenticity [73,74].

3.4. Results

We conducted interviews with ten key informants working in Yuma's health care and public health systems, representing seven of the fifteen targeted professional groups we considered for inclusion in the current analysis. Each key informant represented a distinct professional domain, ensuring that a broad perspective was captured. To protect participants' anonymity given Yuma's limited size, verbatim quotes are attributed to

‘providers’ or ‘senior administrators’ throughout this section. On average, participants had worked in various roles within Yuma's health care and/or public health systems for nearly 13 years ($\overline{x}$=12.95). They had collectively supported the delivery of care to hundreds of Canadian international retirement migrants and shared valuable insights into health system demands brought on by seasonal migrant influxes, the health care needs of this group, and their social participation within local communities. While all participants had extensive experience treating or administering care for retirement migrants, their expertise in treating or preventing sexually transmitted infections was meaningfully varied. Nonetheless, all had professional comfort in discussing matters of sexual health among this transnational patient group, including opportunities and challenges for sexually transmitted infection prevention. Participants identified three pathways through which these opportunities and challenges emerged: system, community, and individual. The opportunities and challenges associated with these pathways are separately detailed in the following sub-sections, though we acknowledge that there are important interrelationships between them – some of which we explore in the discussion section.

3.4.1. System Opportunities

Participants pointed to several health system innovations that could enhance care opportunities locally for Canadian retirement migrants, ultimately supporting sexually transmitted infection prevention. For instance, integrating sexually transmitted infection prevention into medical “*visit manuals*” for primary care physicians who saw large numbers of international retirement migrants in their practices and integrating sexual health awareness into “*winter planning*” meetings held among staff at the regional hospital were discussed by participants as important preventative care opportunities. As one provider noted: “*Letting the [medical] community know what the issues are… is something that could be better handled.*” Additionally, the hospital’s Family and Community Medicine Residency Program required interns to develop “*quality improvement projects,*” and assessing the prevalence of sexually transmitted infections in retirement communities was suggested as a potential project. Furthermore, the growing use of telehealth in Yuma’s health system was highlighted as a way to support Canadian international retirement migrants with “*stay[ing] connected with providers [in Yuma] …wherever they go.*” Participants noted that this could extend to practitioners in Yuma providing pre-trip travel

medicine guidance prior to departure from Canada, including around sexual health promotion and sexually transmitted infection prevention.

3.4.2. Community Opportunities

Both providers and senior administrators identified several unrealized opportunities for enhanced community outreach that could educate Canadian international retirement migrants on sexual health. Health fairs and educational gatherings regularly held by Yuma Regional Medical Center staff and other local partners (e.g., privately owned and operated trailer parks), already provided preventive care information such as heart health promotion workshops, exercise planning sessions, and stroke and cancer prevention information sessions, among others. Key informants reported that these existing outreach programs would benefit from expanding their scope to include sexually transmitted infection prevention and promoting safe sex practices, integrating them into other topics of interest for seniors. Such outreach would proactively address questions among this community: "*A lot of these people probably have a lot of questions, but they are afraid to ask them. (…) They have different sexual issues that are preventing them from having… the sex that they want to have.*" As one provider explained, "*stigma aside… you also have those who are very willing, in the right environment, or even if it's not necessarily the topic that they're talking about, to bring up questions… to be more direct.*" A senior administrator noted that promoting available testing services for sexually transmitted infections and the convenience of rapid testing options at community events would enhance Canadian international retirement migrants' knowledge of diagnostic options. One key informant also saw the potential in partnering with a local institution that "*typically does a lot of STD [sexually transmitted disease] testing*" among the migrant worker population travelling through Yuma, "*because it does tend to be an issue when you have a migrant population in general.*" Participants overall highlighted the need to "*think outside the box*" when identifying opportunities to reach out to Canadian international retirement migrants in community contexts to support their sexually transmitted infection prevention awareness.

