Social Isolation in Chinese Older Adults: Scoping Review for Age-Friendly Community Planning*

M. Anum Syed,[1] Lynn McDonald,[1] Corinne Smirle,[1] Karen Lau,[1] Raza M. Mirza,[1] and Sander L. Hitzig[2,3,4]

RÉSUMÉ

Les adultes chinois plus âgés peuvent être exposés à un risque accru d'isolement social et de solitude; pourtant, une telle compréhension des défis auxquels ils peuvent faire face pour la participation sociale dans leurs quartiers et communautés est fragmentée. Un examen de la portée a été entrepris pour décrire les connaissances actuelles sur l'isolement social et la solitude chez les aînés chinois vivant en milieu urbain dans les sociétés occidentales afin d'éclairer les recherches, les pratiques et les politiques futures au Canada. Dix-neuf articles répondent aux critères d'inclusion. Le système des communautés conçues pour les adultes vieillissantes de l'Organisation mondiale de la Santé a contextualisé les résultats de l'étude. Les études ont identifié des questions liées (1) à la participation sociale; (2) au soutien communautaire et aux services de santé; (3) au logement; (4) à la communauté et à l'information; (5) au respect et à l'inclusion sociale; (6) aux espaces extérieurs et aux édifices publics; (7) à la participation civique et à l'emploi; et (8) au transport. L'isolement social et la solitude sont des préoccupations croissantes au sein de cette population au Canada, et des recherches supplémentaires sont nécessaires pour en déterminer la portée et les interventions efficaces.

ABSTRACT

Chinese older adults may be at increased risk of social isolation and loneliness, and a fragmented understanding exists about the challenges they face for social participation in their neighbourhoods and communities. A scoping review was undertaken to describe the current knowledge on social isolation and loneliness in urban-dwelling Chinese older adults living in Western societies to inform future research, practice, and policy in Canada. Nineteen articles met the inclusion criteria. The World Health Organization's age-friendly community framework contextualized the study findings. Studies identified issues related to (1) social participation; (2) community support and health services; (3) housing; (4) community and information; (5) respect and social inclusion; (6) outdoor spaces and public buildings; (7) civic participation and employment; and (8) transportation. Social isolation and loneliness is a growing concern in this population in Canada, and additional research is needed to identify its scope and effective interventions.

[1] Institute for Life Course & Aging, Factor-Inwentash Faculty of Social Work, University of Toronto

[2] St. John's Rehab Research Program, Sunnybrook Research Institute, Sunnybrook Health Sciences Centre

[3] School of Kinesiology and Health Science, Faculty of Health, York University

[4] Lyndhurst Centre, Toronto Rehabilitation Institute, University Health Network

* Funding provided by the Government of Ontario: Grant #: 2015-01-1-72794641. The views expressed in this review reflect those of the authors and do not necessarily represent the views of the Province of Ontario. Additional funding provided by the Social Sciences and Humanities Research Council (SSHRC) of Canada: Grant#: 895-2011-1032.

The authors thank Andrea Austen and Heath Priston (City of Toronto), Glenn Miller (Canadian Urban Institute), Adina Lebo and Lillian Wells (Toronto Council on Aging), and representatives from the Toronto Chinese Community and Culture Centre (TCCC) for their expert input on the development of this review.

Manuscript received: / manuscrit reçu : 25/04/16

Manuscript accepted: / manuscrit accepté : 26/08/16

Mots clés : vieillissement, favorable aux aînés, ethnicité, examen de la portée

Keywords: aging, age-friendly, ethnicity, scoping review

La correspondance et les demandes de tire-à-part doivent être adressées à : / Correspondence and requests for offprints should be sent to:
Sander L. Hitzig
St. John's Rehab
285 Cummer Avenue, Room B105
Toronto, ON M2M 2G1
<sander.hitzig@utoronto.ca>

Social isolation and loneliness are major health and social problems in older adults (Keefe, Fancey, Andrew, & Hall, 2006; Nicholson, 2012). Conceptually, social isolation is the objective lack of relationships, social support, and social networks in individuals whereas loneliness, a closely related term, is a subjective distressing feeling that results from social isolation (Ashida & Heaney, 2008; Cloutier-Fisher, Kobayashi, & Smith, 2011).

Being socially isolated and/or lonely can lead to lower self-rated physical health (Cornwell & Waite, 2009), reduced responsiveness to stress (Hackett, Hamer, Endrighi, Brydon, & Steptoe, 2012), increased risk of coronary heart disease (Thurston & Kubzansky, 2009), increased risk of dementia (Fratiglioni, Wang, Ericsson, Maytan, & Windblad, 2000), and mortality (Holt-Lunstad, Smith, & Layton, 2010). Some of the identified risk factors for social isolation and loneliness include gender, health status, widowhood, and other critical life transitions, disability, and a lack of social networks (British Columbia Ministry of Health, 2004; De Jong-Gierveld & Van Tilburg, 1995; Hall, Havens, & Sylvestre, 2003; Perissinotto, Stijacic Cenzer, & Covinsky, 2012). In terms of societal consequences, the absence of social networks and relationships have been linked to elder abuse (Gorbien & Eisenstein, 2005), lack of integration and participation in the community (Keefe et al., 2006) and lower self-perceived well-being (Cornman, Goldman, Glei, Weinstein, & Chang, 2003). Within Canada, approximately one in four seniors indicated that they would have liked to participate in more social, recreational, or group activities in the past year (Statistics Canada, 2012).

One mechanism for addressing social isolation and loneliness at the community-level has been the *age-friendly cities and communities* (AFC) movement promoted by the World Health Organization (WHO, 2007). In Canada, the movement has become an emerging priority at the municipal, provincial, and federal levels of government (some examples include Age-Friendly Windsor, 2011; City of Toronto, 2013; Cloutier-Fisher et al., 2011; Garon, Paris, Beaulieu, Veil, & Laliberté, 2014; MacCourt, 2007; Menec et al., 2015; Nova Scotia Seniors' Secretariat, 2007; Plouffe et al., 2013; Public Health Agency of Canada, 2007; The Council on Aging of Ottawa, n.d.). As a multi-sectoral policy approach, the AFC framework considers how policy makers, city planners, and other stakeholders can facilitate older adults' positive social connectedness with each other and with their environment through eight community dimensions – outdoor spaces and buildings, transportation, housing, respect and inclusion, social participation, civic participation and employment, communication and information, and community supports and health services (Emlet & Moceri, 2012; Lui, Everingham, Warburton, Cuthill, & Bartlett, 2009; WHO, 2007). Two major benefits of this framework are that the dimensions specifically focus on promoting well-established active aging models and are consistent with the determinants of health (Menec, Means, Keating, Parkhurst, & Eales, 2011). The framework provides a theoretical grounding to assess age-friendliness in diverse contexts, and has been successfully applied to rural communities (Walsh, Scharf, & Shucksmith, 2014), grassroots non-profits (Scharlach, Davitt, Lehning, Greenfield, & Graham, 2014), and purpose-built retirement communities (Liddle, Scharf, Bartlam, Bernard, & Sim, 2014). To date, over 900 communities across Canada are participating in age-friendly initiatives to promote active aging with the aim to reduce social problems such as social isolation and loneliness in older adults (Plouffe & Kalache, 2010; Plouffe & Kalache, 2011; Public Health Agency of Canada, 2014).

A growing body of scholarship is concerned with how well age-friendly initiatives can respond to the needs of communities with older adults from different ethnicities, cultures, socio-economic backgrounds, and living arrangements (Buffel, Phillipson, & Scharf, 2012; Menec et al., 2011; Phillipson, 2011). This is unsurprising given that older adults from diverse ethnic, cultural, and immigrant backgrounds may become socially isolated and lonely in Canada due to stresses of migration, limited social support, and networks outside of kin, strained family and intergenerational relationships, financial instability, income insecurity, and possible lack of knowledge of English or French (De Jong Gierveld, Van der Pas, & Keating, 2015; Ip, Lui, & Chui, 2007; Koehn, Spencer, & Hwang, 2010; McDonald, 2011; National Seniors Council, 2014; Ng, Lai, Rudner, & Orpana, 2012; Wu & Penning, 2015).

Among groups of ethnically diverse older adults, Chinese older adults experience numerous barriers to

https://doi.org/10.1017/S0714980817000101 Published online by Cambridge University Press

societal participation in Canadian urban settings (Chan, 1991; Hsu, 2014; Tam & Neysmith, 2006). In Canada, Chinese older adults make up the highest percentage (approximately 30%) of all visible minority elderly and represent about 3 per cent of Canada's total older adult population (Statistics Canada, 2011). More than 80 per cent of all Chinese older adults in Canada reside in the provinces of Ontario and British Columbia (Statistics Canada, 2011).

Although individuals of Chinese descent are typically subsumed under the umbrella term Chinese, there is significant diversity within this community. For instance, Mandarin and Cantonese-speaking communities from Mainland China and Hong Kong represent two of the most commonly reported mother tongues of Chinese older adults (Statistics Canada, 2011). These communities possess distinct regional identities, histories of migration, customs, service needs, preferences, and barriers (Lindsay, 2001; Statistics Canada, 2011; Yee Hong Centre for Geriatric Care, 2013).

In terms of a socioeconomic profile, Canadian census statistics from 2006 indicated that Chinese individuals comprised one of the largest groups living in poverty (National Council of Welfare, 2008). Given that recent immigrant older adults consistently report lower-income levels compared to their Canadian counterparts (Dempsey, 2009; Kaida & Boyd, 2011), a disadvantaged socioeconomic status has been reported in Chinese older immigrants, including those living alone (Lindsay, 2001; Lai, 2004; Kuo & Guan, 2006). This is significant given the role of socioeconomic disparities in perpetuating the economic exclusion of individuals (Lightman & Good Gingrich, 2012). Factors contributing to Chinese older adults' financial precarity may include lack of access to economic and income security resources as newcomers and increased financial dependence on their adult children (Zhou, 2013).

Related to this, there is also evidence that Chinese older adults experience numerous barriers to societal participation in Canadian urban settings (Chan, 1991; Hsu, 2014; Tam & Neysmith, 2006). Empirical research based on national studies (e.g., Lai, 2004, 2007a, 2007b; Lai & Chau, 2007) and Canadian census statistics (e.g., Lindsay, 2001) have flagged several risk factors and consequences related to social isolation and loneliness within this population including intergenerational tensions, living alone, and lack of knowledge of official languages. However, there is still a paucity of research and lack of consensus on what social and environmental factors influence urban-dwelling Chinese older adults' social isolation and loneliness in Canada and, more broadly, Western societies. The applicability of the WHO AFC model in communities with high numbers of Chinese residents has not been explored despite the historical and urban significance of Chinatowns (i.e., urban enclaves) in highly dense inner-city neighbourhoods in Canada (Chinese Canadian Historical Society, 2005). Residents in these neighbourhoods have been identified as at risk of being socially isolated and lonely due to factors such as living alone and having limited knowledge of official Canadian languages (Lai, 1988; City of Toronto, 2010; City of Calgary, 2014). Furthermore, health and social service sectors need to better understand the state of knowledge in this area in order to devise strategies that facilitate Chinese older adults' social inclusion in their neighbourhoods and communities.

