

Building Connections: Reducing social isolation for seniors in public housing

by

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B.A.S., Quest University Canada, 2014

Project Submitted in Partial Fulfillment of the
Requirements for the Degree of
Master of Public Policy

in the

School of Public Policy

Faculty of Arts and Social Sciences

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SIMON FRASER UNIVERSITY

Spring 2020

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Ethics Statement

The author, whose name appears on the title page of this work, has obtained, for the research described in this work, either:

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Abstract

Social isolation is a predictor of adverse physical and mental health outcomes among low-income seniors. Inadequate social support networks and physical environment are key social isolation risk factors facing this population. Municipal planners, decision-makers, health authorities, and housing providers and administrators are confronted by a gap in their understanding about policy interventions that reduce social isolation. A literature review and in-depth interviews highlight best practices for social programming, system navigation, and built environment that improve social connectedness and slow health decline. Key considerations are identified from seven in-depth interviews and seven case studies. Four highly-effective interventions are assessed based on four criteria; ability to increase seniors' social network size and quality, cost, implementation complexity, and long-term effectiveness. This study recommends a phased approach to implementing all four alternatives in the immediate, short-term, and long-term, along with assigning roles for key stakeholders.

Keywords: social isolation; seniors; public housing; built environment; system navigation; social programming

Acknowledgements

Thank you to my supervisor, Professor Maureen Maloney, for her feedback and ongoing support and patience during this process. Thank you to my internal examiner, Professor Josh Gordon, for his important questions and contributions during my defense.

I would also like to thank each of the research participants who made this project possible as well as the individuals who kindly shared their time and expertise in the early phases of my research.

I am eternally grateful for my strong network of family, friends, and colleagues (SJ, DB, LE, NP, AH, BD, CM, SM, NB, KH, and DN) who listened to my ideas, encouraged me, fed me, recognized my hard work, and reminded me to be social.

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Glossary

Affordable housing	Housing is considered affordable when 30 per cent or less of the household's gross income goes towards paying for housing costs.
Assisted living	A type of housing for seniors and people with disabilities that includes on-site hospitality and personal-care support services.
Disability	A severe and prolonged impairment in physical or mental functions.
Housing provider	An organization, society, developer, or BC Housing partner that operates places to live for renters with low incomes.
Independent	An ability to maintain personal health, safety, tenancy requirements, and other obligations in housing.
Loneliness	The negative subjective feeling of a gap between the social contact that is desired and the social contact that is experienced.
Low-income	Household earnings in relation to housing. Low-income is defined as living at or below the annual low-income cut-off (LICO). According to Statistics Canada, \$20,998 is the LICO for single-person households living in urban centers such as Vancouver.
Low-income housing	A housing development that the government or a non-profit housing partner owns and operates.
Public housing	A housing development that the government or a non-profit housing partner owns and operates.
Senior	An adult aged 55 years or older.
Service provider	An individual, group, or organization that helps with a person's needs related to health and housing.
Social housing	A housing development that the government or a non-profit housing partner owns and operates.
Social network	A set of linkages whose characteristics in an identified group of people may explain the social behavior of the people involved.
Social support	Having friends and other people to turn to in times of need or crisis.
Subsidized housing	A type of housing for which the provincial government provides financial support or rent assistance.
Social isolation	The objective measure of an individual's social relationships and is defined by the absence of meaningful contacts with individuals or communities.

Executive Summary

Policy problem and research objectives

Too many low-income seniors in the City of Vancouver struggle with social isolation. This study provides guidance to municipal planners and decision-makers, local health authorities, and non-profit housing providers and administrators to enhance their knowledge of best practices and features of effective interventions to alleviate social isolation and loneliness in urban low-income seniors' housing. This research triangulates existing survey data with academic literature and key informant interviews to determine why low-income seniors are at particularly high risk of social isolation in urban centers. Next this research draws on a literature review to ascertain ten best practices for designing successful social programming, system navigation, and built environment interventions. Lastly, this research proposes how municipal planners, decision-makers, and low-income housing providers and administrators should activate best practices to alleviate social isolation in a cost-effective and sustainable manner.

Key informant interviews and case studies

Key informant interviews and case studies inform the author's analysis. The author conducted in-depth interviews with seven key informants representing non-profit housing providers, local health authorities, local government, seniors' advocacy groups, and not-for-profit organizations. The author undertook seven case studies in three intervention categories – social programming, system navigation, and built environment – to refine the characteristics of effective interventions.

Case studies reveal that the shared interest group model incorporates 7 out of 10 best practices, the leisure exercise model incorporates 6.5 out of 10, the I-SOCIAL model incorporates 5.5 out of 10, the befriending model incorporates 4.5 out of 10, the community connector model incorporates 7.5 out of 10, the technology-based resource model incorporates 5 out of 10, and the purpose-built intergenerational housing model incorporates 8.5 out of 10 best practices. While all case examples have shown positive results for vulnerable seniors, models that incorporate at least 6 out of 10 (60%) of the best practices are considered in the analysis and put forward as recommendations.

A thematic analysis of the interview results identifies five underlying themes that inform the analysis of policy interventions and implementation considerations. Interview participants discussed the importance of adopting an individualized approach to program delivery, comfort and choice so that participants feel welcome and have autonomy, linking-up services and cross-sectoral collaboration so that organizations are not *re-inventing the wheel*, program sustainability, and the social design/affordability trade-off that housing providers must consider when developing new housing options.

Interventions

Resulting from the literature review and case study analysis, four models emerge as highly-effective interventions for reducing social isolation among low-income seniors. These models include the shared interest group model, leisure exercise model, community connector model, and the purpose-built intergenerational housing model. The four alternatives are most effective for informing local funding priorities.

Policy evaluation

The interventions are evaluated based on four criteria, including: increases size and quality of social network, cost, implementation complexity, and long-term effectiveness. Each criterion signifies an important consideration for stakeholders and is vital for achieving the key objective to alleviate social isolation among low-income seniors. The purpose-built intergenerational housing model anticipates the best outcomes for increasing seniors' social network quality and size and for long-term effectiveness. However, it does not achieve the highest overall score due to high costs and high implementation complexity. The low cost, low complexity options are the shared interest group and the leisure exercise models. Yet, these models are less impactful for reducing social isolation and there is more uncertainty regarding their long-term effectiveness. The community connector model ranks lowest due to it being relatively higher cost with greater complexities compared to the shared interest group and leisure exercise models. Moreover, the community connector model anticipates a relatively lower reduction in social isolation for seniors due to the infrequency of social activities and alternative objectives associated with the model.

Recommendations

This study recommends a phased approach to implement all four interventions over the immediate, short term, and long term. First, this study recommends that non-profit housing providers and administrators prioritize the delivery of *shared interest groups* and *leisure exercise activities* in all low-income housing serving seniors in the City of Vancouver. Due to the low implementation complexity and relatively low cost, non-profit housing providers and administrators can operationalize this recommendation immediately.

In the shorter term, this study recommends that the local health authority work together with non-profit housing providers already serving low-income seniors in the City of Vancouver to hire and train *community connectors*. This recommendation requires cross-sectoral collaboration and funding from the Province of British Columbia.

In the longer term, this study recommends that non-profit housing administrators partner with local government to deliver *purpose-built intergenerational housing* in key high-risk communities across the City of Vancouver. Local government should provide oversight and financial support to non-profit housing providers with enough capacity to manage the high complexity of this model.

Chapter 1. Introduction

The focal points of public policy debates concerning aging populations predominantly involve rising healthcare costs and the strain on federal income transfer programs, while the health impacts of social isolation and loneliness are largely ignored. Yet, seniors' advocates argue that social isolation is the top issue for seniors across Canada (National Seniors Council, 2014). The Vancouver Coastal Health 2019 *My Health, My Community* survey indicates that 7.7% of seniors aged 65 and over are socially isolated in the region (Vancouver Coastal Health, 2019). Translating to 15,529 seniors in the region, this population has the highest prevalence of reported social isolation among those aged 18 and over (*ibid.*). Individuals residing in urban centers like Metro Vancouver are 1.2 percentage points more likely to experience social isolation compared to those living in rural areas across the province (6.4% versus 5.2%, respectively) (*ibid.*). Furthermore, Vancouver Coastal Health reports that Vancouver and Richmond are social isolation hotspots, with 6.3% of residents reporting social isolation (*ibid.*).

Supportive social networks are essential for human health and well-being. In senior populations specifically, social isolation is linked to poor health outcomes such as increased blood pressure, anxiety and mood disorders, depressed immune system, cognitive decline, cardiovascular disease, and mortality (Menec et al., 2019; Shankar et al., 2011; Ge et al., 2017; Holt-Lundstad et al., 2015). Fortunately, socially integrated lifestyles can protect against these ailments (National Seniors Council, 2014).

There is overwhelming evidence of a positive correlation between low socio-economic status and high rates of social isolation and loneliness among seniors (de Jong Gierveld et al., 2015; Luhmann & Hawkey, 2016; Menec et al., 2019; Szabo et al., 2019). Specifically, seniors who live alone and with low-income are at increased risk of social isolation and loneliness (Menec et al., 2019; May, 2018; Kearns et al., 2015; Gonyea et al., 2018; National Seniors Council, 2017). The literature indicates that one's social and physical environment can explain the variation in social isolation and loneliness among seniors in urban centers (Kearns et al., 2015; van den Berg et al., 2015; Szabo et al., 2019). Hence, this research study addresses the problem that too many low-income seniors in the City of Vancouver struggle with social isolation.

The size of one's social network and feeling a sense of belonging in community are two key protective factors against social isolation and loneliness (Luhmann & Hawkley, 2016; Kearns et al., 2015). Vancouver Coastal Health notes that a severe indication of social isolation in the region is individuals reporting having nobody to confide in, tell their problems to, or call when they really need help (Vancouver Coastal Health, 2019). Overall, only 19.3% of the respondents above age 18 in the region reported having more than 6 individuals to confide in, and nearly half the population have 3 people or less that they can count on (*ibid.*). Another key indicator of social isolation is the level of an individual's involvement in community activities; for seniors across Canada, nearly one-quarter reported that they would have liked to have participated in more social activities in the past year (National Seniors Council, 2014). These findings indicate that many seniors in the City of Vancouver lack strong social support networks as well as opportunities to participate in social activities that promote a sense of belonging in their community.

While social isolation in low-income seniors is well documented, much less is known about the best practices and evidence-based interventions that reduce its prevalence (Alpert, 2017). This presents an opportunity to investigate the role of service provisions attached to publicly funded seniors housing and the built environment to achieve greater social connectedness for low-income senior residents. Furthermore, BC Housing's senior applicant registry waitlist grew nearly 60% (from 3,774 to about 6,000) between 2012 and 2017 (SPARC BC, 2018). This trend indicates there is large and growing population of low-income seniors in the province needing subsidized housing options. Moreover, there is urgency to address the integrated housing needs affecting low-income seniors in the City of Vancouver.

Chapter 2. Background

2.1. Aging Populations and Poverty

In 2019, the number of seniors in British Columbia surpassed 950,000 people; and while the population makes up about 19% of all residents today, it is expected that seniors will represent more than 26% of British Columbians by 2041 (BC Stats, 2019). This 37% population growth rate over the next 22 years will require more proactive policy and planning initiatives.

In addition to shifting demographics in British Columbia, the seniors' poverty rate doubled between 2002 and 2015 (Pitman, 2019). British Columbia is faced with the highest senior poverty rate across Canada (Pitman, 2019; SPARC BC, 2018). An analysis presented by the United Way of Lower Mainland indicates that there are 50,170 seniors living in poverty in Metro Vancouver (SPARC BC, 2018). According to the 2016 census, 47% of seniors who rent also live alone in Vancouver (Statistics Canada, 2016). Of these senior renters who live alone, 65.5% are living below adequacy, suitability, or affordability standards (*ibid.*). As the City of Vancouver's population ages, more seniors will re-evaluate their housing needs. Forward thinking policy is needed to ensure all seniors have a high quality of life. A range of housing types and supports are needed to adequately meet residents' current and future physical needs, but they also need to be adequate in terms of meeting their social and emotional needs.

There is ongoing debate about the definition of a "senior", and finding objective definitions of "old", "senior", or "elderly" is an impractical task (Statistics Canada, 1999). From a methodological point of view, statistical sources define seniors as those aged 65 and above (*ibid.*). However, from a housing perspective, seniors become eligible for subsidized housing in British Columbia at age 55 (BC Housing, n.d.). Therefore, for the purpose of this study, the threshold of 55 years of age is chosen to delimit the population of seniors and older adults. However, it is important to consider that the life circumstances and experiences of 55-year-olds can be drastically different than the experience of older seniors aged 85 and over. This study aims to create a profile of low-income seniors while acknowledging the heterogeneity of the population.