3.4.3. Individual Opportunities

Key informants identified practices that could empower Canadian retirees in managing their own sexual health and wellbeing while abroad. One key opportunity

highlighted by providers was for these seasonal travellers to "*take more responsibility*" in preparing to manage their health during winter relocations. This would include travelling with their medical records to support any treatment needed in Yuma as well as discussing health promotion and disease prevention opportunities with their care providers in Canada prior to departure. Participants also discussed opportunities for older Canadians to become more aware of care options in Yuma, such as testing at Yuma County's Sexually Transmitted Disease Clinic, which allowed for the discreet delivery of diagnoses, or registering on the MyCare online portal at the Yuma Regional Medical Center to receive results virtually. As one health care provider explained, "*that really helps us because then, once they log into their portal, and they give you access on their phone, then during the visit… you can see what labs they've done, screenings, and what they need.*" Key informants had observed the growing digital literacy of Canadian international retirement migrants, which improved their access to care through online services and lessened the stigma associated with discussing sexually transmitted infections by supporting virtual patient education options. As the "*younger-old*" became older "*the stigma is starting to lift, and they're starting to get testing and treatment. (…) And that level of self-consciousness or embarrassment is starting to lift for the younger population.*" Participants encouraged further integrating sexually transmitted infection prevention information into virtual care options embraced by Canadian international retirement migrants.

3.4.4. System Challenges

Senior administrators and providers alike identified several challenges to supporting care access and treatment for Canadian international retirement migrants that may have negatively affected sexually transmitted infection testing, prevention, and treatment. Given that most non-emergency or preventative care was not covered by the travel health insurance plans purchased by many Canadians, "*they're… already concerned about the bill before I even see them,*" explained one health care provider. When care was accessed in Yuma, "*sometimes we're trying to figure out what their baseline is versus what we're seeing. That can be difficult when you don't have providers that take care of them locally.*" Obtaining existing medical records was hindered by logistical issues in communicating with primary care providers in Canada, delays in paperwork, and the limited nature of the retirees' stays in Yuma. "*By the time they fill out the paperwork [for testing] … they're already getting ready to go back,*" one senior

administrator explained. Additionally, insufficient testing for sexually transmitted infections among older adults due to non-age inclusive local guidelines was highlighted as a challenge. "*If these STIs [sexually transmitted infections] are being under-captured/under-measured, then public health typically doesn't have funding to step in… until it's like a problem.*" Most participants agreed that sexually transmitted infections were likely under-reported and under-diagnosed among older Canadians, as diagnosis and treatment likely often occurred in Canada despite transmission happening in Yuma. This underestimation reduced the impetus to fund sexually transmitted infection prevention outreach for this community through public health initiatives.

3.4.5. Community Challenges

Participants highlighted several limitations of current community outreach initiatives that could hinder sexually transmitted infection prevention. Canadians were not eligible for programs like Medicare, the federal health insurance program for people aged 65 and older in the US, which limited their participation in Medicare-sponsored health promotion education events. A key informant explained that the 2022 local health system needs assessment identified sexual health as a "*moderate problem*" for communities in Yuma, indicating a need for increased education and awareness. Nonetheless, senior administrators emphasized the system's limited capacity to launch community-based educational programs due to staff shortages and other pressing health needs. Consequently, senior administrators consistently explained their need to prioritize medical care provision over community outreach events. One described the situation as such:

> Right now, everybody is so busy that it's hard to get some of the physicians and providers out [to community events]. We are employing a lot more advanced practice professionals…and that's helping with some of the burden of patient care. And they actually would be a great resource when we're talking specifically of STIs [sexually transmitted infections]. (…) We're having a hard time even getting our own clinicians to go out [into communities] … because they don't have capacity. And we'd rather have them in the clinic with patients than be out.

These constraints compromised the reach of current public health education programs into the communities where Canadian international retirement migrants lived and hindered the potential for more extensive sexually transmitted infection prevention outreach.

3.4.6. Individual Challenges

Participants identified specific challenges encountered by health care providers and older Canadians that limited sexually transmitted infection prevention. Providers emphasized that training limitations were a significant challenge in effectively addressing the broad sexual health needs of older patients. Medical education programs typically did not provide guidance on discussing sexually transmitted infection prevention "*specifically for the geriatric population*." This training gap was compounded by the stigma-driven reluctance of some older patients to have conversations about their sexual health. "*Some of them are very close-minded. (…) They don't want you to ask them about it. They don't want to be bothered about it… [sexually transmitted infections] is… a touchy subject.*" Participants also noted how logistical obstacles faced by members of isolated retirement communities located in desert areas, such as long distances to access providers or community events, hindered the effective engagement of some older Canadians in outreach and prevention initiatives. Key informants also mentioned that some older members of Canadian international retirement migrant communities were likely to miss out on health promotion opportunities due to their low digital literacy. As one participant remarked, "*Technology is moving very quickly. (…) So that's a big struggle for us trying to make sure that we don't lose the [oldest] population that way.*" Those who were not users of social media applications, for example, likely missed information about community outreach events focused on health promotion or disease prevention.