In order to address this gap in knowledge, we undertook a scoping review to describe the current state of knowledge on social isolation and loneliness in urban-dwelling Chinese older adults in Canada and other Western societies. Findings from beyond Canada were included to supplement the Canadian evidence and account for similarities between these countries such as urban development strategies, immigration policies, and patterns of transpacific migration by Chinese older adults. Taken together, we use these findings to derive research, practice, and policy recommendations for AFC planning specifically in Canada.

Methods

We chose a scoping review because its methodology maps the existing literature, examines the nature of research activity, disseminates research findings, and identifies gaps in the literature (Arksey & O'Malley, 2005). It also provides a rapid summary of the research and situates the available knowledge within research, policy, and practice implications (Arksey & O'Malley, 2005; Levac, Colquhoun, & O'Brien, 2010). This review followed Levac et al.' s (2010) six-stage process for scoping reviews.

Stage 1: Identifying the Research Question

The research question guiding this review was, What is known about social isolation and loneliness in urban-dwelling Chinese older adults living in Western societies? A key conceptual and methodological consideration in this review was the range of definitions and measurements associated with the terms social isolation and loneliness (Menec, Newall, & Nowicki, 2016). A comprehensive scoping review conducted by the National Seniors Council (2014) indicates that terms such as social exclusion, social disconnectedness, and social vulnerability are often used interchangeably with social isolation and loneliness in the literature (British Columbia Ministry of Health, 2004; Cornwell & Waite, 2009; Keefe et al., 2006; National Seniors Council, 2014; Medical Advisory Secretariat, 2008). Given the

https://doi.org/10.1017/S0714980817000101 Published online by Cambridge University Press

Table 1: Search terms for literature on social isolation and loneliness in Chinese older adults in Western societies

Conceptual Term	Specific Terms
Social Isolation or Loneliness	social isolation OR desolation OR remoteness OR segregation OR aloneness OR detachment OR reclusiveness OR withdrawal OR social exclusion OR social integration OR social network OR social participation OR lone* OR alone OR isolat*
Population	AND older adult OR senior* OR elder* OR aged OR retire* OR widow* OR old* person
Ethnicity	AND Chinese OR Asian OR Mandarin OR Cantonese OR East*Asian
Setting	AND urban* OR cit* OR communit* hub

inherent purpose of scoping reviews to produce a broad synthesis of the available literature, we included several terms related to social isolation and loneliness in the search strategy to identify studies for inclusion (see Table 1).

Stage 2: Identifying Relevant Studies

Peer-reviewed and grey literature sources were reviewed for appropriate literature. Peer-reviewed literature included Ageline, CINAHL, Social Sciences Abstracts, MedLine, PsycINFO, Applied Social Sciences Index and Abstracts (ASSIA), Canadian Research Index, Social Services Abstracts, Sociological Abstracts, Social Work Abstracts, and JSTOR. Grey literature was considered from the following databases: Proquest Theses and Dissertations databases, Canadian Public Policy Collection, Canadian Health Research Collection, U.S. National Institutes of Health, OpenGrey (Europe), and a custom Google search of government documents and community reports. The final search terms used for the review were identified through a preliminary literature review, feedback from an expert panel (see Stage 6), manual searches, and expert librarian consultation (see Table 1 for a list of the selected search terms, Table 2 for the inclusion/exclusion criteria, and Figure 1 for the search process).

Stage 3: Study Selection

Two reviewers independently evaluated the generated titles and abstracts using the specified inclusion and exclusion criteria. A third reviewer was available to mediate in case of a disagreement between the reviewers about a study's selection in the review. The third reviewer resolved one disagreement that arose during this stage.

Stage 4: Charting the Data

The included studies were presented in descriptive summary tables (see Tables 5 and 6). The tables described the study design, year of publication, key area, outcome measures, relevant findings and conclusions, and the AFC dimension(s) most relevant to the study (see Stage 5 for a description of the coding process used to assign AFC dimensions to a study).

Stage 5: Collating, Summarizing, and Reporting Results

The data charting process described in Stage 4 served as the basis to code the studies according to AFC's eight community dimension(s), and the WHO AFC framework was used to contextualize the review's findings on these dimensions. This framework was deemed particularly useful for understanding factors that contribute to social isolation in aging populations, and for formulating suggestions to targeted stakeholders who may participate in enacting change at the practice and policy level through age-friendly initiatives.

Two reviewers (MAS, CS) met twice for a consultation meeting to exchange preliminary ideas and clarify the process of coding the included studies according to the eight AFC dimensions (see Table 3 for descriptions of the AFC dimensions). To increase the study rigour, the reviewers independently reviewed the articles and the

Table 2: Inclusion and exclusion criteria

Inclusion Criteria	Exclusion Criteria
Participants must be older adults (55 years or older) of Chinese descent.	Studies not in English or French
Chinese population comprises at least 30% of the study sample.	Commentaries or opinion pieces
Studies are set outside Asia (primarily Canada, U.S., Europe, and Australia) where Chinese older adults may be first-, second-, or third- generation migrants.	Studies earlier than 1985 (30 years or earlier)
Study's substantial focus is on studying social isolation or a related issue (e.g., loneliness, social engagement, participation, inclusion, etc.).	
Peer-reviewed and grey-literature studies must be empirical studies using qualitative, quantitative, or mixed-methods with clearly defined methodologies.	

https://doi.org/10.1017/S0714980817000101 Published online by Cambridge University Press

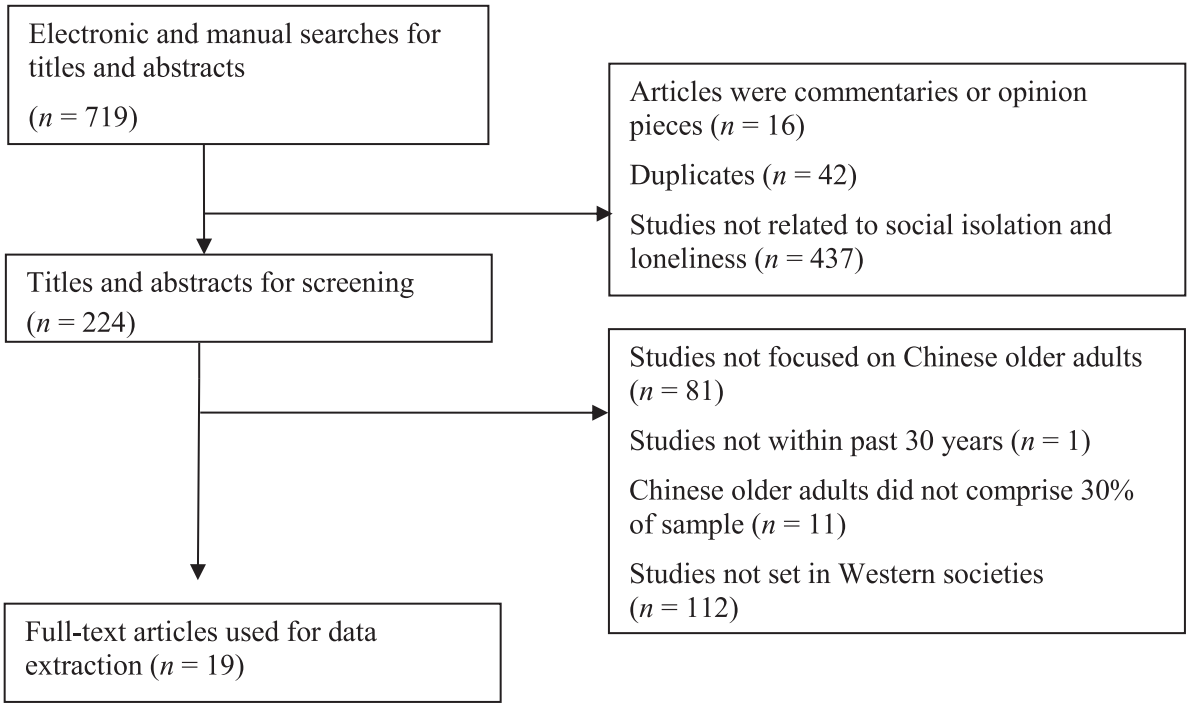

Figure 1: Flow diagram of identifying articles for inclusion and exclusion in the scoping review

descriptive numerical summary to code the studies into the AFC dimensions (see Tables 5 and 6). Subsequently, members of the authorship team (MAS, CS, KL, SLH) met to discuss the initial coding results and discuss the process of synthesizing the literature under the eight dimensions. This process was done iteratively, whereby subsequent versions of the draft manuscript were reviewed to ensure that the dimensions were

Table 3: World Health Organization (WHO)'s age-friendly community (AFC) dimensions[a]

Age-Friendly Community Dimension	Description
Social Participation	Social participation involves the level of interaction that older adults have with other members of their community and the extent that the community itself makes this interaction possible.
Community Support & Health Services	Consider access to community-related services that support physical or mental well-being and the availability of health promotion or awareness services that promote and support healthy behaviours and life choices.
Housing	The availability of appropriate, affordable housing with a choice of styles and locations and that incorporates flexibility through adaptive features is essential for age-friendly communities.
Communication & Information	Age-friendly communities make sure that information about community events or important services is both readily accessible and in formats that are appropriate for older adults. An age-friendly community recognizes the diversity within older adults and promotes outreach initiatives to non-traditional families, ethnocultural minorities, newcomers, and aboriginal communities.
Respect & Social Inclusion	Community attitudes, such as a general feeling of respect and recognizing the role that older adults play in our society, are critical factors for establishing an age-friendly community. Age-friendly communities foster positive images of aging and intergenerational understanding to challenge negative attitudes.
Outdoor Spaces & Public Buildings	Accessibility involves removing barriers that limit opportunities for people with disabilities, including older adults with age-related impairments, and allowing older adults to participate in social activities or to access important health and social services and businesses.
Civic Participation & Employment	Civic engagement includes older adults' desire to be involved in aspects of community life that extend beyond their day-to-day activities. Economic security is important for many older adults, particularly those with low and fixed incomes.
Transportation	The condition and design of transportation-related infrastructure such as signage, traffic lights, and sidewalks affects personal mobility. Access to reliable, affordable public transit becomes increasingly important when driving becomes stressful or challenging.