2.2. Defining Social Isolation

There are several related concepts that present themselves in the literature, including social connectedness, social participation, social inclusion, social environment, social support, social networks, and perceived loneliness. These terms all have different meanings but are intimately linked to social isolation. Simplistically, social isolation is the *objective measure* of an individual's social relationships and is defined by the absence of meaningful contacts with individuals or communities (Cattan et al., 2011, p. 199). The literature on social isolation most often considers loneliness as the negative *subjective feeling* of a gap between the social contact that is desired and the social contact that is experienced (Nicolaisen & Thorsen, 2014, p. 251). The experiences of social isolation and loneliness have a compounding effect on one another. For example, Beller and Wagner report that the greater the level of social isolation, the larger the effect on loneliness and mortality; and the more loneliness one experiences, the greater the level of social isolation (Beller & Wagner, 2018). Furthermore, one's social network and social support system are also linked to social isolation. The Ministry of Health defines *social network* as "a set of linkages whose characteristics in an identified group of people may explain the social behavior of the people involved," and defines *social support* as "having friends and other people to turn to in times of need or crisis" (Ministry of Health, 2004).

Cornwell and Waite (2009) measure social isolation among older adults using multiple indicators including social connectedness, social participation, social support, and loneliness. In particular, the study identifies two reliable factors concerning social isolation. One factor, *social disconnectedness* (i.e. physical separation from others), is defined by a restricted social network and restricted social activity. The second factor, *perceived isolation*, is defined by a lack of support and feelings of loneliness (Cornwell & Waite, 2009). In the current research study, social isolation is characterized by individuals having restricted social networks and minimal or low rates of social participation, leading to feelings of loneliness. Thus, social isolation is a function of the frequency of meaningful social engagements alongside the number of reliable people in one's social network that he or she can turn to in times of need or crisis. Conversely, social connectedness may be achieved by increasing the frequency of meaningful social activities as well as the number of reliable people in one's social network.

2.3. Housing and Health

A growing body of literature indicates that social isolation and loneliness are associated with poor health outcomes such as increased blood pressure, depressed immune system, reduced cognitive function, cardiovascular disease, and mortality (Menec et al., 2019; Shankar et al., 2011). After controlling for age, gender, employment status, and other factors, Ge and colleagues find that social isolation and loneliness are associated with depressive symptoms (Ge et al., 2017). One study examining older residents living in subsidized housing concludes that, when faced with poor health and limited economic resources, older residents report high rates of loneliness and 1 in 4 report clinically significant depression (Gonyea et al., 2018). Within the Vancouver Coastal Health region specifically, survey respondents aged 18 and over with multiple chronic conditions are twice as likely (10.6% versus 5.4%) to experience social isolation than those not reporting multiple chronic conditions (Vancouver Coastal Health, 2019). With respect to perceived health, 13.1% of respondents with fair or poor general health experience social isolation compared with 3.4% of respondents reporting very good or excellent general health (*ibid.*).

Housing is recognized as a social determinant of health and policymakers are focusing on the impact of social and economic conditions such as poverty, poor housing conditions, and income inequality (Fernandez, McKinnon & Silver, 2015). Woolrych and colleagues (2015) advocate for new housing supports and community services that reflect seniors' need for accessible and non-threatening spaces integrated into community hubs. Furthermore, these authors argue that "the design of amenity and service space within new housing developments should incorporate place-based supports for vulnerable seniors, articulated through access to supports for active participation, opportunities to build and sustain social networks, and assume a meaningful role in the community" (Woolrych et al., 2015, p. 254). Rather than waiting for seniors in need to request help and sit on a waitlist, service providers are becoming more proactive and identifying where at-risk seniors live in order to bring services to them. The housing and health sectors are fundamentally linked because one's physical environment can enable social supports and facilitate social interactions.

2.4. Social Isolation Risk Factors

There are multiple, overlapping risk factors for social isolation. In addition to having self-reported fair or poor general health, multiple chronic conditions, and mood and anxiety disorders, Vancouver Coastal Health's *My Health, My Community* survey reports that low education (high school or less), low annual household income (\$40,000 or less), unemployment, smoking, not having been born in Canada, having a very or somewhat weak sense of community belonging, and being extremely or quite stressed are the key risk factors for social isolation among those aged 18 and over within the region (Vancouver Coastal Health, 2019). Regarding seniors specifically, studies show that personal characteristics such as not being married or in a common-law relationship, living alone, having a household income of less than \$20,000, poor mental health, functional impairment, and co-morbidities place individuals at highest risk of experiencing social isolation and loneliness (Menec et al., 2019; de Jong Gierveld et al., 2015; May, 2018; Kearns et al., 2015; Gonyea et al., 2018; National Seniors Council, 2017). In addition, there is an age-effect with respect to loneliness; as individuals age, the lonelier he or she may become due to the dwindling of family and peers (van den Berg, 2016).

A 2019 BC Centre for Disease Control (BCCDC) report echoes Vancouver Coastal Health's findings and highlights that seniors, newcomers to Canada, people who identify as Indigenous, and people who identify as LGBTQ2S are populations at higher risk of social isolation and social exclusion (Lubik & Kosatsky, 2019). BCCDC emphasizes that seniors and Indigenous people in Canada may be at greatest risk of social isolation, which is a concern because these populations are the fastest growing segments (*ibid.*). While there are clearly multiple groups with intersecting identities facing social isolation, seniors living with low-income are the high-risk group requiring urgent, targeted policy responses. The following two risk factors are variables identified in the literature review that are unique to the population of low-income seniors.

Key Risk Factor: Social Support Network Size and Quality

Frequent social participation is important for seniors to maintain a good quality of life (Gilmour, 2012). There is evidence that socio-economic status influences an older person's ability to optimize and diversify social contacts during the life course, which then affects loneliness in late adulthood (de Jong Gierveld et al., 2015). It is likely that, for this reason, Canadians in the highest income bracket have social networks double the size of those in the lowest income bracket (Sinha, 2014). Furthermore, the size and quality of seniors' social networks including familial relationships, connections with friends and neighbours, participation in organized religion, labour market attachment, and volunteering serve as predictors of social isolation and loneliness (de Jong Gierveld & Havens, 2004; de Jong Gierveld et al., 2015). According to the West End Seniors Network's Executive Director, a high proportion of seniors live alone in the community his organization serves, and that oftentimes means that there is no family around to help the individual access necessary social programs (A. Kupferschmidt, interview, Feb 3 2020). It can be inferred that low-income seniors have more restricted social networks and may have more limited family relationships than their counterparts with moderate or higher incomes. It may also be inferred that a small or absent social network is associated with lower overall access to social supports.

Key Risk Factor: Quality and Consistency of Physical Environment

The length of a senior's residence, the quality of his or her neighborhood, and a sense of belonging in the community distinguished by community involvement and amenity use are important risk factors for low-income seniors coping with social isolation. Van den Berg and colleagues (2016) find that residential environment and access to social interaction play an important role in feelings of loneliness or social isolation; in other words, built environment can explain the variance in loneliness for older populations. A longer residence typically results in lower levels of loneliness (Van den Berg et al., 2016; Kearns et al., 2015), which also supports the sense of control and autonomy for older adults (Szabo et al., 2019). Being able to maintain consistency in one's social environment and perceptions of control are important protective factors against loneliness for seniors (Newall et al., 2014). The relationship between housing tenure and loneliness or social isolation is a key argument for supporting *aging-in-place* policies that help seniors maintain independence and remain closely linked to their support networks (Menec et al., 2019; Van den Berg et al., 2016).

Unfortunately, low-income seniors who rent are disproportionately affected by housing insecurity. In older rental buildings where many seniors *age in place*, demolition and renovations by owners responding to the market conditions has left many seniors without viable alternative housing in Vancouver (Woolrych et al., 2015). As a result of high rents, seniors and service providers report displacement from the homes and communities where they live, leading to the loss of meaningful social networks and challenging their sense of home and community (*ibid.*). Displacement results in social isolation and loneliness, as older adults become disengaged from community life (*ibid.*).

The extent to which seniors use local amenities and their perception of the quality of their neighbourhood has the highest impact on loneliness (Kearns et al., 2015). Seniors living alone with low incomes are more likely to live in deprived neighbourhoods, which are associated with higher levels of loneliness (*ibid.*). Kearns and colleagues (2015) find that respondents who feel their neighbourhood is lower quality are more likely than other respondents to report feelings of loneliness, and individuals who make little use of local amenities report greater levels of loneliness. Furthermore, respondents who do not feel part of their community or who know few people in the neighbourhood are more likely to report occasional or frequent loneliness than respondents who have a strong sense of community and who know many or most people locally (*ibid.*). These findings suggest that the location of low-income housing options matter and that the risk of loneliness is highest when seniors live in deprived neighbourhoods without easy access to community amenities and social opportunities.

Socially isolated individuals are typically clustered in areas with a high proportion of low-income older adults, indicating that policy action should be targeted in these locations (Menec et al., 2019). For example, Metro Vancouver census data shows that there are numerous clusters of seniors in poverty. The priority areas identified include Vancouver, Burnaby, the Downtown East Side, Chinatown, Gastown, Victoria-Fraserview, Renfrew Collingwood, Edmonds, Central and North Richmond, Surrey, Newton, Guildford, and Whalley (SPARC BC, 2018).

2.5. Policy Context and Stakeholders

Provincial Government

Social connectedness and inclusion have been integrated into policy frameworks for healthy aging both locally and internationally. In 2007, the World Health Organization (WHO) launched the Global Age-Friendly Cities Guide to identify core features of age-friendly cities and promote policy action in urban centers. With respect to housing, the WHO recommends several age-friendly requirements involving affordability, essential services, design, modifications, and maintenance to ensure continued health, security, and participation of older adults (WHO, 2007). The creation of age-friendly communities in British Columbia builds on this report, and since 2005, the provincial government has provided over \$7 million to support the Age-Friendly Communities Program. This program provides funding to local governments and First Nation communities in British Columbia to support aging populations by developing and implementing projects, policies, and plans (UBCM, 2012). Puxty argues that, in order to implement age-friendly communities, “there needs to be adaptations and transformation among home design, neighbourhood design, city planning, transportation, and health and home care services” (Puxty, 2019). This indicates that, ultimately, a holistic and comprehensive approach to policymaking must be taken.

PlanH is a partnership between BC Healthy Communities Society and health authorities including the Ministry of Health and UBCM to promote the Province of British Columbia’s health promotion strategy. In 2017/18, PlanH prioritized social connectedness to provide funding to 11 municipalities working in partnership with their regional health authority to implement social connectedness initiatives (PlanH, n.d.). This initiative demonstrates that municipalities across the province are discussing the issue of social isolation among community members and looking for ways to foster social connectedness.

Local Health Authority

Vancouver Coastal Health works towards creating *healthy communities* by partnering with municipalities to promote the adoption of “healthy public policy” (C. Gram, interview, Feb 13 2020). Through partnership agreements with municipalities across the region, Vancouver Coastal Health develops work plans with local governments around emerging areas of collaboration; for example, integrating a health lens into an official community plan (*ibid.*). Public health experts like Claire Gram gather data and present evidence to support the policy direction for communities. Unfortunately, for Vancouver Coastal Health, the evidence base related to social connection and housing is relatively new and still quite limited (*ibid.*). Building on their “My Health, My Community” survey, the local health authority has a stake in developing a broader knowledge base around interventions that promote social connection in housing.

Local Government

The City of Vancouver has an opportunity to address social isolation as a regulator, convener, and enabler. As a regulator, the City of Vancouver can create or change by-laws and provide oversight to service providers. The *Vancouver Charter* articulates the government’s duty to foster social well-being of residents within communities by stating that “Council may provide for social planning to be undertaken, including research, analysis and coordination relating to social needs, social well-being and social development in the city” (Vancouver Charter, n.d). In 2018, the City demonstrated its authority and leadership towards creating social connections between residents during a 12-month pilot called *Hey Neighbour*. The project supported resident champions who were willing to step forward and help organize social and sharing activities in each building in order to decrease loneliness among residents (Craig & Heng, 2018).

The City of Vancouver also has the unique ability to change building by-laws without provincial oversight. Specifically, line 306 of Chapter 55 states that “Council may make by-laws for regulating the construction of buildings where the health of occupants or others is concerned” (Vancouver Charter, 2019). In consultation with industry professionals, the City exercised this authority by adopting by-laws 10908 and 9419, which aims to improve the health, safety, and accessibility related to housing for seniors and people with disabilities (City of Vancouver, n.d.). The development approval process

is an important way for the municipality to operationalize the by-laws and influence housing projects.

