The loneliness epidemic: a holistic view of its health and economic implications in older age

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Loneliness has been described as an epidemic and is one of the most pressing public health concerns in Australia and internationally.[1,2] In contrast to social isolation, which is an objective measure of social interactions and relationships, loneliness is defined as a subjective experience where one perceives a discrepancy between desired and actual social relationships in terms of quality or quantity.[3] Although it is common and natural to feel lonely at times, prolonged and intense periods of loneliness have been linked to adverse health outcomes.[4] Older adults are more prone to loneliness and social isolation compared with other age groups.[5] Reasons for this include significant life transitions and events, such as retiring from work, increased financial difficulties, loss of friends and widowhood, changes in living arrangements (eg, transitioning to residential aged care), increase in solitary living, and a decline in both health and independence.[5,6] Older people at particular risk of loneliness include those living on low incomes, living with a disability, living in rural areas or with housing stress, who are single, childless or living alone, who are vulnerable or at risk of elder abuse, and those with low levels of literacy or communication technology skills (Box).[7] A growing body of evidence has highlighted the significant health burden associated with loneliness, with more recent studies also suggesting that loneliness has become an economic problem due to an increase in service use and demand for institutional care. This development requires both effective and cost-effective strategies to tackle loneliness.[11,12]

Overview of populations at risk and interventions targeting loneliness in older adults*

Older people at particular risk of loneliness[7] include those:

- on low incomes
- living with a disability
- living in rural areas or with housing stress
- who are single, childless or living alone
- who are vulnerable and at risk of elder abuse
- with low levels of literacy or communication technology skills

Interventions tackling loneliness in older adults:[8,9]

- social facilitation interventions — interventions with the primary purpose of facilitating social interaction with peers, or others who may be lonely, such as shared interest topic groups, videoconferencing or the Friendship Enrichment Program
- psychological therapies — interventions that use recognised therapeutic approaches delivered by trained therapists or health professionals, such as humour therapy or reminiscence group therapy
- health and social care provision — interventions involving health, allied health and/or social care professionals supporting older people, such as the university–community partnership model
- animal interventions, such as animal-assisted therapy or PARO† companion robot interaction
- befriending interventions — a form of social facilitation with the aim of formulating new friendships, such as the Senior Companion Program[10]
- leisure/skill development, such as gardening programs or computer/internet use

* These populations at risk and interventions are commonly discussed in the literature but do not represent an exhaustive list. † http://www.parorobots.com/.

How many older adults experience loneliness?

A recent meta-analysis found that 28.5% of older people aged 60 years and above experience some degree of loneliness.[13] Although the study did not observe that loneliness is more common in people aged over 75 years than in those aged 65–75 years, other studies have found that the old (75–84 years) and oldest old (≥ 85 years) are more affected by loneliness than the youngest old (65–74 years).[1,14] The prevalence of loneliness among institutionalised older adults is less well documented but a recent meta-analysis estimated the mean prevalence of moderate and severe loneliness in older people living in care homes at 61% and 35% respectively.[15] Determining the prevalence of loneliness remains a challenge due to its subjective nature, the stigma attached to it, and measurement problems. The use of a direct, single-question measure of loneliness appears to be commonly applied in national surveys and research studies because it is simple and generates fewer missing values. On the flip side, such measures are prone to ambiguous interpretation of the term loneliness and under-reporting due to the stigma attached to loneliness, suggesting the need for a multi-item measure of loneliness.[16] Further, achieving an accurate and representative sample of the study population is often comprised by online-based surveys, meaning that many older adults cannot be easily reached, which can result in skewed estimates.

How does loneliness affect older adults' health?

Loneliness and social isolation have been linked to common chronic diseases, such as heart disease and stroke, diabetes, dementia and depression.[17] Loneliness and social isolation also increase the risk of premature death by 26% and 29% respectively.[18] Loneliness can adversely affect health through various pathways, such as direct influences on lifestyle, health behaviours, and health care utilisation. In addition, it can lead to heightened or excessive stress responses (reduced stress-buffering) and hinder physiological repair and maintenance processes (eg, insufficient sleep).[19] Although loneliness and social isolation may increase the chance of developing a chronic condition, living with a chronic condition is also associated with an increased risk of loneliness and social isolation,[20] highlighting the bi-directional relationship. Further research in this area is urgently needed to truly understand the nature of this relationship and ultimately how we might be able to best address it. With the number of people living with chronic

conditions on the rise, there is an urgent need for a holistic approach for chronic conditions management to address loneliness and social isolation.

Why has loneliness in older adults become an economic problem?

