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Research Note

The role of social isolation in frequent and/or avoidable hospitalisation: rural community-based service providers' perspectives

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Abstract

Background. Research on frequent or avoidable hospital admission has not focussed on the perspectives of service providers or rural settings. The link between social isolation and admission is not well explored, although social isolation is known to have negative health effects.

Objective. This paper reports further analysis from a study investigating service providers' perspectives on factors influencing frequent hospital admission in older patients with chronic disease, and explores the perceived role of social isolation.

Methods. Semi-structured interviews with 15 purposively sampled community-based service providers in rural New South Wales, Australia were thematically analysed.

Results. Social isolation was repeatedly identified as an important contributory factor in frequent and/or avoidable admission. Patients were described as socially isolated in three broad and interrelating ways: living alone, not socialising and being isolated from family. Social isolation was perceived to contribute to admission by limiting opportunities offered by social interaction, including opportunities for: improving mental health, pain tolerance and nutritional status; facilitating access to services; reinforcing healthful behaviours; and providing a monitoring role.

Conclusions. Social isolation is perceived to contribute to admission in ways that may be amenable to intervention. Further research is needed to understand patients' perspectives on the role of social isolation in admission, in order to inform policy and programs aimed at reducing hospitalisation among older people with chronic disease.

What is known about the topic? Social isolation has been shown to adversely affect physical health and mental health and wellbeing across a range of populations. However, less is known about the influence of social isolation on hospital admission among older people with chronic disease, and in particular in instances where admission might have been avoided.
What does this paper add? This paper adds to our understanding of the ways in which social isolation might link to hospital admission among older people with chronic conditions. It does this by reporting the perspectives of community-based service providers with many years' experience of working with this patient group.
What are the implications for practitioners? Practitioners need to consider the wider determinants of hospital admission among older patients with chronic disease, including social structures and support. For policy makers the implications are to review support for such patients and explore the possible impact of reducing social isolation on hospital admission.

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Introduction

The detrimental effects of social isolation on both physical and mental health have been well documented.[1–8] These include increased all-cause mortality, suicide, depression and a loss of confidence, and studies report effect sizes in line with more commonly assessed risk factors such as obesity and physical inactivity.[9] Social isolation is more common among older people and is therefore of particular concern in an ageing population.[1]

In this paper we define social isolation as:

> The separation of individuals or groups resulting in the lack of or minimising of social contact and/or

> communication. This separation may be accomplished by physical separation, by social barriers and by psychological mechanisms. In the latter, there may be interaction but no real communication.[10]

We also note that social isolation does not necessarily equate to living alone and neither of these things simply equate to the subjective experience of loneliness.[5,11–14]

Hospital admissions, particularly among older people with ambulatory care-sensitive (ACS) conditions, continue to increase[15–18] and are particularly burdensome in rural areas.[19,20] Chronic ACS conditions are those such as diabetes, chronic obstructive pulmonary disease and congestive heart failure, which should not require hospital admission if appropriately managed in the community.[15] Consequently, it is considered that some admissions among patients with these conditions are avoidable. The topic of reducing avoidable admission has received significant international research attention since the late 1980s.[21,22]

Research on avoidable hospital admission has predominately focussed on analyses of routine hospitalisation data and has been reported from the perspective of providers of acute-care services.[23] It has not focussed on the factors relating to potentially avoidable admission from the perspectives of patients, carers and community-based service providers.[18,24] These perspectives are important for providing a more comprehensive understanding of the antecedents to admission, and what might improve patient care.

The potential link between social isolation and hospital admission is not well explored.[12] This paper describes additional analyses of data from an exploratory scoping study by our group,[25] which reported that the factors underlying frequent and/or avoidable ACS hospital admission among older people are numerous and complex, and include significant external and internal barriers to accessing services. The current paper explores one central theme that emerged when providers were asked about common factors or characteristics of older rural patients frequently admitted for ACS conditions: the role of social isolation.

Method

The original scoping study was designed to inform a large, mixed-methods project, and therefore aimed to elicit experience and opinion from community-based service providers about the range of factors impacting on frequent and/or avoidable admission among the client group. We therefore conducted semi-structured interviews, which explored a broad range of factors related to frequent and/or avoidable admission (rather than drilling down on any specific individual factor). Fourteen interviews with professionals providing community-based services for older patients with chronic disease (e.g. community nurses, physiotherapists and Meals on Wheels), as well as one with an emergency department physician, from a range of locations in rural New South Wales, Australia were conducted during from June to September 2010. Our methods are described in greater detail in our previous paper.[25] The study was approved by the North Coast Area Health Services Human Research Ethics Committee.