As a convener and enabler, the City of Vancouver establishes memorandums of agreements with housing providers and administrators like BC Housing and non-profits (K. Tynan, interview, Feb 10 2020). Furthermore, the City has established policy priorities through two key strategies: the *Healthy City Strategy (2015–2018)* and the *Age-Friendly Action Plan (2013–2015)*. ‘Cultivating Connections’ is a key objective in the Healthy City Strategy insofar as Vancouverites will be connected and engaged in the places and spaces that matter to them. The municipality measures success in changes to Vancouverites’ social support and network size, sense of trust, volunteerism, and municipal voter turnout. The latter, the Age-Friendly Action Plan, resulted in amendments to the building by-law to improve accessibility, allowing more seniors to age in place. It also supported the development of a range of housing options to meet the diverse needs of the community (City of Vancouver, 2013).

With respect to social isolation specifically, City policies can play a greater role by creating physical spaces for people to socialize (K. Tynan, interview, Feb 10 2020). The focus of local government is to ensure social infrastructure such as parks, community centers, and libraries are accessible for people (*ibid.*). Nonetheless, there is an opportunity for local government to play a larger role in convening the senior funders, providing funding, and coordinating initiatives (B. Pitman, interview, Feb 7 2020).

Service Providers, Housing Providers, and Administrators

The City of Vancouver’s non-profit partners such as neighbourhood houses, faith-based organizations, and community centers play a larger role in fostering social connectedness through programming (K. Tynan, interview, Feb 10 2020). BC Housing, the Province’s subsidized housing developer and administrator, recognizes that amenity spaces are an important element of their projects (BC Housing, 2019). Design guidelines for independent seniors’ housing outlines that spaces are designed to offer residents the option for social interaction and to encourage a sense of community within the project (*ibid.*). The amenities are to be located centrally and grouped for efficiency and to encourage social interaction (*ibid.*). BC Housing projects incorporate conveniently located outdoor open areas near amenity spaces that are universally accessible from the main building and promotes positive social interaction (*ibid.*).

Chapter 3. Best Practices

A review of literature identifies ten key success factors that serve as best practices for designing, developing, and implementing interventions that positively impact social isolation and loneliness for low-income seniors in urban settings. The following conditions emerge from systematic reviews of randomized control trials, longitudinal studies, cohort studies, and observational studies.

Active Participation & Autonomy: Interventions are more likely to be effective if they involve active participation strategies (Alpert, 2017; Recknagel, 2018). Active participation occurs when older adults are engaged in the planning, implementation, and evaluation of programs or activities, rather than being passive recipients of services (Bartlett et al., 2013; Recknagel, 2018; Gardiner et al., 2018). Older adults should be supported to contribute to activities, while also preserving their *autonomy* by enabling free choice over activities to be undertaken (Gardiner et al., 2018). *Active participation* provides a sense of meaning and purpose for older adults and safeguards the intervention from being unsuitable or undesirable to its target population (Recknagel, 2018). In fact, some older adults find activities organized by others to be patronizing (Gardiner et al., 2018). Active participation also creates social bonds and increases the likelihood that informal caretaking among residents will occur (Recknagel, 2018).

Adaptability & Flexibility: Seniors have a continuum of needs that can shift rapidly. If an organization's mandate is too rigid, they will not meet the needs of the target population; therefore, interventions should be customizable at the local level (Recknagel, 2018). Interventions should be *adaptable* to the specific needs of the local population and *flexible* so that services and supports can meet *individual* needs (Gardiner et al., 2018; Recknagel, 2018). Differences in population demographics and the need for socially and culturally appropriate interventions matching the needs of specific sub-populations drives the need for adaptable interventions (Bartlett et al., 2013; Gardiner et al., 2018).

Community Involvement & System Navigation: Many seniors are unaware of the services that are available to them; therefore, interventions should focus on improving system navigation (Recknagel, 2018). Interventions should connect residents to opportunities for social participation in community-based activities that individuals

choose and that bring them in contact with others like volunteer work, joining clubs, or recreational activities (O'Rourke et al., 2018). The intervention may also facilitate access through reliable communication channels to help seniors remain independent longer (Recknagel, 2018). In effect, the intervention should increase residents' knowledge and understanding of services and supports that are available as well as community offerings. This may be considered a whole-of-community response (Bartlett et al., 2013).

Consistency in Social and Physical Environment: Maintaining consistency in one's social environment is an important protective factor against loneliness (Newall et al., 2014). Interventions should be group oriented and focus on building strong relationships over time (Alpert, 2017; Recknagel, 2018). This increases the chances that older adults will reach out during crises (Recknagel, 2018). Interventions are also more likely to be effective if they emphasize residents having contact with familiar people such as family and friends, as opposed to establishing new contacts (O'Rourke et al., 2018). Thus, interventions should promote aging-in-place and housing stability for residents.

Create Casual Spaces: Intervention increases the number of physical locations for residents to casually engage with others within or near their residence (Recknagel, 2018). This may involve activating underutilized spaces or establishing new spaces.

Decentralization of Care: Interventions should promote a decentralized network of care (Recknagel, 2018). This can mean that residents and/or staff provide support to one another between home care or informal care visits, creating a continuous community of care (*ibid.*). It can also mean that the intervention fosters collaborative involvement of various actors in the social service, health, and housing sectors. Residents should be able to access care and support via multiple channels, including from other residents.

Leverage Existing Resources: Interventions should not 're-invent the wheel' and instead take advantage of existing community services and activate public spaces. The use of existing community resources to connect residents to local agencies providing services enhances the impact of an intervention (Recknagel, 2018; Bartlett et al., 2013). Another consideration is related to density, wherein organizations can take advantage of economies of scale for efficiencies in service delivery (Recknagel, 2018).

Perceived Control: Interventions should aim to provide older adults with tools and opportunities to maintain or enhance personal control concerning their social needs (Newall et al., 2014). One study suggests that interventions aiming to preserve high levels of perceived control can be highly effective at reducing loneliness among older adults (*ibid.*). This means empowering residents to make decisions or choices that best serve their needs.

Personal Development & Intellectual Stimulation: Personal development can change one's outlook on life and social relationships, and personal growth can result in changing one's outlook on solitude to prevent loneliness (O'Rourke et al., 2018). Thus, interventions should promote intellectual stimulation and provide opportunities for personal growth (Recknagel, 2018; O'Rourke et al., 2018).

Self-Sustaining: The sustainability of an intervention depends upon partnership-building so that interventions continue after professional services withdraw their engagement with residents (Gardiner et al., 2018). Thus, interventions may be more effective in the long run if they can be led by residents on a regular basis.

Chapter 4. Case Studies

4.1. Methodology

Case studies exemplify and refine the characteristics of successful interventions that reduce social isolation experienced by seniors living in public housing. The case studies are selected based on their ability to improve the size and quality of seniors' social support network as well as promote consistency and enhance the physical environment. The case studies also address barriers to seniors' participation in social activities. Seven case examples are presented in three intervention categories: social programming, system and community navigation, and built environment. Cases are relevant for low-income seniors who live independently in urban centers.

Cases are drawn from non-profit organization success stories and interviews, academic studies, and grey literature. Each case emphasizes several best practices identified in *Chapter 3*, including: active participation and autonomy, adaptability and flexibility, community involvement and system navigation, consistency in social and physical environment, create casual spaces, decentralization of care, leverage existing resources, perceived control, personal development and intellectual stimulation, and self-sustaining. The cases are assessed based on the number of best practices each intervention incorporates as predominant outcomes.

4.2. Social Programming Interventions

Shared Interest Group Case Example

Creating an environment for individuals to share common interests can set an atmosphere for establishing social ties and support, while effectively lowering their levels of loneliness (Cohen-Mansfield et al., 2017). Shared interest groups are a common, evidence-based intervention that aim to facilitate socialization and self-efficacy among low-income seniors living independently. Participants of shared interest groups typically meet weekly and pursue discussion topics and activities led by a skilled facilitator. A study by Cohen-Mansfield and colleagues (2007) involving 276 independent older adults with low income finds that offering shared interest groups within a residential building provides secluded residents with the opportunity to participate in groups. The study also

finds that, by improving social contact within the building, more residents feel a sense of belonging (Cohen-Mansfield et al., 2007). Shared interest groups create an environment conducive to friendship formation among older residents, reduce their level of loneliness, and promote positive mental health effects. Participants may also find this intervention more acceptable than formal therapy groups with counsellors. Overall, this intervention provides a way for older residents to socialize, improve social skills and self-efficacy, and address other barriers to social contact (*ibid.*).

An example of this model in practice is the *Close to Home* program in Vancouver. The West End Senior's Network (WESN) leads the *Close to Home* program for seniors living in high-rise buildings in the West End who have mobility impairments and are unable to access services or programs in neighbourhood houses, community centers, or WESN's buildings. *Close to Home* is an extension of the social, educational, and recreational programs traditionally offered at WESN's Barclay Manner building, but now offered in the lobby or amenity room of an apartment building on a weekly basis (A. Kupferschmidt, interview, Feb 3 2020). *Close to Home* aims to provide opportunities for residents to socialize in addition to become more familiar with their neighbours. WESN empowers building residents to initiate activities such as workshops, live music, movie screenings, and TED talk screening with discussion groups. According to WESN's Executive Director, Anthony Kupferschmidt, the program makes sure that residents "have someone who could support them the rest of the time if they need help; be it somebody to change their lightbulb or take out the garbage or just check in on them" (A. Kupferschmidt, interview, Feb 3 2020).

By activating common spaces in a residential building, *Close to Home* overcomes transportation and other mobility barriers that exist within this population of seniors. Anthony Kupferschmidt indicates that some seniors cannot attend social events at community centers like WESN's Barclay Manner due to transit affordability or inconvenient bus routes; however, they can meet others in their building's common rooms (A. Kupferschmidt, interview, Feb 3 2020). Ultimately, the goal is to engage a building to the point where it can be self-sustaining. WESN hopes to activate volunteer leaders in the building to take initiative and organize programming regularly (A. Kupferschmidt, interview, Feb 3 2020).

According to Cohen-Mansfield and colleagues' assessment, the relationship with building management is vital for optimizing group processes and the group should become self-sustaining within one year. Preparation for phasing out the professional facilitator should start at the first group meeting when the facilitator informs the residents that the group will become independent. Residents are included early on in the organizational procedures of the group, and they become trained in problem solving and conflict resolution (Cohen-Mansfield et al., 2007). Furthermore, shared interest groups are most effective when they involve 5 to 9 participants because individuals may not take advantage of personal sharing and contribution opportunities if the group is larger (*ibid.*). This study reports that participants respond very positively to shared interest groups, and the intervention is effective at promoting satisfying relationships and reducing loneliness among older residents in subsidized housing (*ibid.*).

Perhaps most notably, the shared interest group model fosters a greater sense of belonging among building residents, promotes positive mental health outcomes, overcomes transportation and mobility barriers, and increases self-efficacy in seniors who have opportunities to take initiative or assume leadership roles. This intervention helps establish a culture of support between residents of a building, which has potential for long-lasting impacts on residents facing social isolation. On the other hand, this model may not be as effective for integrating residents into other communities or raising awareness about neighbourhood resources that help address other risk factors.

Table 1 Summary of Best Practices in the Shared Interest Group Model

Active Participation & Autonomy	Adaptability & Flexibility	Consistency in Social and Physical Environment	Create Casual Spaces	Perceived Control	Personal Development & Intellectual Stimulation	Self-Sustaining
✓	✓	✓	✓	✓	✓	✓

Leisure Exercise Case Example

Toepoel (2013) investigates how leisure activities can increase social integration among seniors, and therefore effectively reduce social isolation. The author finds that participation in hobbies might be the most important leisure activity for predicting social integration. After controlling for other factors, leisure activities identified in this study – including sports and exercise, voluntary work, cultural activities, watching TV, reading books, shopping, and using a computer – explain between 2% and 11% of the variance in the social connectedness variables. This study concludes that promoting leisure activities can reduce poor physical and mental health associated with social isolation, as well as reduce medical costs. The author indicates that facilitating connections with others via leisure activities can be a specific strategy or intervention to increase social integration for older people (Toepoel, 2013).

One example of a leisure program in practice is the *Walk N' Talk for your Life (WTL) program*. *WTL* is an exercise program with a socialization component to help older individuals develop friendships and relieve social isolation. The intervention was designed in 2014 with input from over 200 older adults living in six low-income housing residences in Calgary. More recently, students and community volunteers in Kelowna, British Columbia, implemented this intervention after receiving feedback from community members requesting a program that incorporates socialization, health education, and physical activity (Hwang et al., 2016). The intervention specifically aims to alleviate loneliness and social isolation, as well as improve physical functioning among the participants. Over 300 seniors have participated in *WTL* programs held in several community locations (*ibid.*).

