Editor's key points

- Estimates from 2017 show that 17% of Canada's population is aged 65 and older. This population, especially those older than 75 years, is expected to more than double in the next 20 years. Emerging evidence shows that social factors—including social isolation, loneliness, and social vulnerability—are associated with considerable morbidity and mortality, comparable to established risk factors such as smoking, alcohol consumption, obesity, and frailty.
- Family physicians and other primary care providers might be the only point of social contact for many older patients. It has been suggested that, just as physicians screen for other risk factors, there might be a role for primary care physicians to identify patients who are isolated, lonely, or socially vulnerable and to recommend evidence-based interventions that could strengthen social connections.
- Interventions targeting loneliness and social isolation show promise, but more research is needed to provide firm guidance as to which interventions are effective for which populations. A patient-centred approach is critical in selecting interventions, as are well-defined partnerships and coordination between those working in health care and those in other sectors.

Social isolation and loneliness: the new geriatric giants

Approach for primary care

Amy Freedman MD CCFP(COE) FCFP Jennifer Nicolle MD CCFP

Abstract

Objective To review the problems of social isolation, loneliness, and social vulnerability in older adults and the associated risks, and to help primary care providers identify patients at risk and recommend effective interventions.

Sources of information PubMed and PsycINFO searches were conducted using the terms *aged, social isolation, loneliness, screening,* and *interventions* and associated key words for relevant English-language articles. References of identified articles were also hand searched. A separate search of the gray literature using Google was conducted to find policy documents and knowledge translation materials from relevant organizations. The search covered relevant articles from the 10 years before June 2019.

Main message Social isolation, loneliness, and social vulnerability are very common in older adults and are associated with considerable morbidity and mortality, comparable to established risk factors such as smoking, alcohol consumption, obesity, and frailty. Numerous interventions addressing loneliness and social isolation have been studied: social facilitation (including technology), exercise, psychological therapies, health and social services, animal therapy, befriending, and leisure and skill development. However, current evidence of effectiveness is limited. A patient-centred approach is essential to the selection of interventions. The needs of underserviced and marginalized populations, including new immigrants, older adults identifying as LGBTQ+ (lesbian, gay, bisexual, transgender, queer or questioning, and related communities), Indigenous seniors, and seniors living in poverty, as well as the needs of long-term care residents and older caregivers, require further evaluation.

Conclusion Social isolation, loneliness, and social vulnerability are common problems in older adults and have important health consequences. Family physicians are uniquely positioned to identify lonely and socially isolated older adults and to initiate services.

Case description

Natasha is an 85-year-old woman whom you see for management of hypertension and osteoarthritis. Her husband died 6 months ago with advanced dementia, and she lives alone in a subsidized apartment. She only goes out to buy groceries and to see you. She immigrated from Denmark many years ago and she has 2 adult children who live far away. She does not see any friends, as most have died or she lost touch with them during the years she was caring for her husband. She stopped going to church several years ago. She has pain in her knees and feels like her walking is not as strong as it used to be.

You have a resident working with you today who takes a thorough history that includes a review of Natasha's symptoms and the main geriatric syndromes.

The resident makes several useful suggestions, including adjusting Natasha's medications, some limited investigations, and having an occupational therapist evaluate the safety of her home and the need for a gait aid.

When you suggest to Natasha that she should book to see you in 4 to 6 weeks, she says, "That seems long .... How about 2?"

In many ways, the resident has done a thorough assessment of this frail woman, taking into account several of the "geriatric giants" taught to medical learners. However, her understanding of Natasha's health fails to appreciate those factors most likely to influence her quality of life and even her mortality: social vulnerability, loneliness, and social isolation.

Sources of information

We searched PubMed and PsycINFO from 2008 until June 2019 using the terms *aged, loneliness, social isolation, screening,* and *interventions* and associated key words. The search in PubMed was limited to review articles and articles in English. References of identified articles were also hand searched. Public policy documents from Canada, the United States, and the United Kingdom (UK) were found online using Google and the same search terms. Systematic reviews, meta-analyses, and policy documents were included if they focused on the effectiveness of interventions for loneliness or social isolation in older adults. This article should not be considered a formal systematic review and does not provide a quantitative synthesis of the field.