Recruitment

Participants were sampled using criterion-based purposive sampling[26] to maximise variability in geographic location, organisation and job role. As this was an initial scoping study at the start of our research in this area, breadth in range of informants to gather the widest range of opinions about factors influencing frequent and/or avoidable hospital admission was key. Participants were initially approached through existing networks. We added further participants based on suggestions from early interviewees. All participants were experienced practitioners, clinicians or professionals. All provided written informed consent.

Recruitment ceased when we reached saturation on the range of factors impacting on frequent and/or avoidable admission, i.e. when no new factors were forthcoming. Two men and 13 women were interviewed. Table 1 describes the work roles and organisations of the participants.

Interviews

We used semi-structured interviews to elicit participants' opinions about, and experiences of:

- the individual, social, environmental, economic and health service-utilisation characteristics of patients over 65 years with chronic conditions and a history of frequent hospital admissions (≥3 admissions in a 12-month period)
- the factors that commonly contribute to these patients having frequent and/or avoidable admissions
- the interventions or services aimed at supporting these patients

At the start of the interview, participants were shown a laminated sheet that acted as a memory aid throughout the interview. It described the patients of interest, including their age, chronic conditions and that they were 'Frequently admitted i.e. 3 or more unplanned acute hospital admissions in a 12 month period'. The laminated sheet therefore framed the interview to be focussed on patients with a history of frequent hospital admission.

Semi-structured interviews were chosen as they can provide a supportive, flexible and comfortable process through which to elicit narrative description of experience and allow participants to reflect on and express opinion.[26] Interviews were electronically recorded and lasted an average of 55 min.

Data analysis

NVivo 8[27] was used to manage the project, manage the data, and to facilitate the transcription, coding and thematic analysis of data. Data analysis took place throughout the data-gathering phase in an iterative and team-oriented process. Initially, the relevant literature was investigated and a broad set of categories defined. The research team then conducted interviews, and further categories were added as a result of interview data.

After careful listening, a verbatim transcript was produced alongside an initial interpretive review drawing out material that fitted identified categories and material that required amended and additional categories. Braun and Clarke[28] describe this approach as ' 'theoretical' thematic analysis' (p. 84). It is an approach that reflects the analytical interest in the topic and focuses on a specific level of meaning, in this case the explicit

Table 1. Work role and organisation characteristics of participants

Main category	Current post	Relevant previous post
Community nursing	Community nurse Pulmonary rehabilitation provider, nursing in the community Heart failure nurse in the community	
Physiotherapy	Community-based physiotherapist Physiotherapist in hospital-based day therapy unit	
Occupational therapy	Manager of home modifications assessment, implementation and management Community occupational therapist	Community-based occupational therapist
Admitting doctors	Emergency department admitting physician General practitioner or visiting medical officer	Director of emergency medicine
Pharmacy	Community pharmacist (conducting home medicines reviews as well as working in a community-based pharmacy)	
Non-govenrment organisation	Meals on Wheels manager Community transport manager	
Home-based aged care provision	Case manager for assessment, implementation and management of individuals' aged care provision in the home Manager for assessment, implementation and management of individuals' aged care provision in the home Transition care manager (from hospital to home)	Community nurse, general practitioner practice nurse

meaning in participants' responses. It is considered appropriate for exploratory and descriptive studies.

The interpretive work was then consolidated with input from another team member and discussed at team meetings. The meetings included several representatives of local health services. In this way the categories eventually became the agreed coding scheme. The transcripts were then coded in NVivo 8 and further adjustments to the coding scheme were made. For this paper all data coded under the social-isolation node were subjected to further analysis (initially into the subcategories of living alone, not socialising and being isolated from family) and again consolidated with input from two other team members, enabling a much more detailed and nuanced categorisation and articulation of the main social-isolation theme and its relationship to other categories. Within the subcategories we then analysed rural service providers' perspectives on the practical, social, psychological and emotional ramifications of social isolation and how they related to frequent and/or avoidable admission as they emerged from the data. This stage included the development of an initial framework for understanding some of the ways in which social isolation might contribute to hospital admission (Fig. 1).

Results

Verbatim quotation is denoted by quotation marks and italicised text. Square brackets mark interviewer questions or clarification.