3.5. Discussion

The above results highlight key informants' insights into opportunities and barriers for the prevention of sexually transmitted infections and sexual health promotion among Canadian retirees wintering in Yuma via three pathways: system, community, and individual. Key informants, for example, identified opportunities for enhancing sexually transmitted infection awareness through telehealth and incorporating sexual health discussions in routine care for winter visitors. Public health outreach initiatives in Yuma targeting retirement migrant communities could be meaningfully expanded to include sexual health education, leveraging local institutional partnerships to promote available testing services. Individually, Canadian international retirement migrants should prepare for winter relocations by bringing medical records and registering on local online care

portals. However, challenges to better preventing sexually transmitted infections among this group and ultimately promoting their sexual health were also identified by key informants. These included insurance barriers that limit affordable access to preventative care, difficulties obtaining medical records from Canada, the digital divide that may limit seniors' access to health promotion campaigns shared on social media, logistical obstacles to accessing clinics and educational outreach activities such as distance and costs, and lack of provider education about addressing sexual health with older adults. In the remainder of this section, we contextualize these findings and contrast them against existing knowledge to highlight the novelty of this study's contributions.

Many studies have noted the increased use of telehealth in recent years [75,76]. Participants identified telehealth as bridging care needs at home and abroad, particularly for pre-trip planning to explore sexually transmitted infection prevention and sexual wellbeing. Pre-trip consultations addressing sexual health are associated with lower sexually transmitted infection risk [77] and more consistent condom use [78], which is particularly relevant given the high prevalence of sexually transmitted infections among older populations [26,35,38,39,52,79,80]. Integrating sexual health conversations and testing during routine visits can improve risk assessment and sexual history-taking among older patients [36,39,45,81–83], as encouraged by the key informants. Previous reviews have also advocated for creating public health partnerships with local organizations to promote sexual health [47], aligning with key informants' suggestions based on local knowledge. Challenges such as navigating unfamiliar health care systems, treatment costs, and difficulties obtaining medical records [6,45,84–86], as well as the lack of provider training to discuss sexual health with older adults [33,37,38,43,45] are also well-documented. While some opportunities and challenges identified by the key informants are shared in existing literature, this analysis highlights their unique intersection in the context of international retirement migration, impacting sexually transmitted infection prevention for older Canadians in the US.

Key informants emphasized promoting discreet testing services for sexually transmitted infections to maintain anonymity within Canadian international retirement migrants' tight-knit communities [3,10,11,87–90]. Missed opportunities for ensuring awareness and use of such testing were linked to age-related barriers and stigma. The US Centers for Disease Control and Prevention guidelines, which do not recommend any preventative care for older adults unless risk is assessed [45,82,91], reinforce key

informants' concerns. Since many Canadian international retirement migrants wait until returning to Canada for medical attention [59,84,85,92], local sexually transmitted infection rates might not reflect the true number of transmissions among this population. This concern is justified given that Yuma's community health needs assessment and other local reports on sexually transmitted infections only account for people with Arizona zip codes [93,94], excluding Canadian international retirees who are not homeowners. Participants noted that this reduces the pressure on public health providers to support educational outreach to this group. Therefore, integrating sexual health matters, including sexually transmitted infection prevention, into existing health promotion initiatives in retirement communities is crucial. Previous research shows that virtual educational initiatives can effectively increase sexual health literacy in isolated communities, especially when combined with other health topics like bone density or travel vaccines [5,95,96]. This integration could enhance sexual health promotion and better sexually transmitted infection prevention for Canadian retirees in Yuma.

The findings of this analysis have significant public health implications. Ensuring care continuity is vital for sexually transmitted infection testing and follow-up treatment for Canadian international retirement migrants wintering in Yuma. Digital technologies are changing how older adults access care and health information [80,82], especially as newer generations succeed the older ones [97,98]. Telehealth tools and digital applications offer opportunities for timely and ongoing care for older adults across borders [97,99–101] and sexual education among travellers [6,47,48]. These technologies reduce geographic barriers and costs associated with accessing care and outreach events [75,97,102–105], making preventative care and sexual health education more accessible for retirement migrants in remote locations. Research shows that virtual educational initiatives can effectively reach isolated communities, increasing sexual health literacy [97,102]. However, older adults with low digital literacy struggle with technology [82,97,102,106], so digital solutions alone are insufficient. Providers in Yuma should thus be informed of local sexually transmitted infection prevalence by public health officials and trained to initiate sexual health discussions with older patients [38,40,43,81,107]. Age-sensitive interventions should minimize stigma by offering private testing options [42], such as dedicated days for older adults at clinics or self-testing kits [39,108–110]. Promoting testing services and sexual health education for seasonal migrants in Yuma can help destigmatize sexually transmitted infections, encouraging more people to seek care [6].