Main message

Scope of the issue. Estimates from 2017 show that 17% of Canada's population is aged 65 and older. This population, especially those older than 75 years, is expected to more than double in the next 20 years.[1] Emerging evidence shows that social factors have considerable effects on mortality and many aspects of health in older adults.[2] Terms such as *social isolation, social vulnerability,* and *loneliness,* defined in **Box 1**,[3,4] are becoming increasingly important topics of discussion. Public health agencies and governments are promoting reducing loneliness and strengthening social networks as important public health goals. In 2013-2014, the National Seniors Council prepared a Health Canada report on the social isolation of seniors.[5] The UK supports a Minister for Loneliness as well as the Campaign to End Loneliness, a network of organizations working to reduce loneliness in later life through community action, practice, research, and policy.[6,7] The World Health Organization has also created a Global Network for Age-friendly Cities and Communities, a key strategy of which is encouraging social engagement for older adults.[8]

Studies have shown, however, that family physicians have trouble identifying their lonely patients.[9] A Dutch study found that, while family doctors acknowledged the importance of patients' feelings of loneliness in their daily practice, they had difficulty responding to these feelings and faced a lack of therapeutic options.[10]

The prevalence of social isolation ranges from 6% to 43% in older community-dwelling adults, and 10% to 50% report feeling lonely.[3,5,11]

Importance of the problem. While intrinsic factors such as genetics, medical conditions, and frailty contribute to health, there is growing recognition of the effects of social determinants of health—the conditions in which people are born, live, and age. Loneliness and social isolation were shown in a meta-analysis to be associated with a heightened risk of mortality of 26% and 29%, respectively.[12] This increased mortality risk is in the same category as smoking 15 cigarettes a day and having an alcohol use disorder. In addition, the health risks of loneliness surpassed those associated with obesity.[12] The media has disseminated this finding with the catchy headline "loneliness is the new smoking." Another recent meta-analysis suggested that the risk of developing dementia for those with high levels of loneliness was 1.58 times greater than for those with a social network.[13] There is good evidence that individuals who are lonely or socially isolated have an increased risk of physical and mental health problems, as well as increased health services use (**Table 1**).[3-5,11-19]

Conversely, increased social engagement has been associated with decreased disability and lower mortality.[19,20] In Holt-Lunstad and colleagues' meta-analysis, individuals with stronger social relationships had a 50% increased survival likelihood.[12] Social connections have been shown to improve adherence to medical regimens[21] and to decrease hospitalization time.[2]

Risk factors. Many variables have been found to be associated with an increased risk of loneliness, social isolation, and social vulnerability (**Table 2**).[1,3,4,22]

Identifying and reaching patients who are isolated or lonely. Family physicians and other primary care providers are well placed to identify patients who are isolated or lonely, as these providers might be the only point of social

Box 1. Definitions

Social isolation is commonly defined as having a low quantity and quality of contact with others. It is objective and can be measured using observations of an individual's social network.[3]

Loneliness is the feeling of isolation regardless of objective social network size.[3] Loneliness is often viewed as the subjective counterpart to social isolation.

Social vulnerability can help explain how social circumstances relate to health and refers to the degree to which one's social situation leaves one susceptible to further social or health-related insults.[4] Andrew et al operationalized this concept by constructing a Social Vulnerability Index, which includes self-report variables such as socioeconomic status, relationships, social supports, literacy, and living situation, factors previously identified in the Canadian Study of Health and Aging.[4]

Table 1. Adverse outcomes associated with loneliness and social isolation

PHYSICAL HEALTH	MENTAL HEALTH	HEALTH SERVICE USE
• Increased mortality	• Increased depression	• Increased emergency department visits
• Increased falls	• Increased dementia	• Increased physician visits
• Increased cardiovascular disease	• Decreased life satisfaction	• Increased hospital readmissions
• Increased serious illness	• Increased elder abuse	• Increased long-term care admissions
• Increased functional decline		
• Increased malnutrition		

Data from Keefe et al,[3] Andrew et al,[4] the National Seniors Council,[5] Menec et al,[11] Holt-Lunstad et al,[12] Kuiper et al,[13] the Medical Advisory Secretariat,[14] Wright-St Clair et al,[15] Eng et al,[16] Mistry et al,[17] Faulkner et al,[18] and Mendes de Leon et al.[19]

Table 2. Risk factors for social isolation, loneliness and social vulnerability

SOCIODEMOGRAPHIC RISK FACTORS	MEDICAL RISK FACTORS	SOCIAL RISK FACTORS
• Increased age	• Multimorbidity	• Living alone
• Female sex	• Hearing or vision loss	• Living far from family
• Low income	• Hearing and vision loss	• Lack of transportation
• Living in long-term care	• Cognitive impairment	• Few friends
• Living in isolated rural areas	• Functional impairment	• Caregiver of an elderly relative
• Living in low-income urban areas	• Frailty	• Life changes: change of residence, shrinking of social network, loss of a spouse, declining health, and loss of driver's licence