A recent report from the United States suggested that loneliness and social isolation among older adults alone accounts for an estimated US$6.7 billion in excess Medicare spending annually.[2] In Australia, the total cost of loneliness was estimated around $2.7 billion (or $1565 for each person who becomes or remains lonely), where older adults aged 55 years or older accounted for more than a third of the costs.[21] These costs are mainly associated with increases in health service use (ie, general practice and hospital visits), sick leave and lifestyle behaviour (ie, physical inactivity, regular smoking, and excessive alcohol use). There has been a growing number of studies showing that loneliness is associated with greater health service use, such as doctor visits, emergency department visits and hospital admissions.[11,22] Although older adults experiencing loneliness may exhibit a higher prevalence of chronic conditions that result in increased health service use, others have hypothesised that lonely older people are more likely to visit physicians to meet their need for interaction and interpersonal stimulation.[22] In addition, loneliness has been identified as a risk factor for care home admission, suggesting that tackling loneliness among older adults may delay or even reduce the demand for institutional care.[23] However, research in this area is still in its infancy and requires further investigation, addressing some conflicting results reported in the existing literature.[24] Besides such cost-of-illness studies that provide a better understanding of the economic burden of a particular illness on society, to guide resources allocation decisions in health care, there is also a need for cost-effectiveness evidence, which is imperative to provide decision makers with the important information to inform investment decisions. Although some studies have found that a few interventions that aim to reduce loneliness provide value for money,[12,25] differences in the methods and contexts of studies mean that they are not comparable and cannot be used for integrated decision making. Further cost-effectiveness evidence is urgently needed, adopting a holistic priority-setting framework and consistent methodology.

Current strategies to tackle loneliness in older adults

Given that loneliness is considered a modifiable risk factor, numerous interventions have been developed to reduce or prevent loneliness in older adults. Current loneliness interventions that have been explored among older people can be classified into six categories: social facilitation interventions, psychological therapies, health and social care provision, animal interventions, befriending interventions, and leisure/skill development.[8] Some evidence suggests that the most effective interventions are group interventions, such as educational and social activity programs, that are directed at specific groups.[25] Within the context of long term care facilities, strategies that are most effective include psychological therapies and leisure/skills development interventions, where laughter therapy, horticultural (gardening) therapy, and reminiscence therapy were associated with the greatest decrease in loneliness.[9] Overall, interventions that seem to be most promising are those that consider adaptability to local contexts and include holistic community development approaches.[8] However, evidence around effective interventions to address loneliness in older adults is still lacking and compromised by small samples and quasi-experimental designs that lack a control group. Variability in study designs and loneliness measures also limits the ability to calculate pooled effectiveness estimates to guide and develop effective policy responses. In order to address loneliness effectively, it is also important to understand the underlying risk factors of loneliness. These can be categorised into individual factors (eg, gender, race, socio-economic status, living arrangement, health problems), societal factors (eg, absence of support, lack of social networks or social opportunities), loss of relationships (eg, relocation, divorce, bereavement), and community factors (eg, no access to public spaces, geographic isolation, lack of transportation).[5,26] When designing interventions or policies, it is crucial to recognise that many of the risk factors for loneliness are interrelated and that each person is defined by a whole set of characteristics that can be related to loneliness in a different way.

Future directions

In view of demographic changes, where intergenerational living is declining and one-person households are on the rise, coupled with greater social and geographical mobility, loneliness in older adults is likely to remain on an upward trajectory. The loss of community resources, such as libraries and post offices, particularly in some rural areas, further exacerbates loneliness among community-dwelling older adults, requiring a stronger policy response. There is a need to move towards an integrated and holistic, person-centred view to tackle loneliness, integrating and adjusting interventions to the right person. However, current approaches focus on a single intervention for the entire population ("one-size-fits-all"), thereby ignoring the heterogeneity of loneliness, its underlying causes, and the unique requirements (such as individual coping mechanisms) and contextual factors (such as sociocultural environments) specific to individuals facing loneliness. Interventions must prioritise age, cultural, and gender appropriateness, considering the unique environmental and social determinants that contribute to loneliness across different groups. This includes being attentive to the needs of culturally and linguistically diverse communities and ensuring inclusivity for diverse groups, such as lesbian, gay, bisexual, and transgender older adults. It is also important to understand the subjective and heterogeneous nature of loneliness, emphasising the need to better understand older people's lived experiences of loneliness. Recognising that there

is no one-size-fits-all approach, the provision of services and their implementation need to be tailored to the needs of the communities and consumer preferences, adopting a person-centred approach that includes the involvement of older people with lived experiences in the design of interventions. There is also a need for a holistic priority-setting framework that provides actionable insight into decisions about where to invest, into what kind of interventions, and whom to target, requiring both effectiveness and cost-effectiveness evidence of interventions tackling loneliness.

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