[a] **Descriptions reproduced from Ontario Seniors' Secretariat (2013). *Finding the Right Fit: Age-Friendly Community Planning.* Retrieved from http://www.seniors.gov.on.ca/en/resources/AFCP_Eng.pdf**

https://doi.org/10.1017/S0714980817000101 Published online by Cambridge University Press

sufficiently expansive to capture the core findings of each included study. This approach is consistent with a directive or deductive content analysis (Potter & Levine-Donnerstein, 1999), and has been successfully applied in other reviews (see McDonald et al., 2015).

Stage 6: Consultation

An optional feature of the scoping review methodology is establishing an expert panel that can guide the development of the research question and inform the interpretation of the findings (Levac et al., 2010). For the present review, a diverse expert panel (n = 6) was assembled, which included representation from municipal and provincial levels of government, non-governmental organizations (NGOs) with expertise in aging, urban planning, age-friendly communities, and issues related to the Chinese community. The expert panel was consulted on all stages of the methodology in three team meetings from June 2015 to February 2016. The panel was consulted for focused input during the development of the initial protocol (Stages 1–3) and during the presentation of a condensed report which included a summary of the review's results and the research, policy, and practice recommendations (Stage 5).

Results

A total of 719 results were generated from the search strategy. Nineteen studies met the inclusion criteria. The majority of the studies (n = 17) were peer-reviewed; the grey literature comprised two dissertations. Geographically, the studies were mainly set in Canada (n = 10) and the rest originated from the United States (n = 8) and Australia (n = 1). In terms of research methodologies, 15 studies adopted a cross-sectional survey design (Chi, Yuan, & Meng, 2013; Dong, Chang, Wong, & Simon, 2012; Dong, Li, & Simon, 2014; Gee, 2000; Ip et al., 2007; Lai, 2005, 2007a, 2007b; Lai & Chau, 2007; Lai & Leonenko, 2007; Mui, 1996, 1998; Simon, Chang, Zhang, Ruan, & Dong, 2014; Tam & Neysmith, 2006; Wong, Yoo, & Stewart, 2007), and seven studies used a variety of qualitative designs, including face-to-face qualitative interviews (Hsu, 2014; Martin-Matthews, Tong, Rosenthal, & McDonald, 2013; Tam & Neysmith, 2006), focus groups (Dong et al., 2012; Ip et al., 2007), secondary qualitative analysis (Saadat Mehr, 2013), and a combination of qualitative approaches (Fukui, 2014). Tables 5 and 6 outline the characteristics, AFC dimension codes, and key findings of the included studies.

Profile of Social Isolation and Loneliness

Issues of isolation and loneliness in Chinese older adults were the main premise in four studies (Dong et al., 2012; Ip et al., 2007; Simon et al., 2014; Tam & Neysmith, 2006); however, no studies specifically explored the role of AFC dimensions in reducing this issue. All four studies, including one population-based study set in the United States (Simon et al., 2014), found that feelings of social isolation and loneliness were apparent in Chinese older adults. Older Chinese women and the oldest age segment within the Chinese elderly population appear to be most impacted or at risk of feeling socially isolated and lonely (Ip et al., 2007; Simon et al., 2014). Across all four studies, the most significant factor perpetuating social isolation and loneliness in this population was the lack of positive social support, social networks, or companionship. Closely tied to this factor was the negative impact of a strained relationship between Chinese elderly parents and their adult children because of issues such as recent migration or the financial dependency of the former on the latter (Dong et al., 2012; Ip et al., 2007; Tam & Neysmith, 2006).

Other factors enabling the perpetuation of this issue included poor self-perceived or declining health (Simon et al., 2014), a lack of proficiency in the primary language(s) of the country of migration (Ip et al., 2007), lack of affordable and efficient transportation options (Ip et al., 2007), and the absence of Chinese-speaking professionals in health and community services (Ip et al., 2007). The implications of social isolation and loneliness for Chinese elderly adults included adverse physical, cognitive, and mental health consequences (Dong et al., 2012), and a greater vulnerability to elder abuse and mistreatment (Dong et al., 2012; Tam & Neysmith, 2006). Finally, all four studies proposed that interventions aiming to ameliorate this issue must be culturally specific, provide opportunity and space for socialization in the community, and focus on the functioning and social capacity of older adults and their families.

AFC Dimensions

When categorized into the AFC dimensions, 15 studies fell under the "social participation" umbrella, nine under "community support and health services" and "housing", eight under "community and information", four under "respect and social inclusion", three under "outdoor spaces and public buildings", and two studies under "civic participation and employment" and "transportation". It should be noted that each study had been coded under two or more AFC dimensions (see Table 4). Overall, issues relevant to social participation were salient (n = 15 studies) whereas "civic participation and employment" and "transportation" insights were limited (two studies under each dimension).

Social Participation

The 15 studies (Chi et al., 2013; Dong et al., 2012; Dong, Li, & Simon, 2014; Saadat Mehr, 2013; Fukui, 2014;

https://doi.org/10.1017/S0714980817000101 Published online by Cambridge University Press

Table 4: Age-friendly community dimensions across identified studies

Age-Friendly Community Dimension	Coding Results
Social Participation ($n = 15$)	Chi, Yuan, & Meng (2013); Dong et al. (2012); Dong, Li, & Simon (2014); Saadat Mehr (2013); Fukui (2014); Hsu (2014); Ip, Lui, & Chui (2007); Lai (2007ab); Martin-Matthews et al. (2013); Mui (1996, 1998); Simon et al. (2014); Tam and Neysmith (2006); Wong, Yoo, & Stewart (2007)
Community Support and Health Services ($n = 9$)	Chi, Yuan, & Meng (2013); Dong, Li, & Simon (2014); Saadat Mehr (2013); Ip, Lui, & Chui (2007); Lai (2007b); Lai & Chau (2007); Lai & Leonenko (2007); Martin-Matthews et al. (2013); Tam & Neysmith (2006)
Housing ($n = 9$)	Chi, Yuan, & Meng (2013); Gee (2007); Lai (2005, 2007); Lai & Leonenko (2007); Martin-Matthews et al. (2013); Mui (1996, 1998); Wong, Yoo, & Stewart (2007)
Communication and Information ($n = 8$)	Chi, Yuan, & Meng (2013); Saadat Mehr (2013); Fukui (2014); Dong et al. (2014); Lai & Chau (2007); Lai & Leonenko (2007); Tam & Neysmith (2006)
Respect and Social Inclusion ($n = 4$)	Dong et al. (2012); Fukui (2014); Ip, Lui, & Chui (2007); Tam & Neysmith (2006)
Outdoor Spaces and Public Buildings ($n = 3$)	Fukui, 2014; Ip, Lui, & Chui, 2007; Hsu (2014)
Civic Participation and Employment ($n = 2$)	Fukui (2014); Lai & Leonenko (2007)
Transportation ($n = 2$)	Hsu (2014); Ip, Lui, & Chui (2007)

Hsu, 2014; Ip et al., 2007; Lai, 2007a, 2007b; Martin-Matthews et al., 2013; Mui, 1996, 1998; Simon et al., 2014; Tam & Neysmith, 2006; Wong et al., 2007) coded under the "social participation" dimension reveal the nature and types of social support that Chinese older adults may maintain and where they might socialize with others.

Having access to positive social support was found to reduce loneliness (Chi et al., 2013; Dong et al. 2012), lessen depressive symptoms (Lai, 2007a) and predict the likelihood of using seniors centres (Lai, 2007b) in Chinese older adults. Within the family circle, spouses were a source of positive emotional or companionship support (Simon et al., 2014; Wong et al., 2007). Among children, daughters were found to be the main source of support for widows for assistance with daily living activities such as grocery shopping and participating in recreational activities (Martin-Matthews et al., 2013). On the other hand, a perceived *dissatisfaction* with the quality of family relationships contributed to feelings of isolation and loneliness and lowered mental health status in Chinese older adults (Ip et al., 2007; Mui, 1996, 1998; Saadat Mehr, 2013). Other types of social contacts positively contributing to Chinese older adults' social participation in their community and neighbourhood included other seniors with similar ethnicity, language, and migration background (Fukui, 2014), and less common groups such as "children's friends, paid workers (social workers, home care workers, physiotherapists), building managers and landlords" (Martin-Matthews et al., 2013, p. 511).

Community and neighbourhood spaces where Chinese older adults may socialize or meet with others include faith-based organizations such as churches (Ip et al., 2007; Martin-Matthews et al., 2013; Tam & Neysmith, 2006) and community centres (Dong et al., 2014; Tam & Neysmith, 2006).

Community Support and Health Services

Nine studies indicated the range of factors that may impact Chinese older adults' ability to access and uptake of community services (Chi et al., 2013; Dong et al., 2014; Ip et al., 2007; Lai, 2007b; Lai & Chau, 2007; Lai & Leonenko, 2007; Martin-Matthews et al., 2013; Saadat Mehr, 2013; Tam & Neysmith, 2006). These factors included their lack of knowledge of existing resources, programs, and services, and financial and language barriers (Tam & Neysmith, 2006). In line with these factors, the availability of Chinese-speaking professionals was especially important for the Chinese elderly population to access community and health services (Chi et al., 2013; Dong et al., 2014; Lai & Chau, 2007; Lai, 2007b).

Housing

No studies provided insights about whether and how the availability of appropriate or affordable housing influenced Chinese older adults' social isolation and loneliness. However, a handful of studies indicated the choice of living arrangements by Chinese older adults (Chi et al., 2013; Gee, 2000; Lai, 2005, 2007a; Lai & Leonenko, 2007; Martin-Matthews et al., 2013; Mui, 1996, 1998; Wong et al., 2007). In some instances, living alone was a risk factor and pre-condition to feeling socially isolated and lonely (Mui, 1996, 1998; Wong et al., 2007) as well as a low self-perceived quality of life and well-being (Gee, 2000). Chinese widows living alone, in particular, appeared to be the most vulnerable to isolation and loneliness (Chi et al., 2013).