Volunteers and community members can implement this model in seniors' residences and run it on a weekly basis. Individuals attend a group walk and then a 45-minute strengthening, balance, and resistance-training program based on a validated fall prevention program. This is followed by an hour of interactive health discussion; the topics of which are decided by the group. Preliminary quantitative data from in-depth interviews with participants indicate improvements to rates of social isolation and loneliness by the end of the program. Furthermore, a survey of over 180 community members reflect positive sentiment toward the program, with the majority expressing support for programs like *WTL* to continue being offered (Hwang et al., 2016). This

intervention promotes casual spaces for social interactions, opportunities for intellectual stimulation, and the freedom to participate protects participants' autonomy. Furthermore, there is high potential for this model to be self-sustaining as residents can lead some aspects of this exercise program without a professional facilitator.

Two evaluations indicate that the positive effect of community programs like *WTL* may be of limited duration. McAuley (2000) finds that participants' satisfaction in life may decrease again within six months after conclusion of the program. Another study shows that several participants overcame this limitation by maintaining long-standing friendships and continuing to meet independently after the study ended (Pitkala, 2009). Moreover, the group of seniors participating in the *WTL* program in Kelowna continued to walk together on a regular basis after the program concluded (Hwang et al., 2016).

The leisure exercise model is most effective for improving physical and mental health, while also creating opportunities for participants to enhance their social networks organically. This model is not ideal for individuals with mobility challenges or functional impairments such as blindness. Without careful implementation, this model will not be inclusive of those with disabilities and excludes seniors who may benefit the most from participation.

Table 2 Summary of Best Practices in the Leisure Exercise Model

Active Participation & Autonomy	Adaptability & Flexibility	Consistency in Social and Physical Environment	Create Casual Spaces	Perceived Control	Personal Development & Intellectual Stimulation	Self-Sustaining
✓	✓	✓	✓	✓	✓	(1/2)

I-SOCIAL Theoretical Model Case Example

Cohen-Mansfield, Hazan, Lerman, and Shalom (2018) investigate the I-SOCIAL model, a theory-based intervention that addresses individual barriers to social contact and aims to increase social self-efficacy. The innovative model draws on best practices for addressing barriers and combines counselor support with group activities and suggestions for social activities based on an analysis of the individual's barriers. Specifically, the I-SOCIAL model provides an opportunity for individuals to have up to ten one-on-one meetings with a counselor focusing on addressing personal barriers to social integration and include discussions regarding options for social contacts as well as how to access local resources. Counselors also hold up to seven group sessions with at-risk individuals, providing opportunities for participants to increase social competence by practicing social skills in a protected setting and discussing how to overcome barriers (Cohen-Mansfield et al., 2018). This intervention increases personal development opportunities, preserves autonomy, and creates opportunities for intellectual stimulation.

The I-SOCIAL intervention significantly reduced rates of loneliness in the study group when measured after the study and the 3-month follow-up period; while the control group experienced no reduction in loneliness (Cohen-Mansfield et al., 2018). The authors highlight the positive impact of individualized treatment options to meet the needs of at-risk individuals. This is a novel study that combines one-on-one and group intervention options, allowing individuals to select options based on what is most acceptable to them (Cohen-Mansfield et al., 2018).

The researcher is unaware of any practical applications of this model to date. However, one might reason that this model requires higher administrative costs due to the individualized approach for addressing personal barriers. The relatively high cost may be a hindering factor for housing providers who wish to provide individualized supports to their residents. For instance, Brightside Community Homes Foundation's Community Development Coordinator, Dana Sharon, reports that connecting residents within their buildings to counselors, as needed, is one of Brightside's many service offerings (D. Sharon, interview, Feb 10 2020). However, the non-profit housing provider's capacity is limited, and is therefore unable to adequately engage residents one-on-one to make them feel comfortable and welcome (*ibid.*). Although this model has significant potential to provide necessary social supports for senior residents who are

harder to reach as well as provide a greater level of comfort, the service provider requires greater capacity and adequate funding to ensure effective implementation.

Table 3 Summary of Best Practices in the I-SOCIAL Model

Active Participation & Autonomy	Adaptability & Flexibility	Community Involvement & System Navigation	Consistency in Social and Physical Environment	Perceived Control	Personal Development & Intellectual Stimulation
(1/2)	✓	✓	✓	✓	✓

Befriending Case Example

Befriending interventions are a form of social facilitation with the primary aim of helping older adults to formulate new friendships. Befriending interventions are typically one-on-one interactions and involve volunteers to coordinate or facilitate the matchmaking process. The *Senior Companion Programme* and the *Call in Time Programme* are two examples of befriending programs piloted in the United Kingdom (Cattan et al., 2011; Kime et al., 2012). A mixed-methods evaluation finds that telephone befriending programs successfully alleviate loneliness. The intervention “makes life worth living, generating a sense of belonging, and knowing there’s a friend out there” (Cattan et al., 2011). However, qualitative findings from an evaluation of one befriending intervention finds that volunteer recruitment continues to be a key challenge in addition to issues with promoting the program to potential participants (Kime et al., 2012).

Locally, the West End Seniors Network (WESN) recently implemented a telephone befriending program called *Senior Center Without Walls*. The program enables isolated and lonely older adults who want to connect with their peers to have weekly telephone calls. Pairings are requested by participants or suggested by staff based on mutual interests. The Executive Director of WESN, Anthony Kupferschmidt, refers to *Senior Center Without Walls* as “a glorified teleconference call” (A. Kupferschmidt, interview, Feb 3 2020). At first it is a facilitated conversation led by a WESN staff member. Thereafter, individual participants are paired up and connected by phone weekly. This intervention is new to the West End and program evaluations are unavailable; however, WESN’s Executive Director reports “a couple people who have connected with others started a spin-off group of their own” (A. Kupferschmidt, interview,

Feb 3 2020). Once participants are connected, they become supporters for one another. However, WESN avoids pairing two individuals with higher needs despite being able to relate to one another’s circumstance because “they may not be able to really support one another in that way” (*ibid*).

Telephone befriending is ideal for seniors who are harder to access, particularly individuals living alone or are homebound due to disabilities or mobility challenges. In order to keep this intervention as low barrier as possible, WESN only requires that participants have a personal telephone, rather than Internet access or Skype. Conversely, the intervention does not work for seniors with hearing impairments. To date, telephone befriending is only available in Vancouver’s West End; however, there is potential to scale up the intervention because “the geography doesn’t matter so much unless [participants are] talking about the shared experience of living in this neighbourhood” (A. Kupferschmidt, interview, Feb 3 2020). Although participants may never meet in-person due to their own potential limitations, the intervention provides an opportunity for seniors to develop a sense of belonging and practice social skills to prevent cognitive decline.

Telephone befriending provides a low cost means to help isolated older people gain confidence, develop self-respect, and re-engage with the community. Older people want flexibility and choice in the types of support services provided for them, and for those living alone, telephone befriending provides a sense of security (Cattan et al., 2011). Volunteer recruitment is required, which may be a limiting factor for the ongoing sustainability of the program. This intervention also promotes consistency in one’s social environment, has potential to be self-sustaining, increases perceived control over social opportunities, and promotes intellectual stimulation.

Table 4 Summary of Best Practices in the Befriending Model

Adaptability & Flexibility	Consistency in Social and Physical Environment	Perceived Control	Personal Development & Intellectual Stimulation	Self-Sustaining
✓	✓	✓	✓	(1/2)

4.3. System and Community Navigation Interventions

Community Connector Case Example

The Community Connector model is considered a best practice in housing provision for seniors with lower incomes, who are very advanced in age, who are living without social supports, and who do not belong to a club or voluntary organization. Funded provided by the Government of Canada's New Horizon for Seniors Program, the Hamilton Seniors Social Isolation Impact Plan is an initiative in Ontario that has implemented this model in two target neighbourhoods where risk factors for isolation are most prevalent. Community Connectors identify at-risk seniors in the community to assess their unique needs, link them to supports and activities, and follow up to ensure they are sustaining connections. Team members provide practical, individualized assistance to seniors to help them navigate the health and social service systems and connect isolated seniors with their peers and other community members in social settings. The community connector may also host social activities (Hamilton Seniors Social Isolation Impact Plan, n.d.).

This model has also been adopted by the WestEnd Commons, a non-profit housing provider in Manitoba. In this model, the Community Connector provides person-centered social supports in subsidized residential buildings. The objective of this initiative is to reduce social isolation and increase social connectedness by planning group outings and providing residents with a way to access city sites that they could not otherwise afford or access due to a lack of transportation. The Community Connector communicates events and programming information to residents through one-on-one interactions, monthly resident meetings, a newsletter, and a social media group managed by a resident. Over three years, residents in the subsidized housing became more involved and organized social programming in the building, depending on the interests and skills of the residents themselves. The intervention is, therefore, adaptable and flexible to the needs of residents. Community Connectors also provide opportunities for learning and mental stimulation. The WestEnd Commons finds that the Community Connector role is key to making person-centered supports attached to housing possible (WestEnd Commons, n.d.). Person-centered supports help residents to age-in-place and thrive; providing greater consistency in their physical environment over time. Overall, Community Connectors increase the number of seniors who can access supports and

other community resources when they need it. This is important because, according to Brightside’s Dana Sharon, health and wellness is a priority area. Their residents are not well-connected to necessary health and wellness resources and do not have sufficient information (D. Sharon, interview, Feb 10 2020).

Community Connectors can effectively leverage existing community resources and facilitate cross-sectoral collaboration to meet the unique needs of senior residents. In effect, residents can increase their understanding of available health and wellness resources and access supports when needed. Residents can also become more comfortable participating in social events with greater perceived control and consistency in their social environment.

Table 5 Summary of Best Practices in the Community Connector Model

Active Participation & Autonomy	Adaptability & Flexibility	Community Involvement & System Navigation	Consistency in Social and Physical Environment	Decentralization of Care	Leverage Existing Resources	Perceived Control	Personal Development & Intellectual Stimulation
(1/2)	✓	✓	✓	✓	✓	✓	✓

Technology-Based Resource Case Example

The evidence base for the use of Internet and technological means to reduce social isolation and loneliness in seniors remains controversial, yet promising. Yu and colleagues (2020) test the connection between general Internet use and loneliness among seniors over an 8-year period and conclude that Internet use is linked to lower levels of perceived loneliness and greater social contact (Yu et al., 2020). Interventions typically involve computer training or computer loaning experiments. Overall, studies testing the use of technology with seniors to alleviate loneliness is effective in both one-on-one and group formats (Cohen-Mansfield & Perach, 2015). For example, Fokkema and Knipscheer (2007) evaluate the loneliness-related outcomes of an Internet-at-home intervention involving older adults with serious mobility and health barriers. The authors find a significant reduction in loneliness experienced by the intervention group compared with the control group, although both groups reported changes in loneliness. Interestingly, the effect is greatest among seniors with higher education levels. The authors conclude that the reduction in loneliness may be greater if seniors are living in more favorable conditions and if participants use additional functions such as social

media and email (Fokkema & Knipscheer, 2007). In another study, Shapira and colleagues (2007) test the psychological impact of computer training and Internet use in old age. The authors offered a course with a small group of older adults and find a significant improvement in the intervention group when testing for changes in life satisfaction, depression, loneliness, and self-control. The authors conclude that computers and Internet use contributes to older adults' sense of well-being and empowerment by affecting their interpersonal interactions, promoting positive cognitive functioning, and experience of control and independence (Shapira et al., 2007).

Brightside Community Homes Foundation recently launched a *Business Center Program* in one residence, of which a majority of residents are seniors. Brightside collaborated with BCIT to develop an app that helps residents access free and affordable health-related resources online. Thereafter, Brightside further developed the app's potential with another partner to include artificial intelligence (AI) technology that leverages speech recognition. Brightside's Community Development Coordinator, Dana Sharon, reports that this initiative works for residents who struggle with mobility, sight, or are uncomfortable using technology such as a tablet. The software's AI voice feature gives senior residents an alternative to using a computer (D. Sharon, interview, Feb 10 2020). Residents can also use the computer in the Business Center room and print out the information they learn. Furthermore, Brightside hosts workshops "to acclimatize seniors to the fact that there is a room, there is an app, and these are the ways you can use it" (B. Pitman, interview, Feb 7 2020). Brightside plans to expand this initiative into other buildings; however, the key challenge is capacity limitations and "being able to properly engage one-on-one to make people feel comfortable, to make them feel welcome" (D. Sharon, interview, Feb 10 2020).