Social isolation was consistently and repeatedly identified by service providers as an important contributory factor in frequent and potentially avoidable admission when asked the following questions:

- What are the common characteristics of these patients?
- Which factors contribute to frequent hospitalisation in general?
- Under what circumstances do you think older people might have an unplanned admission that is avoidable?
- Do you think anything could have kept these people out of hospital in relation to admissions you might class as avoidable?

For example, one admitting doctor when asked about common characteristics said:

> '*. . . so I think they are almost always not biological, so I don't think the actual level of illness a person has as in their oxygen saturation or their haemoglobin level . . . or those kinds of things are actually really relevant, I think their social factors and their psychological factors are the two strongest ones, social I would probably put even over psychological, so if they're lonely, and they have poor family supports . . . so that would be the profile I would say of the most standard . . . frequently admitted person someone who . . . has no family and no support in the community. . .*' Admitting doctor

Participants described patients being socially isolated in three broad and interrelating ways: living alone, not socialising and being isolated from family.

Living alone

Every participant made unprompted remarks about patients living alone and the contribution this might make to frequent and/or avoidable admission. In 8 of our 15 interviews, it appeared to be at the forefront of participants' minds when formulating an answer to a question about common characteristics among this patient group, as it was either the first or second thing they said. For example:

> '*I think one of the major ones for our group is if they live alone or not, I think that's a key factor for being admitted to*

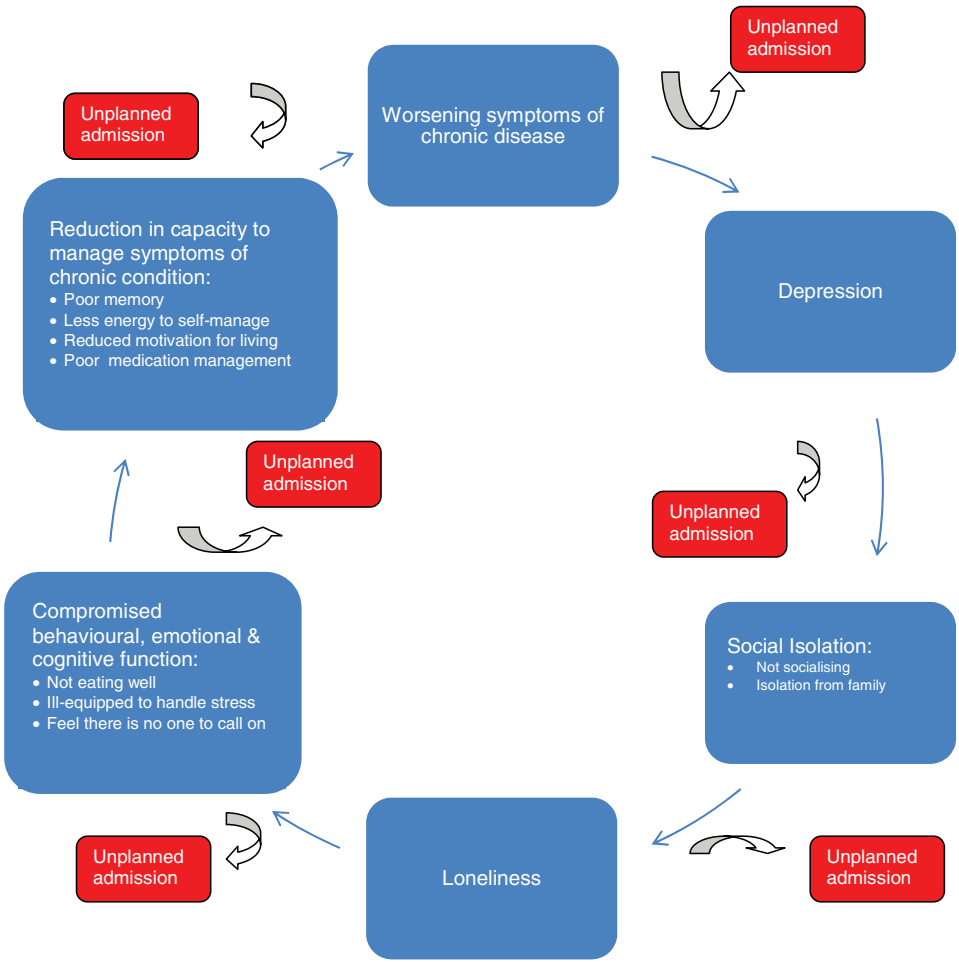

Fig. 1. Chronic disease, depression, social isolation and disease management cycle.

hospital.' Community-based non-government organisation (NGO) worker

Participants described situations in which some of these patients spent a lot of time alone, '*I mean hours and hours of being alone for a lot of people*', with very little human contact. Living alone was thought to contribute to hospital admission through both psychological or emotional and practical mechanisms.