Equitable access to these services should be ensured through inclusive travel health insurance policies and increased price transparency, for which public health officials should advocate.

Future research can meaningfully explore several key areas to improve sexually transmitted infection prevention and minimize challenges for Canadian international retirement migrants in Yuma, Arizona and elsewhere in the US. First, studying telehealth implementation in cross-border contexts can determine its effectiveness in addressing sexual health needs and the uptake of preventative testing or educational outreach among older adults who travel abroad seasonally [see 98,102,103,106 for some relevant studies]. Such research would support the telehealth opportunities identified by key informants. Second, developing and evaluating clear, accessible, and explicit sexually transmitted infection testing guidelines for older populations would be beneficial, given the challenges identified by key informants. These insights could improve screening practices and raise awareness among public health and health service providers. They could also inform studies on later life sexuality and travel health, which are essential for recommending interventions to foster healthy sexual behaviours abroad. Third, continued research on missed sexually transmitted infection testing, treatment, and prevention opportunities can identify gaps in destination health care systems and policies, enabling more effective interventions to reduce sexual risks [see 83 for an example]. These efforts are crucial for advancing public health strategies and improving the sexual wellbeing of Canadian retirement migrants and mobile older populations.

Strengths & Limitations

A significant limitation of this study is its reliance on remote interviews, which limited the capture of non-verbal cues crucial for understanding key informants' subtleties [66]. This was mitigated by the interviewer and note-taker undertaking deep debriefs after each interview to record nuanced details in the fieldnotes. The specific nature of Yuma as a destination may include characteristics that are not consistent with other international retirement migrant destinations in the US. However, by providing detailed contextual information about Yuma and its health system, we have ensured that knowledge users can assess the qualitative transferability of these findings to other known contexts. Despite these limitations, the study has significant strengths. Early collaboration with an on-site

health system partner in Yuma ensured locally relevant findings and dissemination pathways, benefitting knowledge users [63]. Interviews with key informants from diverse professional backgrounds, who have directly supported the care or care administration for hundreds of Canadian international retirement migrants, enabled the identification of consistent opportunities and barriers for sexually transmitted infection prevention and sexual health promotion in Yuma. Investigator triangulation throughout the research process established the reliability of our results and interpretations, supporting the credibility of these findings across diverse participants [73]. These strengths collectively ensured the coherence, relevance, and reliability of our study's contributions.

3.6. Conclusions

This analysis has offered novel qualitative insights into challenges and opportunities around sexually transmitted infection prevention for older mobile populations, focusing on Canadian retirement migrants wintering in Yuma, Arizona. We identified several opportunities to improve existing prevention efforts, such as leveraging telehealth tools to provide care and enhance ongoing public health outreach efforts in Yuma's retirement communities. Increasing conversations and partnerships within the local public health and health care systems to promote sexual health education and raise awareness about sexually transmitted infection prevalence and testing services would be beneficial to supporting prevention. Furthermore, we explored challenges that serve as access barriers to existing public health efforts in particular, including travel insurance and digital literacy limitations, staff shortages in Yuma's health system, and barriers to care coordination and medical records sharing across borders. These opportunities and challenges underscore the need for targeted public health interventions addressing sexual health promotion and sexually transmitted infection prevention through three pathways: system, community, and individual.

List of Abbreviations

US: United States

Declarations

Ethics approval and consent to participate

Ethics approval was provided by Simon Fraser University's Office of Research Ethics (protocol 30000046) as guided by Canada's Tri-Council Policy Statement: Ethical Conduct for Research Involving Humans (TCPS 2). All key informant interview participants provided informed consent.

Consent for publication

Not applicable.

Availability of data and materials

To maintain the privacy and anonymity of participants, interview transcripts from this research are not publicly available. Inquiries about accessing anonymized extracts can be directed to VAC.

Competing interests

The authors have no competing interests to declare.