Technological interventions such as the *Business Center Program* helps residents overcome the digital divide that serves as a barrier for seniors accessing necessary services. Interventions also have potential to connect seniors living with mobility, health, and functional impairments to the resources they need. The activated communal space in the building also provides an opportunity for seniors to meet spontaneously and forge new social connections. Internet access can also connect seniors with one another, including peers and family. Yet, a key consideration for adopting technological interventions is comfort and acceptance as seniors may not be open to learning how to use new programs. According to Brightside's Community

Development Coordinator, “with technology specifically, when you’re dealing with seniors, it can be off-putting, it can be stressful or anxiety inducing, or just something that they are not interested in because it seems complicated” (D. Sharon, interview, Feb 10, 2020). Therefore, computer literacy workshops and other outreach initiatives should be paired with the introduction of any new technology in seniors’ housing. Furthermore, general interest in the resource is a key limitation. Initial uptake in the Business Center was low because, “I don’t think people really understood what we created” (D. Sharon, interview, Feb 10 2020). Generating interest and acceptance of new technology will likely be an ongoing challenge faced by any organization promoting seniors’ use of Internet-based resources. This intervention leverages existing resources, promotes intellectual stimulation, can be self-sustaining, ensures productive engagement, and promotes system navigation.

Table 6 Summary of Best Practices in the Technology-Based Resource Model

Community Involvement & System Navigation	Create Casual Spaces	Decentralization of Care	Leverage Existing Resources	Personal Development & Intellectual Stimulation
✓	✓	✓	✓	✓

4.4. Built Environment Intervention

Purpose-Built Intergenerational Housing Case Example

Toepoel (2013) indicates that interventions with an intergenerational focus are effective for alleviating loneliness because some seniors may be more willing to seek the company of younger people as opposed to those their own age. Initiated in 2003 by the Municipal Housing Board of Alicante in Spain, the Municipal Project for Intergenerational Housing and Community Services is considered a best practice for addressing the specific needs of independent low-income older adults and young people through the provision of 244 affordable, intergenerational housing units in urban centers. This housing model, known as the *Plaza de América Building*, was one of twelve finalists in the 2012 World Habitat Awards. The key objective of this project is to address the problems faced by many low-income seniors living in inadequate housing conditions and experiencing isolation, loneliness, and vulnerability through the provision of affordable housing that allows older people to live happily and independently (World Habitat, n.d.). Additionally, the project aims to provide decent housing for low-income young people, contribute towards the revitalization of the surrounding urban areas, and provide a range of services to the community (*ibid.*). The building is comprised of 78% seniors and 22% under the age of 35. The selection process prioritizes seniors in advanced age with higher levels of socio-economic disadvantage as well as low-income young people with motivation and suitability to work in the social programs or have social or community work experience. The apartments are complemented by communal spaces such as libraries, computer centers, areas for social events and workshops, roof gardens, and local health and recreational services for residents. On the basis of a *good neighbor agreement*, each young person is tasked with caring for 4 senior residents, offering a few hours of their time each week, and liaising with the housing provider (*ibid.*).

The social impact of the Plaza de América Building is notable. All younger residents and 85% of older residents reported benefits of the intergenerational relationships, with an overall rating of 4 out of 5 (Centre for Policy on Aging, 2016). Older residents reported increases in their well-being, in particular, the model allows them to remain independent, but not alone (*ibid.*). Moreover, a range of social activities are easily accessible. Positive impacts on the neighbourhood level are also observed, with

renewal of the local area and providing municipal services to residents (World Habitat, n.d.).

The total cost for three buildings is €50 million (*ibid.*). Funding was obtained from a range of governmental sources and the private sector to ensure flexibility. The residential properties are entitled to existing funding streams from the Ministry of Housing (as subsidized public rental housing), including grants (20% of costs), and mortgage loans with low interest rates (80% of costs, at current interest rates of 2.5%), as well as grants from the local government (*ibid.*). The projects are financially sustainable, as income from rents sufficiently cover loan repayments, and generates an annual surplus of €30,499 (*ibid.*).

Key success factors for the intergenerational housing model include selecting young residents with the right interest and skills to provide adequate support, investing significant time to understand the diverse needs and aspirations of all residents before establishing specific social programs, and lastly, it is crucial to ensure seniors play an active role in planning, developing and implementing social activities and assume responsibility to ensure they become agents in their own lives rather than passive recipients of services (*ibid.*). This intervention supports the decentralization of care, creates casual spaces for social interaction, promotes consistency in the social and physical environment, is highly adaptable, and encourages productive engagement among seniors.

Table 7 Summary of Best Practices in the Purpose-Built Intergenerational Housing Model

Active Participation & Autonomy	Adaptability & Flexibility	Community Involvement & System Navigation	Consistency in Social and Physical Environment	Create Casual Spaces	Decentralization of Care	Leverage Existing Resources	Perceived Control	Personal Development & Intellectual Stimulation
✓	✓	(1/2)	✓	✓	✓	✓	✓	✓

4.5. Case Study Results

Three intervention categories comprising seven case examples are analyzed based on their alignment with the best practices emerging from the literature. This section outlines the results. Case examples that incorporate at least 6 out of 10 (60%) of the best practices identified in Chapter 3 are considered as policy interventions to be assessed by criteria described in Chapter 7.

The success of social programming in low-incomes seniors' housing is dependent on whether activities establish a culture of social support among residents in the long-term. Social programming is most effective when led by a skilled facilitator and managed by one organization. To promote long-term sustainability, the facilitator must establish protocols to encourage leadership among residents or create spin-off activities that occur regularly without professional oversight. The intervention must also be flexible by providing residents options for when and how to participate. Social programs that require fewer resources and overhead costs are more likely to be implemented due to financial constraints faced by non-profits and community groups. In the long-run, evaluators should expect to see key benefits related to increased self-efficacy and social engagement among isolated residents facing health, mobility, and transportation barriers.

- *Shared Interest Group Model* incorporates 7 out of 10 best practices.
- *Leisure Exercise Model* incorporates 6.5 out of 10 best practices.
- *I-SOCIAL Model* incorporates 5.5 out of 10 best practices.
- *Befriending Model* incorporates 4.5 out of 10 best practices.

System and community navigation initiatives such as the WestEnd Commons' Community Connectors and Brightside's Business Center Program exemplifies how, through creating comfortable and welcoming spaces for older adults, they can become familiar with community resources and access necessary health and social supports. Both interventions require initial outreach and one-on-one support to encourage senior residents to participate. While the focus on individualized supports may necessitate higher costs than social programming, these interventions have greater potential to help

residents overcome barriers to accessing services and participating in social events. However, the social benefits of system and community navigation interventions may not be seen as quickly as the provision for social programming. In the long-run, evaluators should expect to see key benefits related to increased cognitive function and perceptions of control among residents. The decentralization of care through individualized case-management and access to online resources can support aging-in-place for residents.

- *Community Connector Model* incorporates 7.5 out of 10 best practices.
- *Technology-Based Resource Model* incorporates 5 out of 10 best practices.

The built environment intervention – Spain’s Plaza de América intergenerational housing model – incorporates the greatest number of best practices compared to the other six interventions. This model helps low-income seniors remain integrated in the community for longer and contribute in meaningful ways, thus supporting aging-in-place. While there are unfortunately no in-depth, academic studies on the outcomes and long-term benefits of this model, in the long-run, evaluators should expect to see improvements in residents’ physical and mental health which can prevent or delay their admission to more expensive care facilities (Garland, 2017). This model offers positive benefits to younger and older at-risk groups requiring affordable housing and to the wider community.

- *Purpose-Built Intergenerational Housing* incorporates 8.5 out of 10 best practices.

The shared interest group model, leisure exercise model, community connector model, and the purpose-built intergenerational housing model each incorporate at least 60% of the best practices and are therefore selected as policy interventions to be analyzed in Chapter 8.

Chapter 5. Key Informant Interviews

5.1. Methodology

Semi-structured in-depth interviews are a widely used method for gathering qualitative data. This study presents findings from seven interviews with key informants and stakeholders to augment the findings from the literature review and case studies. The interview participants represent seniors' advocacy groups, housing and service providers, local health authorities, not-for-profit organizations, and local government. Interviews followed a thematic interview schedule to allow the participants to discuss their expertise and experience with the topic and to provide additional comments. Interviews were conducted in person and over the phone. Each interview lasted between 30 and 60 minutes. The interview participants' names and affiliated organizations are listed in *Appendix B*.

Important insights are drawn from a thematic analysis of the transcribed interview content and presented in this section. These findings guide the development of policy interventions, evaluation criteria, and implementation considerations. Key themes include individualism, comfort and choice, linking up services and cross-sectoral collaboration, sustainability, and the social design/affordability trade-off.

5.2. Thematic Analysis

5.2.1. Individualism

People 55 and over are not a homogenous demographic, and the folks who are living within social housing or subsidized housing, they're not homogenous either in terms of their need or why they are in that living situation. I think, yes, there can be some very, very complex needs. The people are, by virtue of living in poverty or low-income, that creates a whole series of risk factors... Poverty is a huge issue; however, why somebody is living in poverty can be very different from why someone else is. (S. Moore, interview, Jan 31, 2020)

The philosophy for adopting an *individualistic* approach is one that prevails throughout the literature. This approach recognizes that life experiences and current circumstances are diverse and there is no one-size-fits-all approach to service delivery. What works for one senior may not be appealing to another. This theme serves as a

reminder that interventions may be more successful if they are designed to be as flexible and adaptable as possible, allowing for the natural strengths, interests, and motivations of participants to emerge.

What is that building's individual capacity and who lives there and what is their interest and ability and how are you engaging with the residents to try to find those champions? What we found is people want to get involved in different ways. (A. Kupferschmidt, interview, Feb 3 2020)

Social connectedness is an important issue that we strive for and that you need different approaches to address that depending on someone's health and mobility and living arrangements and family arrangements. (A. Kupferschmidt, interview, Feb 3 2020)

In addition to designing flexible and adaptable interventions for low-income seniors, multiple interventions are needed to reach individuals presenting diverse risk factors and unique needs. In sum, *individualism* means that available services and programs help residents get involved in different ways; but it also means that activities accurately reflect the desires of most, if not all, building residents.

5.2.2. Comfort and Choice

I think that's a big challenge with launching any of our programs is really the capacity and being able to properly engage one-on-one to make people feel comfortable, to make them feel welcome. (D. Sharon, interview, Feb 10 2020)

I think those navigator positions; it's usually more than knowledge... it's actually comfort to step out into new environments often. (C. Gram, interview, Feb 13 2020)

Comfort and choice are two related factors that must be considered when providing any type of support to vulnerable populations. *Comfort* involves creating a welcoming atmosphere for seniors to engage or participate in social activities; whereas *choice* implies agency and autonomy. A limitation of providing social programming in housing is getting the word out to residents about the benefits of the activity and encouraging participation. In the case of Brightside, knocking on residents' doors to spread information about the activity or program is something that would likely increase participation; however, the housing provider does not currently have the capacity to undertake such an initiative.

Community connectors can help seniors become more familiar with their surroundings and take up new activities. However, the true benefit of these navigator roles may be more about increasing comfort with one's surroundings, rather than simply the awareness of knowing the services or amenities exist. Comfort is an important consideration for the success of housing-based programs and services.

The main limitation for referring someone out is the resident's willingness to cooperate. (D. Sharon, interview, Feb 10 2020)

I think there's one challenging reality that we have to remember as we go into working with vulnerable adults: is that we assume competency. We always must assume competency... They may be making choices we don't agree with, but that's their right. (S. Moore, interview, Jan 31 2020)

In addition to comfort, willingness to cooperate is a barrier for engagement among seniors. The statements highlighted above serve as a reminder that resident privacy and autonomy must be respected, and therefore, full participation from isolated residents may not be realistic.

5.2.3. Linking-up Services and Cross-Sectoral Collaboration

There's quite a few housing providers and we all try to reinvent the wheel and we all try to, you know, we're all fighting for the same funds... it's really challenging, as opposed to working collaboratively. (D. Sharon, interview, Feb 10 2020)

There isn't a need to reinvent the wheel. We know there are food programs out there. We know that there are services, like let's say you've got Meals on Wheels, we know that program is there. (S. Moore, interview, Jan 31 2020)

You're not replicating what's available a couple of blocks away at the Community Center, but you're finding a way that you can link the two. How are you situating these sites in the neighbourhood? And then, as well as, what are you doing within the site itself? (C. Gram, Feb 13 2020)

Several key informants discussed the issue of service and housing providers *replicating what's available* and *reinventing the wheel*. The social support service landscape in Vancouver is rich with social programs and resources that can be connected to housing. Therefore, it may not be necessary for each housing provider to develop their own on-site social program like Meals on Wheels if they can take advantage of existing community resources. Moreover, housing providers are in

competition with one another over limited funding streams. This results in service providers proposing novel initiatives that stand out from other service providers existing programs. Indeed, there is a need for this form of innovation; however, the delivery of funding for housing initiatives may ultimately be more effective if they encourage partnerships that leverage existing community services.