Participants considered that living alone, particularly being alone during the night, did not alleviate or could lead to increased worry, anxiety and/or fear in this patient group:

> '*. . .she gets towards evening and she starts to panic because* '*ah I don't want to have a heart attack on my own at night*' *sort of thing. . .*' Community nurse

Anxiety was considered to be related to having to manage alone at home, and having to accommodate significant changes in life circumstances. For example, patients being required to manage home finances that they did not previously do. One participant also talked about the complexity and onerous responsibility experienced by some patients having to manage a chronic disease alone. Fear included fear of the unknown (with regard to their illness), of a change of status from being relatively well to very unwell, of new symptoms, of dying alone, and of death. Living alone was reported to result in having no one to talk to about this anxiety and fear. Participants also related patient fear and anxiety to patients lacking the reassurance that they required:

> [Do you think anything could have kept these people out of hospital in relation to admissions you might class as avoidable?] '*. . .elderly people who wake up in the middle of the night, short of breath, are anxious and they want somebody there . . . people living alone . . . and they will want somebody who has some medical knowledge to reassure them that they are ok.*' Occupational therapist

Most participants also described the practical impact of living alone. For example, participants noted that some patients did not

want to cook for just themselves after their partner's death, or that their partner had done the cooking and the remaining partner lacked the skills and inclination:

> '*...poor diet, people losing their partners who used to cook for them, and now they don't want to eat alone ... your partner dies, you get depression which is very common, and people just lose their appetite, you know . . . they just don't eat often and that affects their memory which then in turn can affect everything that you do, you know they are tired so they are less motivated.*' Home-based aged care provider

Not eating and not drinking were seen as compromising memory and the energy and motivation to self-care or socialise.

Participants reported that in their experience of these patients, living alone could mean that nobody regularly monitored the physical and mental health and wellbeing of these patients, or ensured they accessed additional services if necessary (thus preventing a crisis). Living alone was also reported to limit positive reinforcement of compliant behaviour (for example, taking medication or monitoring fluid levels) and limit patients' support in administration of medication, particularly pertinent for patients with cognitive impairment.

In addition, participants described co-dependency in relationships:

> '*If they're a couple then maybe they go to the doctor together and look after each other but if they're on their own and they feel unwell then their best option is to try to go to the hospital where they can feel they'll be looked after.*' Home-based aged care provider

Atypically, one participant (from a community-based NGO worker) felt that patients living alone would not necessarily have more frequent admissions, as long as that person was supported:

> [Do you think people who live alone are more or less likely to be frequently admitted to hospital?] '*I wouldn't say more because they are self-reliant, you know they've lived like that for a long time, there are a lot of very elderly, especially women, I couldn't say really, I couldn't say they were more likely to go to hospital ... you know they've got their family who checks on them sort of thing, they've lived to be 85 they've got their system set up to support them.*' Home-based aged care provider

Not socialising

Participants in 13 interviews (11 unprompted) reported several ways in which they perceived that socialising could reduce admission, and how not socialising could contribute to admission. For example, one participant stated that social support was the most important out-of-hospital non-clinical service in terms of making an impact on admissions:

> [What out-of-hospital non-clinical support services . . . make the greatest impact on frequent and/or avoidable admissions?] '*...the social is huge, it goes to whether people are happier feeling more alive then you know they seem to take their tablets, and they seem to want to cook themselves a meal or eat when they go out on a social . . . so really the social support sort of thing.*' Home-based aged care provider

One participant described a patient they had cared for and what that patient lost on becoming housebound:

> '[*Previously*] *his daily activity, and his nutritional status, was in the morning he used to drive his car down to the coffee shop, have a big breakfast and that was his intake for the day other than coffees and stuff. So he lost that network of people, so then he got really depressed*: '*well what's life for then if I can't go out and have a cup of coffee and socialise with the girls in the coffee shop*?' *and whoever came in he had a conversation, and he read the paper for free so he was able to keep up with what was the news in the area you know. . .*' Home-based aged care provider

Participants articulated a clear link between socialising and patients' mental health status (including fear, anxiety and depression). Several participants equated not socialising with patients' negative experience of loneliness, and explained how they felt this could be a contributing factor to admission not only in terms of patients' mental health status but also in the potential attractiveness of hospital for human contact, being cared for and being 'safe'. Participants reported that they had observed many patients experiencing loss of friendship networks through friends' deaths, dementia or entry to residential care.