Data from the Canadian Institute for Health Information,[1] Keefe et al,[3] Andrew et al,[4] and Mick et al.[22]

contact for many patients.[7,23-25] In the UK, 3 out of 4 GPs say they see between 1 and 5 people a day who have come in mainly because they are lonely.[7] It has been suggested that, just as physicians screen for risk factors such as smoking, diet, and exercise, there might be a role for primary care physicians to identify patients who are isolated, lonely, or socially vulnerable and to recommend evidence-based interventions that could strengthen social connections.[25,26]

The National Seniors Council report confirmed that a "reactive" approach is currently in place to address the needs of socially isolated individuals, many of whom are not identified or supported until after a crisis.[5] Validated scales to assess older adults at risk of social isolation and loneliness, who might benefit from intervention, include the Lubben Social Network Scale[27,28] and the Three-item Loneliness Scale (**Table 3**).[29] Single-item screening questions are also available, such as "How often do you feel lonely (hardly ever or never, some of the time, often)?"[11,30] Single-item questions have been less extensively studied but are commonly used in research and might be more practical in clinical practice.[11,30-32]

Some communities have used existing data sets pertaining to risk factors for loneliness—for example, mapping geographic areas with more risk factors (to create "a loneliness heat map") to target services. Other communities have trained "non-traditional referral sources"—individuals with whom older adults might have contact (eg, volunteers, shopkeepers)—an approach called "eyes on the ground."[7,33,34]

Table 3. The Three-item Loneliness Scale

QUESTION*	HARDLY EVER	SOME OF THE TIME	OFTEN
How often do you feel that you lack companionship?	1	2	3
How often do you feel left out?	1	2	3
How often do you feel isolated from others?	1	2	3

*Participants are told "These questions are about how you feel about different aspects of your life. For each question, answer how often you feel that way." Scores range from 3-9, with higher scores indicating greater loneliness.
Data from Hughes et al.[29]

Interventions. Various interventions aimed at reducing loneliness and social isolation have been studied (**Table 4**).[14,35-46] Multiple systematic reviews evaluating these interventions have come to different and often contradictory conclusions.[14,35-46] For example, several systematic reviews have found improved outcomes with group interventions that are educational or social, or which combine exercise with a leisure or psychosocial intervention.[35-38] Other reviews, however, demonstrate greater evidence for one-on-one interventions (such as videoconferencing, Internet use, and animal therapy).[39-42,46] The systematic reviews comment on the poor methodologic quality of the primary studies, including small sample sizes, follow-up not being long enough to see health benefits, lack of measurement of health care use, and lack of

Table 4. Comparison of interventions to address social isolation and loneliness

INTERVENTION	EXAMPLES	RELEVANT RESULTS
Social facilitation	Group: social clubs, day programs Individual: video conference with family, interactive video games, chat rooms	• Most successful group interventions include an educational or psychosocial focus[14,35-38,40] • Technology studied primarily on the individual level in both the community and institutions[14,37,39-42,46]
Psychological therapies	Humour therapy, mindfulness-based stress reduction, cognitive enhancement programs, reminiscence group therapy	• Led by health care professionals • Difficult to determine the effect of the group itself vs therapy[43,44,46]
Animal based	Live animal visits, robotic dogs	• Both likely effective[39,40,43] • Primarily studied in long-term care and residential care
Physical activity	Exercise, exercise plus leisure, nutrition	• Successful interventions are more likely to have a health care provider involved in implementation and to be delivered more than once weekly[38]
Health and social care	Identification and referrals for at-risk individuals, outreach, geriatric rehabilitation	• Involve trained individuals or health care professionals[37,43,45,46]
Befriending	One-on-one volunteer visits, telephone support	• Often for homebound individuals • Led by volunteers • Less effective but might be only option for some[35,36]
Leisure and skill development	Gardening, arts, cooking, sports, computer training, music	• Computer and Internet training likely effective[14,40,41,43,46] • Leisure activities are more effective with exercise or social support[38]

Adapted from Gardiner et al.[43]

consistency on whether and how social isolation or loneliness are measured.[14,35-46] The review done by the Agency for Healthcare Research and Quality rated fewer than half of the included studies as fair or good quality.[38]

Given the poor quality of the studies, it is difficult to draw conclusions about which factors contribute to successful interventions. It has been suggested that the mechanism by which technology might address social isolation is through enhancing connections to family and friends, gaining social support, engaging in areas of interest, and boosting self-confidence.[41] Gardiner et al suggest in their integrative review that the most successful interventions share the following features: adaptability to a local context and local control of the design, a community development approach (where interventions are designed and implemented by service users), and productive engagement activities (either individually or as a group) rather than passive activities.[43]