I think what Brightside is doing so well is that they're working collaboratively with service providers who are in communities. So, again, being able to create cross-sectoral collaboration, to actively engage in it, and to continue to seek feedback and opportunities to participate, even if it's at a higher level, you can really make a difference. (S. Moore, interview, Jan 31 2020)

Therefore, *linking-up services and engaging in cross-sectoral collaboration* involves information-sharing among service providers, leveraging what resources already exist in the community, and building service provider capacity to expand their reach to efficiently serve a greater number of seniors through partnership development initiatives.

The seniors center of the future is not one that just has a single location, it's about going where people are. So, resourcing organizations or groups that are trying to deliver programs and services where people live I think is part of where we need to go. (A. Kupferschmidt, interview, Feb 3 2020)

There is not one single way to address the problem of social isolation; therefore, solutions will also vary. Funding mechanisms should encourage innovation while also enabling collaborative problem-solving. As noted above, the “seniors center of the future” will have multiple locations in order to reach people where they live. While this quote refers to reaching seniors living in private market housing, the meaning of the “seniors center of the future” can also involve service providers working together with housing providers to provide multiple entrance points for seniors requiring social services and programs in their homes and communities.

5.2.4. Sustainability

There has to be in some way a formalized structure that supports the ongoing implementation and the delivery and the sustainability of that program. So, reviewing what's working, what's not working. Is there an opportunity to tailor it specifically for this community and do it in a different way for that community, but still maintain the standards? (S. Moore, interview, Jan 31, 2020)

Sustainability is a consideration that must be built into interventions, be it programming or building design. In one sense, sustainability refers to ensuring there is oversight or a formalized structure to evaluate the intervention outcomes. *Reviewing what's working* ensures the intervention keeps up with the needs of resident participants and a governing body is evaluating and improving initiatives on an ongoing basis.

We were helping them do that on a consistent basis and trying to offer it regularly so that it became part of people's routines. The goal really is to have a building so engaged that hopefully it has the capacity that it is self-sustaining, so you get a building up and going and then you've got hopefully volunteer leads in the building who would take the initiative to organize programming on a regular basis. (A. Kupferschmidt, interview, Feb 3 2020)

Sustainability also refers to the intention of building capacity within the residential building so that senior residents can assume leadership roles. In some settings, an intervention may be considered self-sustaining if the building residents take ownership over an initiative and independently coordinate activities on a regular basis. This way, residents spontaneously engage in social interactions and forge relationships with one another.

You can do whatever you want, but if the built environment is not there to encourage that kind of social connection, it's harder to overcome that in a building. (A. Kupferschmidt, interview, Feb 3 2020)

The physical infrastructure and availability of communal, public spaces is key to the sustainability and feasibility of an intervention. The quote above refers to the challenges faced when activating public spaces in a residential building. New developments should consider social design features to foster social interactions among residents.

5.2.5. Social Design/Affordability Trade-Off

Social isolation in housing will not be solved by programming alone. Vancouver Coastal Health's Claire Gram emphasizes a system level approach that goes beyond social programming. Ultimately, social connection objectives should be embedded in the decision-making framework for any new build or renovation so that design features are considered in funding and capital allocation decisions (C. Gram, interview, Feb 13 2020). One solution may be to include social connectedness criteria in BC Housing's policy framework so that new builds consider social design features.

However, the adoption of social design features presents a significant trade-off for housing developers and service providers concerned with housing affordability and rising construction costs. The City of Vancouver's Katia Tynan reports that construction is becoming more expensive and the housing crisis is creating significant tension in housing policy (K. Tynan, interview, Feb 10 2020). There is a need to increase affordable housing options for people who currently live in Vancouver and for future generations. The urgent need for affordable housing raises important questions regarding the downstream costs associated with social design features such as widened hallways (*ibid.*).

The social design versus affordability trade-off is clearly complex. If social design features and other considerations for social connection are not built into the decision-making framework for housing, decision-makers may be "building in higher costs for the future" (C. Gram, interview, Feb 13 2020). The ultimate question emerging from this trade-off is how we can design low-income seniors' housing to be both affordable for housing providers and conducive to socialization among residents.

Chapter 6. Policy Interventions

Four interventions – the Shared Interest Group Model, Leisure Exercise Model, Community Connector Model, and the Purpose-Built Intergenerational Housing Model – are described in this Chapter. These options incorporate at least 6 out of 10 (60%) of the best practices from the literature and are therefore highly effective at achieving the key objective to promote social connectedness in urban public housing.

6.1. Shared Interest Group Model

Shared interest groups are typically weekly meetings among residents that involve pursuing discussion topics decided by the group or social activities organized by a professional facilitator and/or group participants. Smaller groups comprising 5 to 9 participants has shown to promote personal sharing and greater levels of individual involvement. The intervention is highly adaptable to the needs of participants and can become self-sustaining within one year of implementation. *See Section 4.2 for a full description.*

6.2. Leisure Exercise Model

Leisure and exercise provide opportunities to establish social connections while also promoting good health. This intervention involves socialization, health education, and physical activity in the form of a seniors' walking group. The walking group intervention is initially led by a professional facilitator or volunteer group who plans the walks, encourages residents to participate, and leads a training program and interactive health discussion. As the program runs at least once per week, the group setting provides consistency in social interactions. Residents may choose to independently lead walking groups regularly without professional guidance. However, the full program with facilitated discussions and training requires ongoing professional involvement. *See Section 4.2 for a full description.*

6.3. Community Connector Model

Establishing a Community Connectors role within a residential building is an effective way for housing providers to ensure at-risk seniors access the right resources and supports that meet their unique needs. The liaison role will link-up a specific combination of community services based on feedback from residents. The role is also responsible for developing social activities and coordinating outings in cooperation with residents. Thus, this model also provides residents with opportunities to shape the social culture and activities that are available in their residential building. *See Section 4.3 for a full description.*

6.4. Purpose-Built Intergenerational Housing Model

This congregate housing model facilitates social interaction between younger and older adult residents. Younger residents are each matched with four older residents and engage in a range of social activities each week. Younger residents liaise with the housing provider to ensure the older residents' needs are met. Local government should decide where the physical infrastructure is best located, and partnerships with non-profit housing providers will be required to oversee operations and ongoing management of residents and activities. Local government can also support this option by soliciting provincial and federal funding for housing infrastructure. *See Section 4.4 for a full description.*

Chapter 7. Evaluation Criteria

The interventions outlined in Chapter 6 are assessed by the following four criteria. Each criterion is derived from the literature review and interview data and measured with up to two metrics. The *size and quality of social network* criterion is a key consideration for this research and therefore is double weighted in the analysis of interventions.

7.1. Increases Size and Quality of Social Network

The key objective of this research is to promote social connectedness among low-income senior residents; therefore, interventions are assessed based on its projected ability to increase residents' social network and frequency of social engagement. According to Heylen (2010), the number of social relationships directly affects seniors' sense of social loneliness, which has indirect effects on their levels of satisfaction with social relationships. 'Contact frequency' is an indicator of the quality of social relationships (Heylen, 2010). The evaluation metric is the number of new social connections and contact frequency as a result of the intervention. A *low increase score* results from participants establishing 1 to 3 new social connections through interactions that occur once per week. A *moderate increase score* results from participants establishing 4 to 6 new social connections through interactions that occur 2 to 3 times per week. A *high increase score* results from participants establishing 7 or more new social connections through interactions that occur on a daily basis.

7.2. Cost

Local government, service providers, housing providers, and housing administrators are concerned with the cost effectiveness of any intervention. The total cost of an intervention can include initial capital investment in infrastructure or equipment and overhead costs such as staffing, volunteer recruitment, off-site activities and transportation, and building maintenance. The interventions being evaluated lack reliable financial evidence and consistent measures. Therefore, costs are assessed in contrast with one another. A *low-cost score* results from the intervention requiring minimal or no initial investment and minimal or no overhead costs. This includes low or

zero costs associated with activating public spaces such as amenity rooms or building lobbies for activities, purchasing low-cost equipment, and recruiting volunteers or hiring one staff member. A *moderate cost score* results from the intervention requiring considerable initial investment and considerable overhead costs. Interventions may also receive a *moderate cost score* if there is a high initial cost but low overhead costs. This includes costs associated with recruiting and hiring multiple (i.e. 2 to 4) staff members, maintaining a budget for activity expenses, and requirements for additional office space for staff and one-on-one meetings with clients. A *high cost score* results from the intervention requiring substantial initial investment and substantial overhead costs. Substantial costs include land and building expenses, building maintenance expenses, the recruitment and training of many (i.e. more than 5) staff members, and maintaining a budget to account for activity expenses.

7.3. Implementation Complexity

Implementation complexity is dependent on the capacity of the actor or stakeholder to implement the intervention. This includes ongoing staffing requirements (i.e. number of volunteers or staff needed) and the number of actors or stakeholders required to implement the intervention. A *low complexity score* results from the intervention requiring minimal or no paid staff or volunteers and requires minimal or no coordination with third-party organizations or other stakeholders. A *moderate complexity score* results from the intervention requiring few paid staff or volunteers and requires some coordination with third-party organizations or other stakeholders. A *high complexity score* results from the intervention requiring many paid staff or volunteers and requires substantial coordination with third-party organizations or other stakeholders.

7.4. Long-Term Effectiveness

Interventions should not merely result in short-term reductions in social isolation that dissipates within the following months. Interventions should prioritize long-term changes in housing social culture, and consequently, in seniors' self-efficacy and social behaviour. This is achieved by interventions adequately reflecting the interests and goals of participants. Long-term effectiveness refers to the intervention's projected ability to be self-sustaining among residents. This criterion is measured by the expected likelihood of residents leading the intervention activities without professional oversight (i.e. results in spin-off social activities related to the intervention). A *low effectiveness score* results when it is uncertain or unlikely whether residents will engage in the development and implementation of intervention activities. A *moderate effectiveness score* results when residents are likely to engage in the development and implementation of intervention activities. A *high effectiveness score* results when the intervention creates a continuous system of care in the residential community.

Chapter 8. Analysis

Each of the four policy interventions outlined in Chapter 6 are evaluated according to the evaluative criteria outlined in Chapter 7. The policy matrix in *Appendix A* highlights the trade-offs between the four policy interventions. Each intervention is scored on a three-point scale where *1 represents a low score*, *2 represents a moderate score*, and *3 represents a high score* for each criterion with the exception of the cost and complexity criterion, which are reversed, and the key criteria, which is double-weighted. The data within the policy matrix are estimates based on findings in the literature, case studies, and interviews.

8.1. Shared Interest Group Model

Increases Size and Quality of Social Network

Cohen-Mansfield and colleagues (2007) conclude that shared interest groups are most effective when limited to between 5 and 9 participants. Intervention participants may not take advantage of personal sharing and contribution opportunities if the group is larger (Cohen-Mansfield et al., 2007). Typically, groups run on a weekly basis and therefore provide relatively *low* contact frequency. Conversely, participants can establish up to 9 new social connections as a result of this intervention, indicating a *high contact* score. Overall, this intervention receives a *moderate increase score*.

Cost

This is a *low-cost* intervention because shared interest groups activate existing spaces within residences, such as an amenity room or building lobby. There are minimal costs associated with funding one professional facilitator for one year until the group becomes self-sustaining. Paying one staff facilitator the living wage in Metro Vancouver (\$19.50/hr) for 4 hours per week for 12 months will cost a total of \$4,056. Additional variable costs may include purchasing materials or equipment for activities. A one-time investment of up to \$500 may be required. Organizations may also choose to provide snacks for participants. A weekly budget of \$20 may be considered (or \$1,040 per year). The total cost of this model is up to \$5,596 for 1-year.

Implementation Complexity

This intervention is *low complexity* due to low requirements for human resources; one paid staff to facilitate the group for up to one year. The intervention requires minimal – if any – coordination with third-party service providers. Recruitment of residents to the group intervention requires outreach, which can prove to be challenging. However, once the group is established, residents organize discussion topics and respective activities.

Long-Term Effectiveness

Shared interest groups should become self-sustaining within one year and it is the responsibility of the professional facilitator to build capacity within the group to achieve this end (Cohen-Mansfield et al., 2007). If successful, shared interest groups create long-term positive shifts in a residential building's social culture. Shared interest groups can also result in social activities that spin-off from the group. This intervention is *highly effective in the long-term* because its objective is to create a continuous system of care in the residential community; independent of funding for the initiative.