On the other hand, living alone did not consistently translate into increased feelings of loneliness in this population. Some older Chinese adults, despite living alone, did not wish to live in an intergenerational living arrangement (i.e., with their adult children) (Gee, 2000;

https://doi.org/10.1017/S0714980817000101 Published online by Cambridge University Press

Table 5: Summary of study characteristics (peer-reviewed)

Author, Country of Origin, Methodology, Study Design	Study Characteristics (Purpose, Sample Size, Key Issue)	Outcome Measures	Key Findings
Chi, Yuan, & Meng (2013) USA Cross-sectional survey	**Purpose:** To identify the multi-dimensional unmet needs of low-income Chinese residents of subsidized housing to inform the construction of targeted social services & maximize aging in place. **Sample:** 120 (86 women; 34 men) Chinese senior residents of subsidized housing. **AFC Dimension(s):** • Social participation • Community support & health services • Housing • Community & information	Katz Activities of Daily Living Scale Lawton Instrumental Activities of Daily Living Short Portable Mental Status Questionnaire (SPMSQ) Lubben Social Network Scale-6 (LSNS-6) General Health Questionnaire-12 (GHQ-12) Center for Epidemiologic Studies Depression Scale 9 (CESD-9) De Jong Gierveld Loneliness Scale In-home support service use and need for social work services	The majority of participants reported feelings of loneliness, suggesting poor social well-being. Close to half of the sample indicated that on average, they had fewer than two people they felt close to or could rely on. Almost all respondents indicated they needed a bilingual social worker to provide on-site professional services. Loneliness was reported as the most prevalent issue, especially for those who had lost their spouse & who lived alone. Approximately more than half of the residents reported that social isolation was a major issue. The sample reported fewer opportunities for socialization because of language barriers, advanced age, & low income status, which may be perceived as a form of social exclusion.
Dong, Chang, Wong, & Simon (2012) USA Cross-sectional survey and Focus groups	**Purpose:** To investigate the cultural understandings & context of loneliness, & to examine its effect on the health & well-being of Chinese older adults. **Sample:** 78 (41 women; 37 men) Cantonese or Mandarin-speaking community-dwelling Chinese older adult immigrants living in Chicago's Chinatown. **AFC Dimension(s):** • Social participation • Community support & health services	Revised University of California at Los Angeles Loneliness Scale Focus group methodology	Loneliness identified as (1) *Emotional isolation* – absence of intimate partnership, lack of satisfying children–parent relationship, and absence of close friendship; (2) *Social isolation* – limited or lack of social contacts as well as the lack of participation in social activities. Determinants of isolation included social (e.g., limited or lack of social contacts, language & cultural barriers, elder mistreatment) & psychological factors (migration grief, depression, perceived stress, & anxiety) Chinese immigrant older adults may be more prone to the experience of loneliness & its negative health impact (e.g., declining health, functional impairment). Protective factors of loneliness identified included both formal & informal social support mechanisms.

Continued

Table 5: Continued

Author, Country of Origin, Methodology, Study Design	Study Characteristics (Purpose, Sample Size, Key Issue)	Outcome Measures	Key Findings
Dong, Li, & Simon (2014) USA Cross-sectional survey	**Purpose:** To assess social engagement patterns among U.S. Chinese older adults. **Sample:** 3,159 (1,833 women, 1,326 men) community-dwelling Chinese-American older adults. **AFC Dimension(s):** • Social participation • Community support, & health services	Self-reported health status Social engagement	Age ($p < .001$), Sex ($p < .001$), Education ($p < .001$), marital status ($p < .001$), living arrangement ($p < .001$), number of children ($p < .001$), years in the community ($p < .01$) & country of origin ($p < .001$) were significantly related to participants' social engagement levels. Overall, social engagement level for the sample was relatively low. Watching TV & reading were the two most common social engagement activities. Chinese older adults visited community centres more frequently than other social or cultural venues. Community centres may be more appealing if they have Chinese-speaking staff and hold culturally tailored social activities & Chinese holiday celebrations. Participation in social activities declined with age.
Gee (2000) Canada Cross-sectional survey	**Purpose:** To examine the role of living arrangements in the quality of life of community-dwelling Chinese elders. **Sample:** 736 (235 married men; 181 married women; 320 widows) community-dwelling Chinese older adults who spoke Cantonese, Toisan, Mandarin, & other dialects. **AFC Dimension(s):** • Housing	Study specific survey assessing living arrangements, life satisfaction, well-being, & social support	Compared to married men living with their spouse only, married men living inter-generationally are less satisfied with their health, scored lower in well-being, & see non-resident children less frequently ($p < .05$). For widows, living alone has a considerable negative influence on quality of life. Widows who live alone are significantly less satisfied with their health, accommodations, food, spiritual life, & self.
Hsu (2014) Canada Qualitative interviews	**Purpose:** To explore how monolingual Chinese seniors claimed Montreal's Chinatown as "home" through exercising agency & working out paradoxes concerning their living conditions, familial relations, & subjectivities. **Sample**: 25 Chinese female seniors. **AFC Dimension(s):** • Social participation • Outdoor spaces & public buildings	Qualitative interviews	According to participants, Montreal's Chinatown continues to provide a vibrant social life for seniors. In addition to public or semi-public areas, the respondents also took advantage of common areas in subsidized housing complexes & Chinese organizations in Chinatown. Monolingual seniors found Chinatown attractive not only for convenience & autonomy but also for sociability & daily normalcy.

Continued

Table 5: Continued

Author, Country of Origin, Methodology, Study Design	Study Characteristics (Purpose, Sample Size, Key Issue)	Outcome Measures	Key Findings
Ip, Lui, & Chui (2007) Australia Cross-sectional survey & Focus groups	**Purpose:** To explore the support & service needs of Chinese elderly in Brisbane & ascertain the problems encountered in their daily lives & social activities. **Sample:** Survey: 74 Chinese-Australian community-dwelling older adults (60 years +). **Focus groups:** Older Chinese men ($n = 6$), Older Chinese women ($n = 8$), Older men and women (Mandarin-speaking; $n = 11$), Adult children of older Chinese individuals ($n = 9$), Service providers ($n = 8$). **AFC Dimension(s):** • Social participation; • Community support & health services • Respect & inclusion • Outdoor spaces & public buildings • Transportation	Study specific survey on personal details, needs & problems encountered in daily life, relations with family members, & social contacts & activities Qualitative interviews	Social networks (i.e., friends) of older Chinese migrants were very restricted, particularly among women. Churches or Chinese community organizations were very important as locations for meeting (new) friends & making contact with the "world outside". Close to half of respondents, especially women, indicated a poor command over the English language which led to lack of confidence to venture out on their own, to visit their friends, or to attend social activities, which reinforced their social isolation & sense of low self-esteem. Poor proficiency in the English language also led to their preference to consult Chinese-speaking doctors when they were ill. Transportation problems included needing to rely on others for going from one place to the other. Lack of direct bus services in suburban areas hindered transport. Family relationships were found to be under strain, relationships between older parents & their adult children were equivocal with limited interaction between both, older Chinese participants' traditionalism values contradicted Westernized values of their immigrant children. Feelings of loneliness were most prevalent in oldest old (70+) & women. Language & transport problems constrained the mobility & reinforced feelings of social isolation. Their sense of isolation was particularly acute if the adult children were too busy to take them out, leaving many feeling powerless & trapped.

Continued

Table 5: Continued

Author, Country of Origin, Methodology, Study Design	Study Characteristics (Purpose, Sample Size, Key Issue)	Outcome Measures	Key Findings
Lai (2005) Canada Cross-sectional survey	**Purpose:** To examine the preferred living arrangements of aging Chinese Canadians. **Sample:** 2,272 randomly selected elderly community-dwelling Chinese Canadians. **AFC Dimension(s):** • Housing	Instrumental Activities of Daily Living Medical Outcomes Study 36-item Short Form (SF-36) Chinese Health beliefs & use of western health Older Americans Resources & Services (OARS) Social Resource Scale Self-rated financial adequacy Religious affiliation & Chinese cultural values	Being married, living alone, & having a higher level of education were significant predictors for a higher probability of preferring to not live with children ($p < .001$). A significant portion of participants did not wish to live with their adult children if they had the choice (*contradictory to filial piety values in Chinese culture*). Acculturation is significant in predicting living arrangement, whereby the longer one resided in Canada, the less they preferred to live with their children. Finance, social support, & health needs were also significant predictors of living alone. Older Chinese adults who preferred living with children reported a significantly higher level of dependency on others in instrumental activities of daily living, lower level of social support, & less self-rated financial adequacy & income. Those with more education are more likely to live separately from their children.
Lai (2007a) Canada Cross-sectional survey	**Purpose:** To examine the differences in Chinese elderly living alone vs. living with others & the impact of living alone on health. **Sample:** 660 (540 women, 120 men) unmarried or single community-dwelling Chinese elderly. **AFC Dimension(s):** • Social participation • Housing	Activities of Daily Living & Instrumental Activities of Daily Living Living arrangements Medical Outcomes Study 36-item Short Form (SF-36) Older Americans Resources & Services (OARS) Social Resource Scale Geriatric Depression Scale Life satisfaction	Elderly living alone were more able to take care of themselves in instrumental daily activities & received higher level of social support ($p < .01$). Less favourable mental health was reported among solitary women. Social support from family led to less reporting of depressive symptoms.
Lai (2007b) Canada Cross-sectional survey	**Purpose:** To examine the prevalence and predictors of use of senior centres. **Sample:** Random sample of 1,537 (858 women, 679 men) community-dwelling Chinese older adults. **AFC Dimension(s):** • Social participation • Community support & health services	Medical Outcomes Study 36-item Short Form (SF-36) Older Americans Resources & Services (OARS) Social Resource Scale Religious affiliation & Chinese cultural values Social participation	The majority of the elderly Chinese immigrants did not use senior centres. Based on the findings, among the elderly Chinese, those living alone were more likely to use senior centre services than those not living alone. The users of senior centres are actually in a more vulnerable situation – being older in age, being single, & living alone. Among all the users of senior centres, 97.4% indicated that the person who provided their services was Chinese. Having a religion, living alone, having stronger Chinese ethnic identity & stronger social support were significant predictors of use of seniors centres & were positively related to service usage.

Continued

Table 5: Continued

Author, Country of Origin, Methodology, Study Design	Study Characteristics (Purpose, Sample Size, Key Issue)	Outcome Measures	Key Findings
Lai & Chau (2007) Canada Cross-sectional survey	**Purpose:** To assess the effects of service barriers on health status. **Sample:** 2,214 (1,241 women, 973 men) older Chinese immigrants in the community. **AFC Dimension(s):** • Community support & health services • Community & information	Medical Outcomes Study 36-item Short Form (SF-36) Service barriers Older Americans Resources & Services (OARS) Social Resource Scale	The item stating "Professionals who do not speak my language" was the most commonly identified barrier. The item stating "Waiting list is too long" was second most identified. The item stating "Do not know about existing health services" ranked third. Most of the reported barriers were related to language, cultural, & ethnic differences.
Lai & Leonenko (2007) Canada Cross-sectional survey	**Purpose:** To analyse the effects of socio-demographic resource variables, health, & cultural variables & living alone. **Sample:** Single elderly Chinese immigrants ($n = 660$) in seven urban centres. **AFC Dimension(s):** • Community support & health services • Housing • Community & information • Civic participation & employment	Medical Outcomes Study 36-item Short Form (SF-36) Older Americans Resources & Services (OARS) Social Resource Scale Religious affiliation & Chinese cultural values	Variables related to resources, functioning capacity & acculturation-related variables are the key correlates for the elderly Chinese immigrants to maintain independence in the community. The findings imply a need to develop culturally sensitive programs to strengthen the social support, financial stability, & functioning capacity of the elderly immigrants.
Martin-Matthews, Tong, Rosenthal, & McDonald (2013) Canada Qualitative interviews	**Purpose:** To understand the experience of widowhood among elderly Chinese immigrant women living in Toronto, Canada. **Sample:** 20 Cantonese & Mandarin-speaking widows. **AFC Dimension(s):** • Social participation • Community support & health services • Housing	Qualitative interviews	Widows described a wide variety of social supports, received from traditional sources, such as family, friends, and faith-based organizations, as well as less traditional sources, including language support classes, bereavement groups, their children's friends, paid workers (social workers, home care workers, physiotherapists, building managers, & landlords). The vast majority of widows received social support from their immediate or extended family, through annual visits from extended family, to daily interactions with children & grandchildren. Daughters were most frequently cited as sources of support.
Mui (1996) USA Cross-sectional survey	**Purpose:** To explore what is the impact of age, gender, self-rated health, living arrangements, & perceived family support on the level of depression among elderly Chinese immigrants. **Sample:** 50 elderly community-dwelling Chinese immigrants. **AFC Dimension(s):** • Social participation • Housing	Geriatric Depression Scale (GDS) Study-specific survey on social support, perceived health, & stressful life events	Family support is one of the major factors determining the overall quality of life for elderly Chinese immigrants. Perceived dissatisfaction with the quality of help from family members and living alone are associated with higher depression scores. Chinese immigrants in this study reported changes in their family systems more often than any other stressful life event. Living alone was associated with a higher level of depression.