"Social prescribing" is a new model addressing social isolation and loneliness that is being widely adopted and promoted in the UK and that is being studied in communities in Ontario.[7,47] This is a broad approach to the delivery of interventions that focuses not on what is delivered but on how services are delivered to a local community. In this model, a patient is identified within primary care and referred to a navigator who assesses their needs and connects them to appropriate services (eg, caregiver respite, sensory services, recreation, transportation, food, or income supports). Individual studies of this model show improvements in self-reported health measures and reductions in health service usage. However, a recent systematic review of social prescribing found that the current evidence fails to provide sufficient detail to judge either success or value for money, as most of the studies are small and of poor quality.[45]

Practical approach to loneliness and social isolation. Given the lack of clear guidelines as to which interventions are effective for which individuals and the diverse needs and preferences of older adults, we suggest clinicians use an individualized, patient-centred approach in addressing social isolation and loneliness (**Box 2**).[7,14,38,48]

Social services involvement is essential in selecting the interventions most appropriate to the context of a

Box 2. A patient-centred approach to addressing social isolation and loneliness

A patient-centred approach addresses the following factors.

Exploring. What is happening now? Facilitate the person's telling of his or her story and review the degree of loneliness or social isolation.

Scoping solutions and goals. What solutions are there? Help the person imagine a different future. (How would you like things to be? What would you be doing differently? What are your interests? Your strengths?)

Have the individual set his or her own goals—ie, not the provider's (eg, being more physically active, preventing falls, making new connections, attending meetings, playing bridge).

Action. What needs to be done? Help the person construct a plan that maps out where he or she wants to get to.

Adapted from the Campaign to End Loneliness.[48]

particular patient. Many cities have central websites and telephone lines (eg, Canada 211) with searchable databases of services. In our own and others' experiences, creating a directory of local assets can be a valuable reference tool in the electronic medical record, available in hard copy in the office or distributed on home visits. Community centres and public libraries also often offer exercise programs, social programs, and computer training for older adults (**Table 5**).

Addressing barriers to implementing interventions

Transportation needs: Connecting older adults to reliable and affordable transportation is often a prerequisite to their remaining engaged in the community and in supporting relationships.[3,7]

Sensory loss and mobility restrictions: A 2008 review of social isolation in community-dwelling seniors found that rehabilitation for mild or moderate hearing loss was effective in improving communication disabilities and reducing loneliness.[14] No studies were found that evaluated the effects of interventions for other age-related functional disabilities such as vision loss or mobility restrictions. However, the authors of the review point out that research is not necessarily needed to confirm that correcting mobility restrictions or vision loss could improve quality of life and social engagement.[14] Participating in many interventions is only possible after optimizing mobility, vision, and hearing.

Income: Cost can be a barrier to participating in social programs. Older adults should be encouraged to submit their tax forms, as government benefits exist for low-income seniors.[49] Programs might waive fees or use a sliding scale for low-income older adults.

Gaps in understanding and research: underserved populations. First-generation immigrants struggle to access mainstream interventions for loneliness owing to lack of familiarity with resources as well as language and cultural barriers. In the National Seniors Council report, this population identified challenges in finding care facilities and social programming in their language of choice.[5] The literature does not describe how seniors of different ethnicities experience loneliness and isolation. The level of social isolation experienced by older Indigenous people is not known. However, cultural and structural factors, coupled with high rates of traumatic events over the person's life, might increase the risk of loneliness and social isolation.[50] The Agency for Healthcare Research and Quality review notes that only 1 of the 8 good-quality studies reported on the ethnicity of participants.[38]

Older adults who identify as LGBTQ+ (lesbian, gay, bisexual, transgender, queer or questioning, and related communities) are at a high risk of loneliness and social isolation.[50-52] A survey by the American Association of Retired Persons found that most older adults identifying as LGBTQ+ are concerned about having enough support from family and friends as they age.[51] Many LGBTQ+ older adults express a desire for LGBTQ+ specific services and housing.[50,51]

Despite being in the company of others, older adults living in residential or long-term care still experience high levels of loneliness and isolation. As many as 44% of seniors living in long-term care in Canada have been diagnosed with depression or have symptoms of depression, and these residents are more likely to be socially isolated.[53] Most of the research on institutionalized older adults has involved persons who were cognitively intact, and there were no systematic reviews specific to long-term care. Feelings of loneliness and isolation are common in dementia, and these patients might find it more difficult to cope with the feelings associated with these problems.[40] In addition, senior caregivers are