Table 8 Summary of Shared Interest Group Model Analysis

Criteria	Measure	Shared Interest Group
Increases Size and Quality of Social Network (2X)	Number of New Social Connections & Contact Frequency	<i>Moderate increase</i> (higher social contact + lower contact frequency): Groups of 5 to 9 seniors meet weekly. (4)
Cost	Total Cost (Initial Investment & Overhead Costs)	<i>Low cost</i> : activates existing spaces (\$0/year); requires 1 professional facilitator for up to 1-year (\$4,056/12 months); up to \$500 for materials/equipment; and \$1,040 annually to provide food for participants. Total cost: up to \$5,596. (3)
Implementation Complexity	Number of Volunteers/Staff Required & Level of Coordination with Stakeholders	<i>Low complexity</i> : requires minimal human resources to run and minimal coordination with third-party organizations or stakeholders. (3)
Long-Term Effectiveness	Residents Leading Activities Without Professional Oversight	<i>High effectiveness</i> : groups can become self-sustaining within one year and activities create a continuous system of care for residents. (3)
Total Score: 13		

8.2. Leisure Exercise Model

Increases Size and Quality of Social Network

This group intervention typically runs on a weekly basis. There is no hard limit to the number of participants; however, there is consideration for the number of people that can participate in the training program and fall prevention program following the group walk. Typically, groups run on a weekly basis and therefore provide relatively low contact frequency. Conversely, participants can establish more than 7 new social connections as a result of this intervention, indicating a high contact score. Overall, this intervention receives a *moderate increase score*.

Cost

This is a *low-cost* intervention because leisure exercise groups activate existing spaces within residences and use public spaces outdoors. There are minimal costs associated with funding one professional facilitator or recruiting a group of volunteers for the duration of the program (up to one year). Paying one staff facilitator the living wage in Metro Vancouver (\$19.50/hr) for 4 hours per week for 12 months will cost a total of \$4,056. The costs associated with volunteer recruitment may be absorbed into the organization's existing operating costs. Additional variable costs may include purchasing equipment for the strengthening, balance, and resistance-training program. Basic equipment for up to 10 participants will cost up to \$1,500. The total cost of this model is up to \$5,556 for 1-year.

Implementation Complexity

This intervention is *low complexity* due to low requirements for human resources; one paid staff or a group of volunteers to facilitate the group for up to one year. The intervention requires minimal – if any – coordination with third-party service providers. Recruitment of residents to the leisure exercise intervention requires outreach, which may prove to be challenging.

Long-Term Effectiveness

Older residents may provide input into the development of the leisure exercise group activities, as demonstrated by the WTL program in Calgary and Kelowna. Overall, residents have limited opportunities to participate in the development and delivery of

intervention activities. Furthermore, evaluative studies of this intervention indicate that the positive effect of walking groups may be of limited duration; gains in life satisfaction may return to pre-intervention levels within six months after the program ends (Pitkala, 2009; Hwang et al., 2016). It is uncertain whether participants will maintain long-standing friendships and continue to meet independently after the program ends. Therefore, this intervention is *moderately effective in the long-term*.

Table 9 Summary of Leisure Exercise Model Analysis

Criteria	Measure	Leisure Exercise
Increases Size and Quality of Social Network (2X)	Number of New Social Connections & Contact Frequency	<i>Moderate increase:</i> (higher social contact + lower contact frequency): groups of more than 7 seniors meet weekly. (4)
Cost	Total Cost (Initial Investment & Overhead Costs)	<i>Low cost:</i> activates existing spaces, requires 1 professional facilitator (\$4,056/12 months) or recruit a group of volunteers for up to 1-year, variable costs for purchasing exercise equipment (up to \$1,500 for basic equipment). Total cost: up to \$5,556. (3)
Implementation Complexity	Number of Volunteers/Staff Required & Level of Coordination with Stakeholders	<i>Low complexity:</i> requires minimal human resources or a team of volunteers to run and minimal coordination with third-party organizations / stakeholders. (3)
Long-Term Effectiveness	Residents Leading Activities Without Professional Oversight	<i>Moderate effectiveness:</i> limited opportunities to participate in the development and delivery of intervention; evidence against long-term benefits. (2)
Total Score: 12		

8.3. Community Connector Model

Increases Size and Quality of Social Network

This intervention receives a *low increase score* because social activities including on-site events and off-site trips are irregular and dependent on residents' interest and the Community Connector's initiative. Social events may occur less than once per week and the number of participants is uncertain.

Cost

The Community Connector hosts social activities, plans group outings (i.e. to city sites), and oversees case management within the building. There are considerable costs associated with hiring at least one skilled, full-time professional to fill the Community Connector role within a residential building. Organizations can expect to budget between \$45,000 to \$50,000 annually to fund the Community Connector position. This salary range is above the living wage in Metro Vancouver and lower than a social worker salary. The Community Connector role may also require additional office space for one-on-one meetings with senior clients. A budget is also required to fund outings and materials required for activities. Organizations should expect to budget \$300 for each participant annually, or \$3,000 for 10 participants. The total cost of this model is up to \$53,000 per year. Therefore, this is a *moderate cost* intervention.

Implementation Complexity

This intervention requires at least one qualified, full-time staff per residential building to do case management and host social activities on-site and coordinate off-site activities. Case management requires the Community Coordinator to build partnerships with community organizations, local health authorities, and social service organizations among others to provide adequate person-centered support. Therefore, this intervention is more complex and receives a *moderate complexity score*.

Long-Term Effectiveness

Over three years, Community Connectors enable residents in public housing to become more involved and organize programming in the building, depending on the interests and skills of the tenants themselves (WestEnd Commons, n.d.). This intervention requires recruitment of at least one qualified, full-time staff to organize

activities and oversee case management. This intervention is *moderately effective in the long-term* because resident participation in the development and delivery of activities is not central to the intervention’s objective and the ongoing sustainability of the program could be compromised by potential budget constraints.

Table 10 Summary of Community Connector Model Analysis

Criteria	Measure	Community Connector
Increases Size and Quality of Social Network (2X)	Number of New Social Connections and Contact Frequency	<i>Low increase:</i> social events may occur less than once per week and there is an uncertain number of participants in group activities. (2)
Cost	Total Cost (Initial Investment & Overhead Costs)	<i>Moderate cost:</i> hire at least 1 skilled, full-time staff (salary range between \$45,000 to \$50,000), activate existing space in building, and arrange off-site trips and on-site activities (\$300 per participant annually; 10 participants = \$3,000 annually). Total cost: up to \$53,000 per year. (2)
Implementation Complexity	Number of Volunteers/Staff Required & Level of Coordination with Stakeholders	<i>Moderate complexity:</i> requires at least one skilled, full-time staff and substantial coordination with third-party organizations and stakeholders. (2)
Long-Term Effectiveness	Residents Leading Activities Without Professional Oversight	<i>Moderate effectiveness:</i> some resident participation in development and execution of activities, but not a central component of intervention; may be compromised by budget constraints. (2)
Total Score: 8		

8.4. Purpose-Built Intergenerational Housing Model

Increases Size and Quality of Social Network

Senior residents are supported by a younger resident for a few hours each week. In addition, a range of social activities are easily accessible within the building and seniors are encouraged to take on responsibilities and play an active role in planning, developing, and implementing social activities. In this setting, high contact frequency is expected. Therefore, this intervention receives a *high increase score*.

Cost

This is a *high cost* intervention. The total cost for three buildings is €50 million (CAD 74.1 million) or CAD 24.7 million per building. Funding is secured through multiple governmental sources and private sector to ensure flexibility. The Plaza de América Building generates an annual surplus of €30,499 (CAD 45,231) (World Habitat, n.d.). This intervention involves substantial staffing and building maintenance costs. The model requires more than 5 full-time skilled professionals to oversee building operations and maintenance and manage resident relations. The minimum salary required is \$50,000 per year (or \$250,000 for 5 staff). Housing providers should also maintain an ongoing budget of \$50 per resident per year to enable social activities. If the building has 60 residents, the annual budget should be at least \$3,000. For the first year, the *minimum* operating cost is \$253,000. The initial capital investment for land purchase and/or construction cost will be variable depending on if existing stock cannot be repurposed as intergenerational housing for young adults and seniors.

According to Beverley Pitman, “like any other sector, the non-profit sector needs efficiencies, and those can come through serving spatial concentrations of older folks” (B. Pitman, interview, Feb 7 2020). The larger initial investment required to establish this housing model could potentially be offset in the long run by efficiencies of scale and the respective health care cost savings. Moreover, this housing model overcomes the ‘social design-affordability trade-off’ in a way that the other alternatives cannot address. This model has proven to be financially sustainable for housing providers while serving as a way for the municipality to increase affordable housing options for low-income seniors and young adults.

Implementation Complexity

For this intervention to be successful, the housing provider must screen potential young residents to select those with the right skills and interest to provide adequate support. The housing provider must invest significant time to understand the diverse needs and aspirations of all residents before establishing specific social programs. In addition, multiple funding partners are required to secure capital for the project and the non-profit housing provider must work with multiple stakeholders. Therefore, this intervention receives a *high complexity score*.

Long-Term Effectiveness

There is evidence that this intervention increases older residents' overall sense of well-being and allows them to remain independent longer (Center for Policy on Aging, 2016). The matching process between younger and older residents creates a continuous system of care in the residential community. Furthermore, residents play an active role in planning, developing, and implementing social activities. This ensures they become agents in their own lives rather than passive recipients of services (World Habitat, n.d.). This intervention receives a *high effectiveness score*.

Table 11 Summary of Intergenerational Housing Model Analysis

Criteria	Measure	Purpose-Built Intergenerational Housing
Increases Size and Quality of Social Network (2X)	Number of New Social Connections and Contact Frequency	<i>High increase:</i> younger residents visit older residents for a few hours each week; seniors are engaged in planning and executing social activities; high contact frequency. (6)
Cost	Total Cost (Initial Investment & Overhead Costs)	<i>High cost:</i> estimated 24.7 million per building; substantial staffing costs (at least \$250,000 for 5 full-time staff); budget for social activities (\$50 per resident per year; \$3,000 for 60 residents). (1)
Implementation Complexity	Number of Volunteers/Staff Required & Level of Coordination with Stakeholders	<i>High complexity:</i> high administrative burden to select the right young residents; multiple funding partners required to secure capital; housing provider must liaise with multiple stakeholders. (1)
Long-Term Effectiveness	Residents Leading Activities Without Professional Oversight	<i>High effectiveness:</i> increases self-efficacy and independence; creates a continuous system of care. (3)
Total Score: 11		

8.5. Summary

The Shared Interest Group Model scores 13 points, the Leisure Exercise Model scores 12 points, the Community Connector Model scores 8 points, and the Purpose-Built Intergenerational Housing Model scores 11 points. The Purpose-Built Intergenerational Housing Model anticipates the best outcomes for increasing seniors' social network quality and size and for long-term effectiveness. However, it does not achieve the highest overall score due to high costs and high implementation complexity. The low cost, low complexity options are the Shared Interest Group and the Leisure Exercise Models. Yet, these models are less impactful for reducing social isolation and there is more uncertainty regarding their long-term effectiveness. The Community Connector model ranks lowest due to it being relatively higher cost with greater complexities compared to the Shared Interest Group and Leisure Exercise Models. Moreover, the Community Connector Model anticipates a relatively lower reduction in social isolation for seniors due to the infrequency of social activities and alternative objectives associated with the model. *See the Summary of Analysis policy matrix in Appendix A.*

Despite the variation in scores, each model is considered a best practice for reducing social isolation within the target population. As a result, each alternative receives due representation in this study's recommendations outlined in Chapter 9.

Chapter 9. Policy Recommendations

By nature of each model being evaluated as a best practice and achieving the objective to reduce social isolation, this study recommends a *phased approach* to implement all four policy interventions over the immediate, short term, and long term. This study also indicates roles and responsibilities for stakeholders to successfully carry out the recommended alternatives within a specified timeframe.

Immediate Recommendation

Non-profit housing providers and public housing administrators should prioritize the implementation of *shared interest groups* and *leisure exercise activities* in all low-income housing serving seniors in the City of Vancouver. Due to lower implementation complexity and relatively low cost, non-profit housing providers and administrators can operationalize this recommendation immediately. Specifically, BC Housing should work with its non-profit partners to provide guidance and initial funding. This recommendation involves activating public spaces in residential buildings, designing multi-purpose rooms in new housing developments, and investing in basic exercise equipment and qualified part-time personnel to facilitate required activities.