Funding

This study was funded by a Planning Grant (HIV/AIDS or STBBI initiative priority) awarded by the Canadian Institutes of Health Research (application #429696).

Authors' contributions

VAC conceptualized the study and spearheaded the funding application. TM assisted during the conceptualization process and helped plan recruitment and data collection. The interview guide was developed by VAC with contributions from JS and TM. JP conducted the interviews with ONE acting as a note-taker. ONE led data analysis and synthesis, supported by JP and VAC. JS helped to confirm analytic directions. ONE drafted the manuscript with detailed support from JP and VAC. JS and TM reviewed and provided feedback on drafts. All authors approved the final manuscript.

Acknowledgments

VAC holds the Canada Research Chair in Health Services Geographies and acknowledges salary support provided by the Canada Research Chair Secretariat.

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Chapter 4. Conclusion

Despite the increasing STI rates among older people and the heightened risk of engaging in unsafe sexual practices for travellers, international retirement migrants receive little attention regarding their sexual health risks and education. This research contributes to raising STIs as a relevant issue for mobile older populations, especially as newer generations succeed older ones and retiring abroad gains more popularity. By focusing on Yuma as a popular destination for Canadian international retirees, I was able to draw from previous studies (Crooks & Pickering, 2021; Pickering, 2021) and established collaborative relationships among members of the research team to inform the conceptualization of this thesis from the outset. Building on previous research results from the team and the on-site experience of the collaborating knowledge end-user, Trudie Milner, has allowed me to contextualize the analytic results by drawing on a larger multi-year case study while also undertaking a rigorous approach to data collection. In the following sections, I revisit my research objectives and related research questions separately, and then proceed to reflect on the crosscutting themes that connect both.

4.1. Revisiting Research Objectives and Questions

4.1.1. Understand the socio-sexual environment in Yuma for Canadian international retirement migrants and factors conducive to sexual health risks.

Objective 1 of my thesis is heavily addressed in Chapter 2 and guided by the research question: How can the environment of IRM communities in Yuma influence sexual health, and specifically STI transmission? This question and objective reflected my interest in identifying factors conducive to Canadian retirees engaging in unsafe sex practices in Yuma, thus increasing their STI exposure and transmission risks. The results of this chapter were enriched by the key informants' experience and roles within the local health care system, which contributed to framing the findings in a meaningful way. Thematic analysis of the data relied on the participants' accounts for potential or realized STI transmission risks in three distinct scopes: leading to STI transmission, non-diagnosis of STIs, and non-treatment of STIs (thereby leading to subsequent transmissions and re-infections). I organized these thematic findings around the concepts of risky activities, risky care access, and risky treatment scenarios.

This chapter revealed how the risks of exposure to STIs for Canadian retirees in Yuma were mediated by the heavily social environment of local retirement communities (Bjelde & Sanders, 2012; Casado-Diaz, 2009; Gustafson, 2008; McHugh & Larson-Keagy, 2005; Savaş et al., 2023a), the retirees' underestimation of sexual risks, and their potential use of alcohol and drugs. Access to preventive care and testing services was compromised by Canadians' travel health insurance limitations, cost concerns on both the patient's and provider's part, and the reluctance to broach sexual health during medical appointments, which together may have led to an increased risk of underdiagnosing STIs among this population. In addition, the seasonality of the Canadian migrants' visits to Yuma sometimes disrupted treatment protocols, which were also challenged by differences in medical record-keeping practices and a lack of care coordination across borders, as well as logistical issues in reaching out to sexual contacts to follow up potential STI transmissions. These three themes were underpinned by the highly stigmatized nature of sexual activity at older age (Ezhova et al., 2020; Fileborn et al., 2018; Justice et al., 2022), which not only reinforced retirees' perceptions of not being 'at risk' (Youssef et al., 2017, 2018) by omitting them from public educational campaigns but also discouraged efforts to detect and treat STIs among older people.