Continued

Table 5: Continued

Author, Country of Origin, Methodology, Study Design	Study Characteristics (Purpose, Sample Size, Key Issue)	Outcome Measures	Key Findings
Mui (1998) USA Cross-sectional survey	**Purpose:** To explore: (1) if Chinese immigrants who lived alone differ from those who lived with others in terms of sociodemographic characteristics, mental health status, and social support; & (2) the role of living arrangement, stresses, & coping resources in explaining depression among the Chinese immigrants. **Sample:** 147 (77 women, 70 men) community-dwelling Chinese older adults. **AFC Dimension(s):** • Social participation • Housing	Geriatric Depression Scale (GDS) – Short Form Study-specific survey on social support, perceived health, & stressful life events	Overall, mental health status of living-alone Chinese elderly respondents was much worse than that of respondents who lived with someone in their household. Higher education, living alone, poor perceived health, dissatisfaction with family support, & total number of stressful life events are significant predictors (49% of variance) of depression. Living alone is the third strongest predictor in explaining depression score. Sample reported changes within their family systems more than other stressful life events.
Simon et al. (2014) USA Cross-sectional survey	**Purpose:** To identify the prevalence of loneliness among U.S. Chinese older adults. **Sample:** 3,129 (1,846 women, 1,283 men) U.S. community-dwelling Chinese older adults who spoke Mandarin, Cantonese, Toishaness, & Teochow. **AFC Dimension(s):** • Social participation	Study-specific survey on health status & quality of life Revised–University of California at Los Angeles Loneliness (R-UCLA) Scale	Married participants were less likely to report any symptoms of loneliness compared with those who were widowed. The more people the study participants lived with, the less likely they reported any symptoms of loneliness until it reached the point of living with more than three persons. Participants were more likely to report loneliness symptoms if their overall health status was poor. Participants were more likely to report any loneliness symptoms if they were female, with an older age, with poorer self-perceived health status and quality of life, & with worsened health change over last year.

Continued

Table 5: Continued

Author, Country of Origin, Methodology, Study Design	Study Characteristics (Purpose, Sample Size, Key Issue)	Outcome Measures	Key Findings
Tam & Neysmith (2006) Canada Qualitative Interviews & Focus Groups	**Purpose:** To explore what forms elder abuse & neglect take in the Chinese Canadian community. **Sample:** Focus groups with Cantonese-speaking professionals (female: $n = 38$, male: $n = 2$): Home care workers ($n = 33$) and Program Coordinators ($n = 7$). **AFC Dimension(s):** • Social participation • Community support & health services • Community & information • Respect & inclusion	Qualitative interviews	Disrespect is a form of elder abuse within the Chinese cultural context. Social isolation was viewed as a social condition for elder abuse. Social isolation was considered to be a type of social exclusion. Isolation was described as a lack of social contacts & relations. Less socially isolated clients (those with larger social networks, connections with church, community centres, or other family members outside of the home) demonstrated better coping skills. Immigration status & dependence on adult children due to sponsorship, low level of English, & lack of awareness about rights in Canada were some factors leading to isolation in seniors. Financial and language barriers and related immigration and settlement issues, along with dependent relationships elderly Chinese immigrants experience with their children are a result of having less access to, or knowledge of, available resources, programs, and services. This increases elderly Chinese persons' risk of being socially isolated & dependent on family members to meet all their needs. Loneliness & depressive symptoms were identified as consequences of social isolation.
Wong, Yoo, & Stewart (2007) USA Cross-sectional survey	**Purpose:** To examine among older Chinese & Korean immigrants: (1) the concept and measurement of perceived social support; (2) levels of social support & psychological well-being by living arrangement; and (3) whether social support is positively related to psychological well-being. **Sample:** 200 community-dwelling Chinese ($n = 100$) and Korean ($n = 100$) seniors. **AFC Dimension(s):** • Social participation • Housing	A composite survey derived from the Medical Outcomes Study Social Support Scale; Duke-UNC Social Support Questionnaire; Arizona Social Support Interview Schedule; Social Support Questionnaire; Social Support Index; Norbeck Social Support Questionnaire	Findings suggest that more older Chinese & Koreans are living alone or only with their spouse. Both Chinese and Koreans living alone received less emotional / companionship support compared with those living with their spouses ($p < .05$). Chinese respondents reported more financial support than Koreans ($p < .001$).

Table 6: Summary of study characteristics –grey literature

Author, Country of Origin, Methodology, Study Design	Study Characteristics (Purpose, Sample Size, Key Issue)	Outcome Measures	Key Findings
Fukui (2014) USA Multiple qualitative methods	**Purpose:** To explore the social networks of older Asian and Latino immigrants affiliated with an ethnically clustered senior centre administered by a municipal government. **Sample:** Not defined. **AFC Dimension(s):** • Social participation • Community & information • Respect & social inclusion • Outdoor spaces & public buildings • Civic participation & employment	Qualitative interviews; Field notes; Archived data from government databases	Composition of older adults sharing ethnicity, language, & migration experience provided opportunities for bonding & sharing information. Well-connected individuals tended to come from better social positions, higher education, professional occupation, and continual work & volunteer history. Through an affiliation with a senior centre, linguistically challenged "recent immigrants" may also enjoy participation through volunteer activities.
Saadat Mehr (2013) Canada Qualitative secondary analysis	**Purpose:** To examine social factors that contribute to depression or other forms of mental illness among elderly Chinese immigrant women. **Sample:** Reports from organisations & articles on elderly Chinese immigrant women and their mental health. **AFC Dimension(s):** • Social participation	Not described	Factors apparent in the reports and literature include these: separation from the country of origin; pressure of circumstances rather than out of a choice to start building a life in a new country with its own social, cultural, & economic realities; decreased social supports from children; and the lack of the ability to speak either English or French or both. Feminist health promotion is one way to target issues faced specifically by older Chinese immigrant women.

Hsu, 2014; Lai, 2005). In fact, in some samples, living with children resulted in a higher level of dependency on others for instrumental activities of daily living, lower level of social support, and less self-rated financial adequacy and income (Lai, 2005, 2007a; Lai & Leonenko, 2007).

Communication and Information

Eight studies (Chi et al., 2013; Fukui, 2014; Dong et al., 2014; Lai & Chau, 2007; Lai & Leonenko, 2007; Saadat Mehr, 2013; Tam & Neysmith, 2006) acknowledged that a lack of knowledge about community events and services is a common condition experienced by socially isolated and vulnerable Chinese seniors.

These studies recommended a combination of formal and informal interventions to reach out to socially isolated Chinese seniors. One sub-section of these studies recommended that administrators and professionals design formal awareness and outreach programs that address common barriers faced by Chinese older adults including lack of knowledge of English or French, facing discrimination while accessing services, possible incompatibility of Western service models to Chinese health and social practices, and cultural stigma attached to accessing formal services (Lai & Chau, 2007; Lai & Leonenko, 2007; Tam & Neysmith, 2006). A second type of proposed intervention was for service agencies to use informal communication networks to deliver awareness and information about community activities (Chi et al., 2013; Fukui, 2014; Lai & Chau, 2007). These informal networks may include community-dwelling volunteers and community leaders of Chinese background who may be more familiar with their communities and possess personal knowledge of vulnerable older residents. These networks may also be trained to provide information about community services and programs in a simplified and culturally sensitive way (Chi et al., 2013; Fukui, 2014; Lai & Chau, 2007).

Respect and Social Inclusion

Some studies indicated that intergenerational tension between Chinese elderly parents and their adult children results in the former's isolation (Dong et al., 2012; Fukui, 2014; Ip et al., 2007; Tam & Neysmith, 2006). Some typical scenarios that led to intergenerational tension included elderly parents feeling that their needs were not understood by their adult children and spouses (Dong et al., 2012), elder mistreatment and abuse by adult children (Dong et al., 2012; Tam & Neysmith, 2006), familial and social maladjustments due to migration in later life (Fukui, 2014), having family members and adult children violate Chinese cultural, filial, and familial norms and values (Tam & Neysmith, 2006), being infantilised by adult children or other family members (Ip et al., 2007) and being made to feel that they are a financial burden on their families (Ip et al., 2007).

Civic Participation and Employment

Only two studies provided a cursory view of the "civic participation and employment" dimension (Fukui, 2014; Lai & Leonenko, 2007) and the socioeconomic factors that may reduce the risk of social isolation and loneliness. In particular, favourable socioeconomic characteristics, such as an already-present financial stability, proficiency in English, higher educated background, and having professional adult children better predicted Chinese seniors' participation in civic engagement, employment, volunteering, and ability to extend support to other isolated and marginalized Chinese seniors (Fukui, 2014).

A nuanced view about the employment experiences of Chinese elderly was not apparent in the literature. A finding gleaned from one study was that financial security (sourced either from income through work or government sources and pensions) was a critical safety net for Chinese older adults to avoid social isolation when living alone (Lai & Leonenko, 2007).

Outdoor Spaces and Public Buildings

An ethnic enclave neighbourhood such as a "Chinatown", which included public spaces to socialize and exercise, was identified as a source of protection from social isolation for Chinese residents (Hsu, 2014). In particular, neighbourhoods with Chinese cultural organizations and physical spaces that incorporated Chinese cultural symbols were particularly beneficial to Chinese older adults' perceptions of well-being and belonging (Fukui, 2014; Hsu, 2014; Ip et al., 2007).