Short-Term Recommendation

Over 12-months, Vancouver Coastal Health should work together with non-profit housing providers who are already serving low-income seniors in the City of Vancouver to hire and train *community connectors*. Community connectors can work with multiple residential buildings and stakeholders to ensure that the level of support being provided to residents is consistent. They can also perform program development and evaluation tasks, engage in cross-sector collaboration, and improve service delivery. This recommendation supports efficiency in service delivery for seniors because local health authorities are already responsible for undertaking case management and overseeing referrals. Seniors experiencing greater care needs can receive additional support services quicker.

This recommendation primarily helps residents overcome transportation barriers to integrating in the community, accessing services, and visiting city sites. Not every housing provider should invest in a bus; the community connector role can create the

necessary connections with other organizations such as neighborhood houses to gain access to buses.

This recommendation requires cross-sectoral collaboration. Vancouver Coastal Health and non-profit housing providers should submit a joint request for funding from the Province of British Columbia. Meanwhile, the Provincial government should re-assess proposal application criteria to ensure service delivery partnerships are emphasized and prioritized.

Long-Term Recommendation

Within the next two municipal budget cycles, BC Housing should partner with the City of Vancouver to deliver *purpose-built intergenerational housing* in designated high-risk communities across the City of Vancouver. City planners should consider SPARC BC's assessment of census data that indicates clusters of seniors living in poverty in Metro Vancouver. Local government should provide oversight and financial support to non-profit housing partners with enough capacity to manage the complexity of this model.

Chapter 10. Implementation Considerations

Consider generational differences between participants: This study proposes interventions that are effective for seniors aged 55 and above. However, the life experiences of 55-year-old adults are quite different than the experiences of 85-year-old adults. This 30-year gap may present challenges for the implementation of the Leisure Exercise Model and Shared Interest Group Model in particular. These models require participants to agree on discussion topics and to make conversation with one another. Older adults of different age cohorts may be less inclined to befriend one another. For instance, *music* is a common topic selected for shared interest groups; music preferences for those in the 1940s is different than music preferences for those in the 1970s. Discovering points of relation among those with 30-year age gaps may not be a simple task.

Evidence for interventions is urban-centric: The vast majority of academic literature providing evidence for best practices and interventions is based on urban-based studies. Therefore, additional research will need to be conducted to ensure models are applicable to other geographic settings. Rural settings may require a different set of models.

Aim to reach as many at-risk individuals as possible: the shared interest group and leisure exercise models can be easily scaled-up to reach most at-risk seniors living in public housing settings. The flexibility of the programs allows facilitators to cater social activities to the needs and desires of at-risk participants. The community connector model can be scaled-up to enable the community connector role to support multiple low-income seniors' residents as opposed to one staff member per building. The intergenerational housing model can be scaled-up if local government chooses to prioritize the intergenerational approach in any new social and affordable housing projects serving seniors in Vancouver.

No one-size fits all approach: WESN's Executive Director recognizes that the housing and community sectors need different approaches to address social isolation and loneliness (A. Kupferschmidt, interview, Feb 3 2020). Social programming and navigation interventions must consider that residents' needs vary depending on their health, mobility, living arrangement, and family arrangement. Moreover, health status

and respective need for supports can change quickly. For this reason, housing and service providers should be flexible to provide multiple options for seniors to seek social and health supports.

Consider cultural sensitivities and differences: Interventions must be culturally-sensitive. The diversity of languages spoken by seniors creates a barrier for service providers. Beverley Pitman reports that *Better at Home* undertakes an active matching process so that volunteers who are providing services such as friendly visiting speak the same language as their senior clients (B. Pitman, interview, Feb 7 2020). Service providers should ensure that staff and volunteers represent ethnicities, cultures, and languages that are reflective of the seniors they support. This consideration may improve residents' comfort level and willingness to participate in programming.

Assume competency as interventions are not for everyone: Social programming and other interventions may not suit the needs of all vulnerable or at-risk seniors. Brightside finds that, in their buildings, a major limitation for providing support and referrals to residents is their willingness to cooperate (D. Sharon, interview, Feb 10 2020). Another interview participant asserts that, even if an older adult is making choices that service or housing providers disagree with, they have the right to live as they choose, even if it puts them at-risk (S. Moore, interview, Jan 31 2020). Some socially-isolated individuals may choose to be isolated for various reasons. This indicates that programs alone are not silver bullet solutions and the mere presence of interventions will not always help individuals to become more socially-connected.

Create opportunities for participant voices: Interventions may be less relevant to the needs of participants if the housing or service provider decides what activities should be implemented without consulting residents. When possible, interventions should be community driven. Brightside overcomes this challenge by administering an annual survey to residents in their buildings to gain a comprehensive understanding of needs, challenges, and barriers.

Leverage local leadership, but expect challenges: Service providers may find volunteer and staff recruitment challenging in Vancouver due to the high cost of living. To address this issue, *Better at Home* provides paid opportunities to older adults to help them earn income in a small way (B. Pitman, interview, Feb 7 2020). Program

coordinators can consider hiring older adults, when appropriate, to deliver program activities. Alternatively, a resident senior's council can help implement social programming. In some settings, there is a role for local leadership where the line between volunteer and participant is blurred in an appropriate way (C. Gram, interview, Feb 13 2020). Programming should find ways of engaging people and using their skills and provide opportunities to share knowledge; but it usually requires some coordination (*ibid.*). One interview participant agrees that most interventions require ongoing and in-person professional support because, "you still need to have someone who is able to troubleshoot and come in and provide support when things go pear-shaped because they will" (S. Moore, interview, Jan 31 2020). Another interview participant suggests that volunteers delivering programming doesn't usually "fit the bill" because "sometimes you get somebody who's fabulous, but it's very unstable" (C. Gram, interview, Feb 13 2020).

Funding and resource limitations: Several interview participants expressed concern that non-profits will not be able to provide the necessary level of social engagement or social programming unless they receive adequate funding for human resources and/or equipment. For example, navigator roles are very useful, but hard to keep funded (C. Gram, interview, Feb 13 2020). There is also concern around the availability of public spaces within existing buildings that are not designed to support social programming and other communal activities. Interview participants agreed that the City of Vancouver can do more to provide consistent funding to non-profit housing and service providers.

Standardize and evaluate practices: The housing or service provider must establish standardized practices for recruiting participants and volunteers as well as setting the risk process for critical incidents (S. Moore, interview, Jan 31 2020). For the majority of interventions, the housing or service provider must consider oversight and evaluation processes to continuously improve outcomes.

Measuring success is challenging: The impact of social programming on fostering social connectedness or alleviating social isolation are not always easy to measure. Most social network formation is spontaneous, rather than planned and easily observed in program outcomes. However, one method for measuring positive impact is to survey participants and ask how many additional neighbours he or she can confide in after the intervention compared with before the intervention.

Conclusion

Addressing social isolation is essential to ensure that adults continue to enjoy a high quality of life as they age. Unfortunately, there are at least 15,529 individuals above age 65 who experience social isolation in the Vancouver Coastal Health region (Vancouver Coastal Health, 2019). Low-income seniors experience a unique set of risk factors for social isolation and loneliness, including smaller social networks and inconsistent social and physical environments. Population estimates indicate that there were about 50,170 seniors living in poverty in Metro Vancouver in 2015 (SPARC BC, 2018). To reduce social isolation and loneliness within the population of low-income seniors in Vancouver, and therefore achieve greater social connectedness within our local communities, this study presents the most promising practices emerging from the literature.

The overall health and resilience of local communities depends on our ability to ensure the most vulnerable members are included and cared for. Four interventions – the shared interest group model, the leisure exercise model, the community connector model, and the purpose-built intergenerational housing model – will promote greater levels of social engagement among isolated seniors living in low-income housing in the City of Vancouver. The author’s analysis considers the cost and complexity of implementation as well as the likelihood of long-term effectiveness. While the shared interest group model and leisure exercise model involve relatively lower costs and are simpler to implement, the purpose-built intergenerational housing model sees the greatest impact on reducing social isolation due to its ability to create a continuous community and system of care for senior residents.

By analyzing best practices and the most effective interventions, this study indicates how the City of Vancouver, Vancouver Coastal Health, BC Housing, and non-profit housing partners can do more to address social isolation. Moreover, the costs associated with this study’s recommendation to implement all four models over the immediate, short-term, and long-term are not prohibitive. The municipal and provincial government’s support for reducing social isolation among target populations is vital for building communities that are healthy, happy, and thriving.

Future Research

This study emphasizes an individualized approach to service delivery, but does not make specific recommendations that will be suitable for low-income seniors identifying as Indigenous, LGBTQ2S, or racial minorities. The author is limited by the overall lack of information regarding the distinct needs of vulnerable seniors. The design and development of interventions targeting specific subpopulations in the future will require focused research.

Future research should also assess government funding models that support cross-sector collaboration among key stakeholders providing services to vulnerable seniors in public housing. As seniors' care needs change, housing providers should have additional options to assist their transition to alternative housing, rather than be forced to evict seniors to homelessness or hospital settings. Future research should also investigate the role of food security in fostering greater social connectedness as there is a connection between food security programming and peoples' social connections across the Vancouver Coastal Health region (C. Gram, interview, Feb 13 2020). See *Appendix D for Ethical Considerations and Study Limitations*.

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Appendix A.

Policy Matrix

Table A1 Summary of Analysis

Interventions Criteria	Shared Interest Group Model	Leisure Exercise Model	Community Connector Model	Purpose-Built Intergenerational Housing Model
Increases Size and Quality of Social Network (2X)	Moderate increase (4)	Moderate increase (4)	Low increase (2)	High increase (6)
Cost	Low cost (3)	Low cost (3)	Moderate cost (2)	High cost (1)
Implementation Complexity	Low complexity (3)	Low complexity (3)	Moderate complexity (2)	High complexity (1)
Long-Term Effectiveness	High effectiveness (3)	Moderate effectiveness (2)	Moderate effectiveness (2)	High effectiveness (3)
TOTAL	13	12	8	11

Appendix B.

List of Interview Participants

- Dr. Beverley Pitman, Community Impact Planner, Better at Home, United Way Lower Mainland
- Claire Gram, Population Health Policy and Projects Lead, Vancouver Coastal Health
- Dana Sharon, Community Development Coordinator, Brightside Community Homes Foundation
- Anthony Kupferschmidt, Executive Director, West End Seniors Network
- Katia Tynan, Resilience Specialist, City of Vancouver
- Susan Moore, Executive Director, Seniors Come Share Society (formerly Regional Mentor, BC Community Response Network)
- Linda Prochaska, Co-operative Housing Member

Appendix C.

Sample Interview Guide

- What are the risk factors for low-income seniors facing social isolation?
- What are the characteristics of seniors living in a low-income housing setting?
- Why are some seniors less or more likely to integrate into their community?
- Who is best positioned to address or solve this issue?
- What is the role of local government? How can local government make a difference?
- Are you aware of any housing-based initiatives that effectively reduce social isolation or promote social connectedness for senior residents?
- Are you aware of effective programs that could be offered to seniors living in low-income housing settings?
- Are there any barriers to implementing any or all of the interventions that we discussed?

Appendix D.

Ethical Considerations and Study Limitations

The author reflected on ethical considerations throughout the research process. The interview participants were informed about the aim of the study, any potential risks and benefits, the potential uses of their data, how privacy was protected, and eventual dissemination of results. Participation in this study was voluntary and no compensation was given. Participant consent was disclosed upon receiving the consent script by email or in person. In addition, the respective participants approved any interview content and direct quotes used in the report in order to prevent misunderstandings. Finally, the author is aware of the potential bias that may occur during the interview process. The author interviewed professionals and representatives of advocacy groups who may have a vested interest in advocating for or preventing certain policy interventions. The author aimed to remain as neutral as possible.

A limitation of this study is that vulnerable seniors are not interviewed. The researcher was unable to interview vulnerable seniors due to the potential for psychological harm resulting from questions about personal experiences with social isolation. Adequate resources such as counselling would be required. To mitigate this limitation, interviews were conducted with organizations that advocate on seniors' behalf. Additionally, several studies featured in the literature review interviewed seniors directly and provide a detailed picture of the experience of social isolation among seniors.

A review of the literature on interventions dealing with social isolation presented data quality issues. While there is indeed a large, growing body of research evaluating the effectiveness of interventions, findings are oftentimes contradictory when comparing studies and there are inconsistencies in methodologies used to measure social isolation and loneliness. Gardiner and colleagues (2018) cite "methodological flaws and weak evidence base" as a concern emerging from their review of interventions.

Social isolation and loneliness are not synonymous and the literature available for each situation is limited. Therefore, this study incorporates literature on loneliness and social isolation to develop a comprehensive picture of social disengagement and how social connectedness can be promoted within the context of housing.