Overall, this chapter highlighted the need for public health interventions and health care practices that are age-sensitive and appropriate for addressing the sexual health of Canadian retirement migrants while in the US. The discussion called for routine screening initiatives and efforts to normalize STI testing and discussions around sexuality at older ages (Justice et al., 2022), which have the potential to help reduce risky behaviours among this population. We contended that it is also crucial to promote safe sex practices through travel medicine consultations and targeted public health campaigns to address the sexual health educational gaps in older generations (Fileborn et al., 2017; Slinkard & Kazer, 2011). Likewise, implementing telehealth tools, training medical providers to be proactive in discussing sexual concerns with older patients (Ezhova et al., 2020; Fileborn et al., 2018; Youssef et al., 2017), as well as advocating for comprehensive travel health insurance policies may improve the sexual health outcomes of Canadian international retirement migrants wintering in Yuma. Ultimately, this chapter's contributions support the promotion of safer and more fulfilling sexual lives for older adults, regardless of their settings.

4.1.2. Identify the challenges and opportunities for STI prevention and sexual health promotion for Canadians in communities like Yuma.

My second research objective corresponded with the analysis presented in Chapter 3 and the question: In which ways are sexual health interventions (e.g., education, testing, counseling, prevention initiatives) hindered or facilitated for Canadian international retirees in the Yuma region? This objective and research question led to a focus on the factors that influence sexual health promotion and STI prevention for Canadian winter visitors in Yuma. The thematic analysis considered the three pathways of influence, and thus it was structured around system, community, and individual-based opportunities and challenges. Overcoming these challenges and leveraging opportunities was argued to be essential for public health and health system authorities to mitigate further STI transmission among retirement populations and manage the intense seasonal strain on the local health infrastructure in Yuma. The insights drawn from this analysis underscored the complexities of addressing STI prevention among mobile older populations.

In the system pathway, opportunities revolved around increasing the awareness of medical professionals and retirees about the significance of STIs for their communities, implementing telehealth tools for care continuity across borders (Paratz et al., 2022; Rochat & Genton, 2018; Rodriguez-Valero et al., 2022), and intentionally integrating sexual health into discussions among providers and with older patients. Community outreach initiatives would benefit from expanding their focus to include pieces on STI prevention and available diagnostic services for Canadian retirees, as well as from partnering with other local institutions experienced in delivering education about sexual health to the broader population (Crawford et al., 2016). Participants also highlighted opportunities for Canadian migrants to be more proactive in managing their health needs while abroad. This included bringing their medical records with them in their winter relocations, learning about their STI testing and treatment options in Yuma, and accessing sexual health services and education through local online portals as they embraced new technologies.

Nevertheless, enhancing the sexual health outcomes of Canadian international retirement migrants in Yuma was thought to be fraught with several challenges in these three pathways as acknowledged by participants. Systemic barriers included travel health

insurance limitations for Canadians that led to concerns around the costs of accessing medical services, as well as their lack of relations with local providers that complicated the provision of care for Canadians. This was compounded by the logistical difficulties in obtaining medical records and the limited stay of Canadians in Yuma that not only prevented them from accessing timely health care, but also caused reported local STI rates to not accurately reflect transmission cases occurring in Yuma. The under-diagnosis and under-reporting of STIs in turn led to a reduced impetus to fund STI prevention through local public health interventions. Access to outreach initiatives for seniors was limited for Canadian retirees as they were not eligible for local public health insurance programs that organized preventive education events. Furthermore, the health systems' capacity for launching community-based educational programs was compromised by local staff shortages that limited the reach of current community events and potential STI prevention outreach programs. On the individual pathway, training gaps among medical professionals in addressing sexual issues with older adults (Gott et al., 2004; Hinchliff & Gott, 2011), the patients' stigma-driven reluctance to broach such topics (Foster et al., 2012; Nash et al., 2015), and their varied digital literacy levels were identified as major challenges to improving the sexual health outcomes of Canadian retirement migrants wintering in Yuma. Overall, these challenges and opportunities emphasized the importance of targeted public health efforts focused on sexual health promotion and STI prevention in IRM communities, which should be approached through system, community, and individual pathways.

4.2. Crosscutting themes

Certain themes connected the findings of the two analyses, highlighting their significant impact on the sexual health outcomes of Canadian retirees in Yuma. First, travel health insurance coverage was mentioned in both chapters as a major barrier for Canadian migrants since it limits their access to preventive care and testing during their stays in Yuma. This lack of access to comprehensive insurance policies also raises concerns among international patients about costs, causing some Canadians to refuse treatment during their stays in Yuma if it is not covered by their insurance. Similarly, the distances that some retirees living in isolated desert areas have to travel to access facilities act as a deterrent not only for accessing health care but also for participating in preventive educational events. Moreover, the transient nature of the Canadian migrant population also disrupts the continuity of care for this segment and creates logistical

complications in sharing medical records across borders, which was addressed in this research as a barrier to STI treatment and a factor leading to an increased risk of further STI transmission. Hence, the role of established local primary care relationships was brought up in the findings of both analyses signalling the importance of this factor in both preventing STIs and also supporting access to diagnosis and treatment. The effects of geographical distances and international borders on health care access for Canadian retirement migrants discussed in both chapters highlight the importance of the contributions of this research to the health geography discipline that underpins my thesis.