Transportation

Chinese older women were identified as more likely to be dependent on others for their transportation needs and to rely on their family members to meet those needs (Ip et al., 2007). As well, unilingual road signage in only English or French (Ip et al., 2007) and inadequate, inefficient, and infrequent public transportation (Hsu, 2014) were identified as transportation barriers.

Discussion

The objective of the present scoping review was to map the literature related to social isolation and loneliness in urban-dwelling Chinese older adults living in Western societies. To help organize the mapping process, the studies were coded using the WHO AFC framework. The identification of 19 studies (17 peer-reviewed;

https://doi.org/10.1017/S0714980817000101 Published online by Cambridge University Press

2 grey literature) indicates that the scope of the literature in this area is small. The research base appears to be limited in its geographical distribution as all but one study originated from North America (Ip et al., 2007).

All key dimensions of the WHO (2007) AFC model were represented in some capacity throughout the literature; however, some dimensions (i.e., social participation; community support and health services; housing; and communication and information) were more prominently represented than others (see Table 4). Overall, the studies coded under these dimensions indicated that immediate family members (especially adult children) may be the most common source of social support for those Chinese immigrant families that have a strong affiliation with traditional Chinese cultural values and positive familial relationships. Outside the home, ethnic-enclave neighbourhoods such as "Chinatowns" which included the presence of Chinese symbols in physical spaces may contribute to increased affiliation with one's immediate neighbourhood and community. In particular, one study (Hsu, 2014) specifically focused on the positive social participation of Chinese older adults in their community as a result of living in a Chinatown neighbourhood. As well, the presence and availability of Chinese-speaking professionals in the social service sector greatly encouraged Chinese older adults to access community and health services (Chi et al., 2013; Dong et al., 2014; Lai, 2007b; Lai & Chau, 2007). Furthermore, there appears to be heterogeneity in the experiences of Chinese older adults living alone. Although some Chinese older adults may actually prefer living alone, others who are living alone due to life circumstances, such as widowhood, may be particularly vulnerable to being socially isolated and lonely (Chi et al., 2013; Gee, 2000; Mui, 1996, 1998; Wong et al., 2007). In these situations, safety nets such as extended social networks and socioeconomic factors such as financial security could play a beneficial role.

Finally, one significant gendered insight can be gleaned from this analysis. Chinese older women living alone may be particularly vulnerable to social isolation and loneliness given their greater self-reporting of this phenomenon and less favourable mental health compared to those living with others (Lai, 2007a; Martin-Matthews et al., 2013). Importantly, comparisons across gender on specific outcomes were scarce in this pool of studies, indicating that this issue remains glaringly under-studied.

This review points to the potential of the age-friendly approach to address the issue of social isolation and loneliness in ethnic-minority older adults living in urban, Western communities. Based on the findings, some suggestions relevant for future research, policy, and practice emerge.

Recommendations for Research

In terms of research, it is clear that further work is needed on the applicability of the age-friendly approach in tackling social isolation and loneliness in older adults. The AFC framework has yet to be explored across different ethnic and cultural groups, including the Chinese community (Moulaert & Garon, 2016). The findings of our review confirm that even though several studies highlighted a number of complex social, cultural, and environmental issues impacting Chinese older adults' social isolation and loneliness, none adopted an age-friendly perspective to explore this phenomenon. In line with this, one research challenge facing the age-friendly field is how its standardized models will adapt to issues such as the growing complexity of urban living (e.g., ethnic enclaves), global/international forces (e.g., migration patterns and areas of settlement), and the unique social and economic inequalities faced by diverse older adults in Western societies (e.g., racial discrimination and socioeconomic disparities based on neighbourhood or community choice) (Buffel et al., 2012; Phillipson, 2011).

Furthermore, there are conceptual challenges in the research community about how to precisely define "age-friendly" communities. For instance, an issue of contention is whether age-friendly communities can be considered to comprise two distinct features – physical (e.g., transportation and housing) and social (e.g., respect, social inclusion, and social participation) (Scharlach & Lehning, 2015) – or as an integrated environment of social and physical factors that overlap, interact, and influence each other (Lui, et al., 2009). The latter approach may be more appropriate for research on social isolation and loneliness as several studies in this review shed light on the closeness between social and environmental factors influencing this phenomenon. For instance, Ip et al. (2007) identified inadequate public transportation as a barrier to Chinese older adults' social participation in the community. At the same time, the researchers contextualize this environmental issue within larger social factors such as barriers to mobility, lack of accessibility, and possible strained familial relationships because of Chinese older adults' frequent dependence on their adult children for their transportation needs.

Beyond the need for definitional clarity regarding "age-friendly communities", a variety of research designs are needed in empirical research to explore linkages between social isolation and loneliness and age-friendly initiatives. As evidenced in this review, 12 out of the 19 studies adopted only one type of data collection approach (e.g., a cross-sectional survey) (Chi et al., 2013; Dong et al., 2014; Gee, 2000; Lai, 2005, 2007a, 2007b; Lai & Chau, 2007; Lai & Leonenko, 2007; Mui, 1996, 1998;

Simon et al., 2014; Wong et al., 2007). In line with this, Menec et al. (2011) and Dellamora et al. (2015) have advocated for mixed-methods research designs and multiple approaches to data collection to gain a nuanced view of diverse older adults' interaction with their physical and social environment.

Recommendations for Policy

In Canada, the WHO-based age-friendly movement has been adopted in hundreds of communities and is implemented through federal, provincial, and municipal governance (Plouffe et al., 2013). Given this growing prominence of pan-Canadian age-friendly policies and initiatives, policy recommendations should focus on achieving long-term sustainability and the ability to address local social issues such as social isolation and loneliness.

In the age-friendly literature, a major policy recommendation is for policy makers to adopt an integrative approach and collaborate with researchers, practitioners, and other stakeholders working with older adults (Glicksman, Clark, Kleban, Ring, & Hoffman, 2014). For instance, Glicksman et al. (2014) used integrative theory principles to derive questions that policy makers may ask themselves while coordinating with other age-friendly stakeholders. These questions include asking (1) whether funding commitments are adequate to address both the physical and social environment needs of a community, (2) to what extent do policies mandate community organizations to collaborate with one another, and (3) whether the policy is expansive enough to allow for age-friendly work with subgroups of older adults. Although no studies identified in our review adopted a research design that encouraged this type of collaboration to target social isolation and loneliness, three studies (Fukui, 2014; Saadat Mehr, 2013; Tam & Neysmith, 2006) collected data from multiple sources including secondary literature and community professionals. Such approaches are important first steps towards bringing policy makers closer to evidence that is collected from multiple sources within the community.

This integrative approach can also be used to promote collaboration across multiple policy domains that may impact age-friendly community planning and interventions targeted towards social isolation and loneliness in older adults. For instance, a greater collaboration across policy areas including public transportation, housing, public health, social welfare, finance, and immigration could transform age-friendliness and older adults' social inclusion and participation into national priorities rather than siloed community-based issues (Ball & Lawler, 2014; Greenfield, Oberlink, Scharlach, Neal, & Stafford, 2015).

Ongoing policy discussions related to the changing demographics in Canada will impact the implementation of these policy recommendations. For instance, policy concerns about the financial costs associated with an aging population in Canada can lead to cost-saving measures such as a reduction in publicly funded programs and services and shifting the responsibility for AFC initiatives away from government and onto communities (Menec et al., 2011). Ultimately, the success of these integrative policy recommendations will depend on the difficult balancing act between cost-cutting pressures and the need for governmental financial commitment in AFC initiatives.

Recommendations for Practice

The results of this review indicate that front-line professionals in health and social services can be important members of older adults' social networks (Chi et al., 2013; Dong et al., 2014; Lai, 2007b; Lai & Chau, 2007). Despite the fact that social isolation and loneliness is a significant issue among community-dwelling older adults, it is not adequately assessed, and is often overlooked in practice (Nicholson, 2012). Nicholson (2012) noted the importance of capitalizing on the ability of community-based practitioners to screen for social isolation and loneliness when they interact directly with older adults, such as during home visits. In our review, only one study (Tam & Neysmith, 2006) included home care workers in their sample who provided rich, detailed qualitative insights about the daily challenges, abuse, and isolation faced by older clients.

Our review also highlights the importance of Chinese-speaking professionals in the community-based workforce in increasing Chinese older adults' access to and uptake of community-based services (Chi et al., 2013; Dong et al. 2014; Lai, 2007b; Lai & Chau, 2007). The larger implication of this finding is that community-based health and social services should include culturally competent and linguistically diverse professionals who are able to understand the lived realities of older adults and how issues of race, culture, ethnicity, immigration status, socioeconomic status, and other markers impact them (Min, 2005).

Finally, most age-friendly community initiatives are still in the development stage, and there is a significant research and policy gap in understanding their effectiveness (Plouffe & Kalache, 2011). Front-line professionals in the health and social service sectors such as social workers, public health nurses, home care workers, and housing workers can make significant contributions to the evaluation of these age-friendly initiatives. They can provide insights about how different subgroups of older adults respond to age-friendly

activities, the effectiveness of local strategies, challenges and best practices, and which local needs are still unmet.

Additional Expert Stakeholder Insights

Our scoping review sought input from a stakeholder group of professionals with knowledge and experience in the field of aging, urban planning, Chinese culture, and age-friendliness. The aforementioned recommendations were endorsed by this expert stakeholder group who provided several additional insights. For instance, the panel noted how regional differences in language, socioeconomic status, and educational opportunities in China can influence Chinese older adults' choice of neighbourhood after arriving in Canada. As well, expert panel members highlighted that social isolation and loneliness is multi-dimensional and may trigger or be triggered by other social problems including homelessness, poverty, hoarding, elder abuse, substance abuse, and mental health conditions and service gaps (see also Guruge, Thomson, & Seifi, 2015). These issues were largely absent from the studies included in this review.

Limitations

A broad research question guided this scoping review and, as such, the literature was reviewed from a descriptive rather than analytical approach. As well, findings of studies from the United States and Australia were contextualized to inform future research, practice, and policy for Canada. However, varying levels of differences exist between those countries and Canada in areas such as caregiving policies (Martin-Matthews, Tamblyn, Keefe, & Gillis, 2009), welfare models (Cooke, 2006), and health care systems (Prus, Tfaily, & Lin, 2010). These may likely affect the social, health, and mental health outcomes for older Chinese adults residing in those countries. Despite these differences, the dearth of literature on this topic necessitated a bird's-eye view, and issues noted in studies from outside Canada might serve as good indicators for areas of further investigation in Canada and globally. Finally, although efforts were made to conduct a thorough scan of both the peer-reviewed and grey literature, it is possible that not all pertinent records were found for inclusion.