Table 5. Resources for social isolation and loneliness

SOURCE	RESOURCE	WEB ADDRESS OR TELEPHONE NUMBER
211	Telephone helpline and website: gateway to community, social, nonclinical health and related government services. Available in more than 100 languages	**www.211.ca** or call 211
Government of Canada Programs and Services for Seniors	A full listing of income supports, (CPP, Guaranteed Income Supplement, Old Age Security, Disability Tax Credit, accessible parking permit, GST or HST credits). Information on health, home safety, and funding for projects for older adults	**www.canada.ca/en/employment-social-development/campaigns/seniors.html** or 1 800 O Canada (800 622-6232)
UK Campaign to End Loneliness	Resources, information, and research on loneliness	**www.campaigntoendloneliness.org**
RISE	National campaign to increase awareness of social isolation. Information and resources	**www.rise-cisa.ca**
Regional Geriatric Program of Toronto's Senior Friendly 7 Social Engagement Toolkit	Supports clinical best practices, self-management tools for older adults	**www.rgptoronto.ca/wp-content/uploads/2018/11/SF7-Toolkit-V1-2018-Social-Engagement.pdf**

CPP—Canada Pension Plan, GST—goods and services tax, HST—harmonized sales tax, RISE—Reach Isolated Seniors Everywhere.

often a socially isolated, hidden population, and further research is needed to identify which interventions are effective in this group.[14]

Although the association between poverty and social isolation is well described, there is very little literature on the effects of poverty on the experience of loneliness and social isolation.

Case resolution

Although Natasha's demeanour is cheerful, it is clear that she is lonely and socially isolated. When you ask her why she stopped going to church, she says that it was hard to get there. When she did go, she could not hear the service or read the prayer book. She misses this, as it was an important part of her week before her husband got sick. She speaks to her children infrequently by telephone, as calling them has become very expensive. They have encouraged her to Skype or e-mail them, but she does not have a computer.

Natasha is open to having her hearing and vision tested, as well as to having an occupational therapy assessment. You look up transportation for older adults on Canada 211 and print out an application for a public transit system for those with disabilities, as well as some other low-cost options for older adults so that Natasha can work on getting back to her church. You mention an exercise group as a way of improving her strength and lowering her risk of falls, but Natasha is not interested. She does like the idea of learning to use a computer to connect with her children. You advise her to check with her local library to see if they offer computer courses. Natasha will return to see you in 1 month to follow up on these plans.

Conclusion and next steps

In 1965 Professor Bernard Isaacs coined the term *geriatric giants:* immobility, instability, incontinence, and impaired intellect or memory.[54] Practitioners and medical learners are encouraged to be vigilant for these conditions, in addition to screening for recognized risk factors such as smoking, alcohol use, and physical activity, and to intervene to prevent further disability, hospitalization, and mortality.

Given the abundance of literature demonstrating the powerful relationship between loneliness, social isolation, and social vulnerability and these same outcomes, primary care providers would be remiss if we did not recognize these problems in our patients and emphasize social relationship factors as critical health variables to our learners.

Interventions targeting loneliness and social isolation show promise, but more research is needed to provide firm guidance as to which interventions are effective for which populations.

Just as loneliness might be the new smoking, interventions targeting loneliness and social isolation might be the new "statin." However, addressing loneliness and social isolation is not as simple as prescribing a medication. A patient-centred approach is critical, as are well-defined partnerships and coordination between those working in health care and those in the social service, government, and research sectors.[55] Social isolation and loneliness might well be the new geriatric giants.

Dr Freedman is a family physician at St Michael's Hospital and Baycrest in Toronto, Ont, and Assistant Professor and Program Director of the Care of the Elderly Enhanced Skills Program in the Department of Family and Community Medicine at the University of Toronto. **Dr Nicolle** is a locum physician in the Department of Family and Community Medicine at St Michael's Hospital and a hospitalist at the Centre for Addiction and Mental Health and for Inner City Health Associates in Toronto.

Acknowledgment

We thank **Lorna McDougall,** NP, for her thoughtful comments and careful review of the manuscript.

Contributors

Both authors contributed to the literature review, its interpretation, and preparing the manuscript for submission.

Competing interests

None declared

Correspondence

Dr Amy Freedman; e-mail **amy.freedman@utoronto.ca**

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This article has been peer reviewed. *Can Fam Physician* 2020;66:176-82

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