Another common theme pertains to the potential of implementing telehealth tools to reduce spatial friction and support care continuity for older Canadians wintering in Yuma, since the lack of cross-border care coordination was acknowledged as an issue in both analytical chapters. Nevertheless, digital solutions alone are insufficient given the digital literacy limitations that many older adults face (Goldberg et al., 2022; Rush et al., 2022; Ufholz et al., 2022). The importance of accessing pre-travel consultations that address sexual risks and STI prevention also emerged in both analyses, underscoring their effectiveness in reducing STI risks for international travellers (Croughs et al., 2008, 2014; Santaolaya et al., 2024; Shiferaw et al., 2024). Likewise, the lack of training of medical professionals related to discussing sexual health with older patients was a common factor affecting Canadians' sexual health literacy and wellbeing (Ezhova et al., 2020; Fileborn et al., 2018; Gott et al., 2004; Slinkard & Kazer, 2011; Youssef et al., 2017). Therefore, both analyses call for readily available training for care providers in Yuma, aimed at providing judgment-free care, fostering open dialogues about sexual health promotion and STI prevention, and tackling the particular sexual performance concerns of older patients.

Finally, underlying my two research goals was an interest in identifying ways to improve the provision of health care for Canadian international retirees regarding their sexual health. Bridging the findings of both analyses is the need for implementing sexual health promotion and STI prevention programs that are tailored for older adults by creating a more supportive environment that encourages open dialogue, reduces stigma and ageism, and ensures that patients receive the care they need without fear of judgment or shame. Addressing Canadian retirement migrants' access to non-judgmental and inclusive sexual health services not only benefits this specific group but also enhances the broader health care landscape for all older people. Thus, the holistic approaches

suggested in this research have the potential to foster a healthier aging population and mitigate the spread of STIs across and within borders, underscoring the importance of inclusive health care practices that recognize and respect the diverse experiences and needs of older adults.

4.3. Future research directions

Building on the findings of the analytic chapters, future studies should examine several critical directions to advancing STI prevention and minimizing sexual risk-taking behaviours for Canadian retirement migrants while wintering abroad. Universal screening programs (Justice et al., 2022), and specifically STI testing guidelines targeting older adults, are a promising area for developing and probing intervention models that can help raise awareness of STIs for these populations effectively, improve screening practices, and reduce the stigma around sexuality at older ages. Such interventions could include community-based initiatives and collaborations with local organizations in international retirement destinations to enhance the outreach of sexual health literacy and STI risks educational programs into retirement migrant communities. Furthermore, given the ageism surrounding these topics within the health care and public health systems, there is a pressing need for more studies to explore care gaps and identify missed STI testing, treatment, and prevention opportunities (e.g., Anderson et al., 2022) to better inform public health strategies and policies addressing the spread of STIs in mobile and older populations.

Another area deserving more research attention is the implementation of telehealth technologies for supporting access to health care in cross-border contexts (see Brahmandam et al., 2016; Minichiello et al., 2013; Rush et al., 2022; Ufholz et al., 2022 for some relevant examples). These tools have the potential to improve the management of sexual health needs while abroad and encourage more preventative STI testing as well as sexual health discussions with older patients. Nevertheless, the limitations of this care medium should be further assessed in order to find ways to equitably increase the uptake of telemedicine among older adults. Conducting longitudinal studies is also necessary to further evaluate the effects of policy changes in the seasonal relocation of Canadian retirement migrants and their access to health services. Such studies can support the identification of areas that require improvement to facilitate the provision of care to retirement migrants regarding their sexual wellbeing.