Conclusion

Social isolation and loneliness are significant issues for Chinese older adults, and the AFC framework appears to be a useful model for contextualizing these issues into research, policy, and practice recommendations. Age-friendly literature is beginning to address how its framework is applicable for specific social issues such as social isolation and loneliness, but there is still room for research with diverse communities through multiple research methodologies. In Canada, the issue is especially timely given that the majority of older adults arriving in the country come from the Asia and Pacific region (Government of Canada, 2015) and settle in dense urban areas. The findings and recommendations of this review indicate that multi-sectoral interventions which involve multiple stakeholders in the aging field are needed to address the physical *and* social challenges that inhibit older adults' successful social participation and active aging in their neighbourhoods.

References

Age-Friendly Windsor. (2011). *Age-friendly city project update*. Retrieved from http://www.windsorseniors.com/wordpress/wordpress/wp-content/uploads/2011/08/retirement-living-update.pdf

Arksey, H., & O'Malley, L. (2005). Scoping studies: Towards a methodological framework. *International Journal of Social Research Methodology*, *8*, 19–32.

Ashida, S., & Heaney, C. A. (2008). Differential associations of social support and social connectedness with structural features of social networks and the health status of older adults. *Journal of Aging and Health*, *20*(7), 872–893.

Ball, M. S., & Lawler, K. (2014). Changing practice and policy to move to scale: A framework for age-friendly communities across the United States. *Journal of Aging & Social Policy*, *26*(1–2), 19–32.

British Columbia Ministry of Health. (2004). *Social isolation among seniors: An emerging issue*. Retrieved from http://www.health.gov.bc.ca/library/publications/year/2004/Social_Isolation_Among_Seniors.pdf

Buffel, T., Phillipson, C., & Scharf, T. (2012). Ageing in urban environments: Developing 'age-friendly' cities. *Critical Social Policy*, *32*(4), 597–617.

Chan, K. B. (1991). *Smoke and fire: The Chinese in Montreal*. Hong Kong: The Chinese University Press.

Chi, I., Yuan, L., and Meng, T. (2013). Multidimensional needs assessment for low-income Chinese seniors in subsidized housing in Los Angeles. *Seniors Housing & Care Journal*, *21*(1), 113–125.

Chinese Canadian Historical Society. (2005). *Historic study of the society buildings in Chinatown*. Retrieved from http://vancouver.ca/files/cov/historic-study-of-the-society-buildings-in-chinatown.pdf

Government of Canada. (2015). *Facts and figures 2014 – Immigration overview: Permanent residents*. Retrieved from Government of Canada website: http://www.cic.gc.ca/english/resources/statistics/facts2014/permanent/09.asp

https://doi.org/10.1017/S0714980817000101 Published online by Cambridge University Press

City of Calgary. (2014). *Chinatown Profile*. Retrieved from http://www.calgary.ca/CSPS/CNS/Pages/Social-research-policy-and-resources/Community-profiles/Chinatown-Profile.aspx

City of Toronto. (2010). *Profile of low income in the city of Toronto*. Retrieved from https://www1.toronto.ca/city_of_toronto/social_development_finance__administration/files/pdf/poverty_profile_2010.pdf

City of Toronto. (2013). *Toronto Seniors Strategy: Towards an age-friendly city*. Retrieved from http://www1.toronto.ca/wps/portal/contentonly?vgnextoid=408dfdab3fd36410VgnVCM10000071d60f89RCRD&vgnextchannel=6fc8f40f9aae0410VgnVCM10000071d60f89RCRD

Cloutier-Fisher, D., Kobayashi, K. M., & Smith, A. P. (2011). The subjective dimension of social isolation: A qualitative investigation of older adults' experiences in small social support networks. *Journal of Aging Studies*, *23*(1), 61–69.

Cooke, M. (2006). Policy changes and the labour force participation of older workers: Evidence from six countries. *Canadian Journal on Aging/La Revue canadienne du vieillissement*, *25*(4), 387–400.

Cornman, J. C., Goldman, N., Glei, D. A., Weinstein, M., & Chang, M. C. (2003). Social ties and perceived support two dimensions of social relationships and health among the elderly in Taiwan. *Journal of Aging and Health*, *15*(4), 616–644.

Cornwell, E. Y., & Waite, L. J. (2009). Social disconnectedness, perceived isolation, and health among older adults. *Journal of Health and Social Behavior*, *50*(1), 31–48.

De Jong Gierveld, J., Van der Pas, S., & Keating, N. (2015). Loneliness of older immigrant groups in Canada: Effects of ethnic-cultural background. *Journal of Cross-Cultural Gerontology*, *30*(3), 251–268.

De Jong Gierveld, J., & van Tilburg, T. G. (1995). Social relationships, integration and loneliness. In C. P. M. Knipscheer, J. de Jong Gierveld, T. G. van Tilburg, & P. A. Dykstra (Eds.), *Living Arrangements and Social Networks of Older Adults* (pp. 155–172). Amsterdam, NLD: VU University Press.

Dellamora, M. C., Zecevic, A. A., Baxter, D., Cramp, A., Fitzsimmons, D., & Kloseck, M. (2015). Review of assessment tools for baseline and follow-up measurement of age-friendliness. *Ageing International*, *40*(2), 149–164.

Dempsey, C. (2009). Elderly immigrants: Income sources and self-sufficiency. Citizenship and Immigration Canada. Retrieved from http://www.cic.gc.ca/english/pdf/research-stats/elderly.pdf

Dong, X., Chang, E., Wong, E., & Simon, M. (2012). Perception and negative effect of loneliness in a Chicago Chinese population of older adults. *Archives of Gerontology and Geriatrics*, *54*, 151–159.

Dong, X., Li, Y., & Simon, M. (2014). Social engagement among U.S. Chinese older adults–findings from the PINE Study. *The Journals of Gerontology Series A Biological Sciences and Medical Sciences*, *69*(Suppl. 2), S82–9.

Emlet, C. A., & Moceri, J. T. (2012). The importance of social connectedness in building age-friendly communities. *Journal of Aging Research*, 1–9.

Fratiglioni, L., Wang, H. X., Ericsson, K., Maytan, M., & Windblad, B. (2000). Influence of social network on occurrence of dementia: A community-based longitudinal study. *Lancet*, *355*(9212), 1315–1319.

Fukui, H. M. (2014). *Social networks of older immigrants in Phoenix, Arizona* (Doctoral dissertation). Retrieved from ProQuest Dissertations and Theses database. Arizona State University, Tempe, AZ.

Garon, S., Paris, M., Beaulieu, M., Veil, A., & Laliberté, A. (2014). Collaborative partnership in age-friendly cities: Two case studies from Quebec, Canada. *Journal of Aging & Social Policy*, *26*(1–2), 73–87.

Gee, E. (2000). Living arrangements and quality of life among Chinese Canadian elders. *Social Indicators Research*, *51*, 309–329.

Glicksman, A., Clark, K., Kleban, M. H., Ring, L., & Hoffman, C. (2014). Building an integrated research/policy planning age-friendly agenda. *Journal of Aging & Social Policy*, *26*(1–2), 131–146.

Gorbien, M., & Eisenstein, A. (2005). Elder abuse and neglect: An overview. *Clinics in Geriatric Medicine, 21*. Retrieved from http://www.ucdenver.edu/academics/colleges/medicalschool/departments/medicine/geriatrics/education/documents/elder%20abuse%20and%20neglect.pdf

Greenfield, E. A., Oberlink, M., Scharlach, A. E., Neal, M. B., & Stafford, P. B. (2015). Age-friendly community initiatives: Conceptual issues and key questions. *The Gerontologist*, *55*(2), 191–198.

Guruge, S., Thomson, M. S., & Seifi, S. G. (2015). Mental health and service issues faced by older immigrants in Canada: A scoping review. *Canadian Journal on Aging/La Revue canadienne du vieillissement*, *34*(4), 431–444.

Hackett, R. A., Hamer, M., Endrighi, R., Brydon, L., & Steptoe, A. (2012). Loneliness and stress-related inflammatory and neuroendocrine responses in older men and women. *Psychoneuroendocrinology*, *37*(11), 1801–1809.

Hall, M., Havens, B., & Sylvestre, G. (2003). *The experience of social isolation and loneliness among older men in Manitoba*. Retrieved from http://www.veterans.gc.ca/pdf/about-us/research-directorate/social-isol-loneliness-vac-report.pdf

Holt-Lunstad, J., Smith, T. B., and Layton, J. B. (2010). Social relationships and mortality risk: A meta-analytic review. *PLoS Medicine*, *7*(7) e1000316. doi: 10.1371/journal.pmed.1000316

Hsu, Y. (2014). Feeling at home in Chinatown: Voices and narratives of Chinese monolingual seniors in Montreal. *Journal of International Migration and Integration*, *15*, 331–347.

Ip, D., Lui, C. W., & Chui, W. H. (2007). Veiled entrapment: A study of social isolation of older Chinese migrants in Brisbane, Queensland. *Ageing and Society*, *27*(5), 719–738.

Kaida, L., & Boyd, M. (2011). Poverty variations among the elderly: The roles of income security policies and family co-residence. *Canadian Journal on Aging/La Revue canadienne du viellissement*, *30*(1), 83–100.

Keefe, J., Fancey, P., Andrew, M., & Hall, M. (2006). *Final report: A profile of social isolation in Canada*. Prepared for Federal/Provincial/ Territorial Committee of Officials (Seniors). Retrieved from http://www.health.gov.bc.ca/library/publications/year/2006/keefe_social_isolation_final_report_may_2006.pdf

Koehn, S., Spencer, C., & Hwang, E. (2010). Promises, promises: Cultural and legal dimensions of sponsorship for immigrant seniors. In D. Durst, & M. MacLean (Eds.), *Diversity and aging among immigrant seniors in Canada: Changing faces and greying temples* (pp. 79–102). Calgary, AB: Detselig Enterprises Ltd.

Kuo, B. C. H., & Guan, J. (2006). Sociocultural predictors of depression for Chinese immigrant elderly in Canada: Acculturation, relationship with adult children, social support, and perceived services barriers. In D. Zinga (Ed.), *Navigating Multiculturalism: Negotiating Change*, 373–392. Newcastle upon Tyne, ENG: Cambridge Scholars.

Lai, D. C. (1988). *Chinatowns: Towns within cities in Canada*. Vancouver, BC: UBC Press.

Lai, D. W. (2004). Impact of culture on depressive symptoms of elderly Chinese immigrants. *Canadian Journal of Psychiatry*, *49*(12), 820–827.

Lai, D. W. (2005). Cultural factors and preferred living arrangement of aging Chinese Canadians. *Journal of Housing for the Elderly*, *19*(2), 71–86.

Lai, D. W. (2007a). For better or for worse: Elderly Chinese immigrants living alone in Canada. *Hallym International Journal of Aging*, *9*(2), 107–23.

Lai, D. W. (2007b). Predictors of use of senior centers by elderly Chinese immigrants in Canada. *Journal of Ethnic and Cultural Diversity in Social Work*, *15*(1-2), 97–121.