Retirement experiences (Calasanti, 2008), risk-taking behaviours (de Vlieg et al., 2021; Hayes, 2021), sexual desire and performance in older ages (Freixas et al., 2012; Hinchliff & Gott, 2011; Smith & Christakis, 2009), and STI incidences and risks (Camacho et al., 2022; Fileborn et al., 2018; Svensson et al., 2018) are gendered (Ezhova et al., 2020; Kandpal et al., 2022; Minichiello et al., 2011; Minkin, 2010; Nusbaum et al., 2004) and differ by sexual orientation (Nash et al., 2015; Pilowsky & Wu, 2015). Studies focusing on meaningfully exploring these differences are crucial to advancing our understanding of sexual health in older ages, including among international retirement migrants. Such studies can expand their scope to include other migratory populations and geographic contexts. This would provide opportunities for comparative analyses with the potential for recommending targeted interventions to promote healthy sexual behaviours and reduce sexual risks for international travellers across varied ages and destinations.

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Appendix.

Interview Guide

1. Tell me a bit about your professional role.
    a. What are your key responsibilities?
    b. How long have you held this position?
    c. How long have you worked in Yuma? And outside of Yuma?
2. Outside of sexually transmitted infections (STIs), what types of health issues or emergencies do you usually see or hear about among Canadian snowbirds (a popular term for these older seasonal travellers) wintering in Yuma?
3. What are some of the opportunities associated with addressing snowbirds' health issues while in Yuma? And what do you see as the challenges?
    a. Are any opportunities or challenges specific to Canadian snowbirds? Or are any of the opportunities or challenges faced generally by snowbirds better, worse, or more complex for Canadian snowbirds?
4. In general, what are the most common STIs that you see among older people in the area? And among snowbirds specifically?
5. What concerns do you have, if any, about cases of STIs among snowbirds specifically? And what about snowbirds coming from Canada in particular?
    a. Is this an issue that you have addressed in a professional capacity?
    b. What about awareness of this among your colleagues? In your workplace more generally?

Exposures and Behaviours

6. Are any ways that the social environments of snowbird communities may introduce risks for STI transmission?
    a. What are the risks?
    b. Are any of the risks amplified by particular life circumstances associated with snowbirds (for example, being recently retired or being widowed or divorced)?
    c. Are any of the risks concerning specifically for Canadian snowbirds?
7. Can the social environment of snowbirds foster opportunities for specific types of STI education or awareness?

    a. What STI educational or awareness initiatives are currently in place? Which ones need to be developed?
8. Whose responsibility is it to enhance STI awareness among snowbirds staying in Yuma? What about among Canadian snowbirds in particular?
9. Yuma's snowbird community is quite dispersed, particularly in the desert mobile home and camper communities outside the city. How does this affect how snowbirds in the area interact or how STIs might be transmitted? And, also, how STIs are diagnosed and treated?

Services and Access to Care

10. To the best of your knowledge, what are the current sexual health services (e.g., testing, counselling) offered locally? Who provides these services??
    a. Do you think these services are adequately reaching the snowbirds, who typically double the city's population in the winter months?
    b. Do you think there's a good uptake of these services among snowbirds?
11. Are these existing services accessible to Canadian snowbirds specifically?
    a. If not, why not? Are there particular barriers?
    b. Is any additional or more refined outreach needed to reach this group due to cross-national differences in insurance, health care provision, or sexual health knowledge more generally?
12. Does the transient or mobile nature of the snowbird community create barriers to accessing sexual health and STI services locally? How about their geographic dispersion?
13. Are there any characteristics (e.g., age, social groups, communication networks, transportation, socialization) of the snowbird population that help you promote STI testing or sexual health education? What about characteristics that hinder the promotion of testing/education?
    a. Are any of these specific to Canadian snowbirds?
14. IF APPLICABLE - What are your experiences, if any, of successful or unsuccessful facilitation of sexual health education or outreach for snowbirds?
    a. What are the key lessons learned from these experiences?

Physician Outreach

15. What type of opportunities, if any, do you have for outreach to the physicians who may treat snowbirds after they return to their home communities (or public health professionals in their home communities)? Does any of the physician outreach relate specifically to sexual health or STI testing/counselling/treatment?
    a. Do any of these outreach opportunities extend to Canadian physicians or other health care/public health providers specifically?
16. IF APPLICABLE - What are your experiences, if any, of facilitating sexual health education or outreach for Canadian physicians who see snowbirds?
17. Are there ways to facilitate better information exchange and care continuity between Canadian patients' care providers in Yuma and at home in Canada? Could doing so have an impact on snowbirds' sexual health and/or STI testing/counselling/treatment?

Closing

18. Are there additional issues that we haven't touched on yet that are important to the topics we're talking about today? Any other experiences that you would like to share?