Lai, D. W., & Chau, S. B. (2007). Effects of service barriers on health status of older Chinese immigrants in Canada. *Social Work*, *52*(3), 261–269.

Lai, D. W., & Leonenko, W. L. (2007). Correlates of living alone among single elderly Chinese immigrants in Canada. *The International Journal of Aging and Human Development*, *65*(2), 121–148.

Levac, D., Colquhoun, H., & O'Brien, K. K. (2010). Scoping studies: Advancing the methodology. *Implementation Science*. *5*(69). doi: 10.1186/1748-5908-5-69

Liddle, J., Scharf, T., Bartlam, B., Bernard, M., & Sim, J. (2014). Exploring the age-friendliness of purpose-built retirement communities: Evidence from England. *Ageing and Society*, *34*(09), 1601–1629.

Lightman, N., & Good Gingrich, L. (2012). The intersecting dynamics of social exclusion: Age, gender, race and immigrant status in Canada's labour market. *Canadian Ethnic Studies*, *44*(3), 121–145.

Lindsay, C. (2001). *Profiles of Ethnic Communities in Canada, The Chinese Community in Canada* [Catalogue no. 89-621-XIE – No. 001]. Ottawa, ON: Social and Aboriginal Statistics Division, Statistics Canada. Retrieved from http://publications.gc.ca/Collection/Statcan/89-621-X/89-621-XIE2006001.pdf

Lui, C. W., Everingham, J. A., Warburton, J., Cuthill, M., & Bartlett, H. (2009). What makes a community age-friendly: A review of international literature. *Australasian Journal on Ageing*, *28*, 116–121.

MacCourt, P. (2007). *Review of federal / territorial / provincial (FTP) services and policies and analysis of impact on social isolation*. Retrieved from http://www.health.gov.bc.ca/library/publications/year/2007/policies_program_report_apr_2007.pdf

Martin-Matthews, A., Tamblyn, R., Keefe, J., & Gillis, M. (2009). Bridging policy and research on aging in Canada: Recognizing an anniversary, realizing an opportunity. *Canadian Journal on Aging/La Revue canadienne du vieillissement*, *28*(2), 185–193.

Martin-Matthews, A., Tong, C. E., Rosenthal, C. J., & McDonald, L. (2013). Ethno-cultural diversity in the experience of widowhood in later life: Chinese widows in Canada. *Journal of Aging Studies*, *27*(4), 507–518.

McDonald, L. (2011). Theorising about ageing, family and immigration. *Ageing and Society*, *31*, 1180–1201.

McDonald, L., Hitzig, S. L., Pillemer, K. A., Lachs, M. S., Beaulieu, M., Brownell, P., … & Thomas, C. (2015). Developing a research agenda on resident-to-resident aggression: Recommendations from a consensus conference. *Journal of Elder Abuse & Neglect*, *27*(2), 146–167.

Medical Advisory Secretariat. (2008). Social isolation in community-dwelling seniors: An evidence-based analysis. *Ontario Health Technology Assessment Series*, *8*(5), 1–49. Epub.

Menec, V. H., Huton, L., Newall, N., Nowicki, S., Spina, J., & Veselyuk, D. (2015). How 'age-friendly' are rural communities and what community characteristics are related to age-friendliness? The Case of Rural Manitoba, Canada. *Ageing and Society*, *35*(1), 203–223.

Menec, V. H., Means, R., Keating, N., Parkhurst, G., & Eales, J. (2011). Conceptualizing age-friendly communities. *Canadian Journal on Aging/La Revue canadienne du viellissement*, *30*(3), 479–493.

Menec, V. H., Newall, N., & Nowicki, S. (2016). Assessing communities' age-friendliness: How congruent are

subjective versus objective assessments? *Journal of Applied Gerontology*, *35*(5), 549–565.

Min, J. W. (2005). Cultural competency: A key to effective social work with racially and ethnically diverse elders. *Families in Society: The Journal of Contemporary Social Services*, *86*(3), 347–358.

Moulaert, T., & Garon, S. (2016). *Age-Friendly Cities and Communities in International Comparison*. Cham, CHE: Springer International.

Mui, A. C. (1996). Depression among elderly Chinese immigrants: An exploratory study. *Social Work*, *41*(6), 633–645.

Mui, A. C. (1998). Living alone and depression among older Chinese immigrants. *Journal of Gerontological Social Work*, *30*(3/4), 147–166.

National Council of Welfare. (2008). Poverty profile: Special edition. Retrieved from https://www.canada.ca/content/dam/esdc-edsc/migration/documents/eng/communities/reports/poverty_profile/snapshot.pdf

National Seniors Council. (2014). *Scoping review of the literature: Social isolation of seniors*. Retrieved from https://www.canada.ca/content/dam/nsc-cna/documents/pdf/policy-and-program-development/publications-reports/2014/Scoping-Review-of-the-Literature-Social-Isolation-of-Seniors-2013-2014.pdf

Ng, E., Lai, D., Rudner, A., & Orpana, H. (2012). *What do we know about immigrant seniors aging in Canada?* A demographic, socio-economic and health profile. Retrieved from https://www.elderabuseontario.com/wp-content/uploads/2014/03/What-do-we-know-about-immigrant-seniors-aging-in-Canada.pdf

Nicholson, N. (2012). A review of social isolation: An important but under-assessed condition in older adults. *The Journal of Primary Prevention*, *33*(2-3), 137–152.

Nova Scotia Seniors' Secretariat. (2007). *Age-friendly cities project – Halifax site*. A project of the World Health Organization (WHO) (Summary Report). Retrieved from https://www.novascotia.ca/seniors/pub/2007_AgeFriendlyCitiesReport.pdf

Ontario Seniors' Secretariat, Accessibility Directorate of Ontario, University of Waterloo, & McMaster University. (2013). *Finding the right fit: Age-friendly community planning*. Retrieved from http://www.seniors.gov.on.ca/en/resources/AFCP_Eng.pdf

Perissinotto, C. M., Stijacic Cenzer, I., & Covinsky, K. E. (2012). Loneliness in older persons: A predictor of functional decline and death. *Archives of Internal Medicine*, *172*, 1078–1083.

Phillipson, C. (2011). Developing age-friendly communities: New approaches to growing old in urban environments. In R. Settersten & J. Angel (Eds.), *Handbook of sociology of aging* (pp. 279–297). New York, NY: Springer.

Plouffe, L., Garon, S., Brownoff, J., Eve, D., Foucault, M., Lawrence, R., … & Toews, V. (2013). Advancing age-friendly communities in Canada. *Canadian Review of Social Policy*, *68/69*(1), 24–38.

Plouffe, L., & Kalache, A. (2010). Towards global age-friendly cities: Determining urban features that promote active aging. *Journal of Urban Health*, *87*(5), 733–739. doi: 10.1007/s11524-010-9466-0

Plouffe, L. A., & Kalache, A. (2011). Making communities age friendly: State and municipal initiatives in Canada and other countries. *Gaceta Sanitaria*, *25*, 131–137.

Potter, W. J., & Levine-Donnerstein, D. (1999). Rethinking validity and reliability in content analysis. *Journal of Applied Communication Research*, *27*, 258–284.

Prus, S. G., Tfaily, R., & Lin, Z. (2010). Comparing racial and immigrant health status and health care access in later life in Canada and the United States. *Canadian Journal on Aging/La Revue canadienne du vieillissement*, *29*(03), 383–395.

Public Health Agency of Canada. (2007). *Age-friendly rural and remote communities: A guide*. Ottawa, ON: Federal/Provincial/Territorial (F/P/T) Committee of Officials (Seniors). Retrieved from http://www.phac-aspc.gc.ca/seniors-aines/alt-formats/pdf/publications/public/healthy-sante/age_friendly_rural/AFRRC_en.pdf

Public Health Agency of Canada. (2014). *Age-friendly communities*. Retrieved from www.phac-aspc.gc.ca/seniors-aines/afc-caa-eng.php

Saadat Mehr, F. (2013). *Addressing factors related to depression and mental health in elderly Chinese immigrant women in Ontario* (Doctoral dissertation). Retrieved from ProQuest Dissertations and Theses database. Université d'Ottawa/University of Ottawa: Ottawa, ON.

Scharlach, A. E., Davitt, J. K., Lehning, A. J., Greenfield, E. A., & Graham, C. L. (2014). Does the Village model help to foster age-friendly communities? *Journal of aging & social policy*, *26*(1-2), 181–196.

Scharlach, A., & Lehning, A. (2015). *Creating aging-friendly communities*. New York, NY: Oxford University Press.

Simon, M. A., Chang, E. S., Zhang, M., Ruan, J., & Dong, X. (2014). The prevalence of loneliness among U.S. Chinese older adults. *Journal of aging and health*, *26*(7), 1172–1188.

Statistics Canada. (2011). Immigration and ethnocultural diversity in Canada. Retrieved from http://www12.statcan.gc.ca/nhs-enm/2011/as-sa/99-010-x/99-010-x2011001-eng.cfm

Statistics Canada. (2012). Canadian community health survey – Annual Component (CCHS). Retrieved from http://www23.statcan.gc.ca/imdb/p2SV.pl?Function=getSurvey&SDDS=3226

Tam, S., & Neysmith, S. (2006). Disrespect and isolation: Elder abuse in Chinese communities. *Canadian Journal on Aging*, *25*(2), 141–151.

The Council on Aging of Ottawa. (n.d.). Building an age-friendly Ottawa. Retrieved from http://www.coaottawa.ca/afo/

Thurston, R. C., & Kubzansky, L. D. (2009). Women, loneliness, and incident coronary heart disease. *Psychosomatic Medicine*, *71*(8), 836–842.

Walsh, K., Scharf, T., & Shucksmith, M. (2014). Exploring the impact of informal practices on social exclusion and age-friendliness for older people in rural communities. *Journal of Community & Applied Social Psychology*, *24*(1), 37–49.

Wong, S. T., Yoo, G. J., & Stewart, A. L. (2007). An empirical evaluation of social support and psychological well-being in older Chinese and Korean immigrants. *Ethnicity and Health*, *12*(1), 43–67.

World Health Organization (WHO). (2007). *Global age-friendly cities: A guide*. Retrieved from http://www.who.int/ageing/publications/Global_age_friendly_cities_Guide_English.pdf

Wu, Z., & Penning, M. J. (2015). Immigration and loneliness in later life. *Ageing and Society*, *35*(1), 64–95.

Yee Hong Centre for Geriatric Care. (2013). *The changing needs of Chinese seniors in the greater Toronto area*. Retrieved from http://www.yeehong.com/centre/eLibrary/Needs_Study_Report.html

Zhou, Y. R. (2013). Transnational aging: The impacts of adult children's immigration on their parents' later lives. *Transnational Social Review: A Social Work Journal*, *3*(1), 49–64.