Older age and chronic disease were reported to affect patients socially as they might have felt too ill and/or frail to go out. 'Self-starting' socially was reported to be difficult, particularly in cases where patients had moved to an area without pre-existing social networks, or if their social world was dependent on a partner who had then died. Participants also described how they perceived patients' social confidence and self-worth could be compromised by chronic illness, either because of symptoms, '*...respiratory people say, find it embarrassing to go out because they cough all the time . . . that's a real common one*' (community nurse) or a sense of not 'contributing' to one's community, '*. . .their diseases have limited them so much that, they then start to feel not worthy not worthwhile they're not contributing anything to the family the community*' (home-based aged care provider).

These comments were part of a broader discussion of patients' mental health status and how compromised mental health was linked to depression and general feelings of not being able to cope, which could in turn link to hospitalisation.

Pain and pain management were discussed in several interviews. Ineffective pain management was reported to affect social interaction by limiting patients' willingness to socialise. Socialising was also thought to improve patients' pain tolerance, rather than being alone and having '*so much more time to focus on self*':

> [How do you think social isolation impacts on people's hospitalisation?] '*When people are isolated . . . I don't think they are often able to manage their pain and manage their self-care at home, I think it's a mindset maybe that people get into when they are socially isolated. . .*' Occupational therapist

These remarks linked to observations by participants about patients who '*don't have time to be sick*' who lead full and active lives:

> [Which factors contribute to frequent hospitalisation?] '*. . .level of socialising might be important . . . those that get out and about and enjoy company don't want to be sick, they don't have time to be sick so they probably look after their own general health a little bit better.*' Pharmacist

Two further, more pragmatic connections between socialising and admission emerged. First, participants had observed that friends often performed the 'monitoring' function described earlier. Second, friends connected patients to existing services either by raising awareness of those services, or by helping to access those services via their own knowledge, experience or transport.

Isolation from family or lack of family support

All participants raised the issue of isolation from family, or the role and importance of family support. This theme included patients with no family, those with no or infrequent contact with their family and those who were estranged from their family. Some felt it was of central importance in admission, particularly in combination with other factors:

> [. . .are there characteristics of this older age group that end up being frequent admitters?] '*...so if they are lonely and they have poor family supports that is the biggest predictor of frequent presentations, and if they are lonely and have poor supports and are fairly, ill-equipped psychologically to handle personal stress then I think that is almost a guarantee of frequent presentation.*' Admitting doctor

Isolation from family or lack of family support was described in several ways, most commonly in terms of geographic dislocation. Participants also reported families having limited time and resources to care for their relative, particularly over the extended period required by a patient with a chronic condition.

The monitoring role described above was also performed by family members. This sense of being 'looked after' was related to patients feeling more secure and less anxious. Family support was also discussed in terms of patients having an initial point of contact when things 'go wrong':

> [What is the relationship between lack of family support and hospital admission?] '*Well they've got nobody to call on if something's going wrong . . . if there's something going wrong with your mum* [*talking directly to the interviewer*] *she rings you whereas these people don't have anybody so their first thought is I've got to go back to hospital and they ring an ambulance.*' Community nurse

Participants reported that family support reduced admission by facilitating access to services, partly through advocacy for patients in ensuring access to services they are entitled to receive.

Participants described patients whose capacity for coping in the community teetered on the edge of 'just coping' or 'just managing', and that relatively insubstantial events often resulted in them not coping. However, that small event was often not easily reversible, for example the main carer became ill, went on holiday, or the patient contracted a virus:

> '*...and the thing is if a person is at home and they are just managing and . . . if they don't have family they can call on to come in when they're not well they tend to end up in hospital simply because they can't do anything for themselves any more . . . it's sort of it's hard to explain but it's not because the condition actually absolutely deteriorates it's because just physically they can't keep going with doing the extra, yeah.*' Community nurse

Many participants referenced societal changes in family 'networks' in terms of structure, family dispersion and quantity of interaction, which led to older people being either geographically isolated from family, and/or having limited contact with family. These comments included: everyone being so busy with working (including women, the traditional carers for older relatives); the demise of the extended family; and patients moving to retire and thereby being geographically isolated from existing family networks. Participants considered that social isolation from friends, neighbours and family was less common in small, tight-knit rural communities:

> '*I think the type of community that you live in . . . I think that anecdotally that seems to . . . play a part . . . communities in* [*rural towns with more stable communities*] *they seem to be much more self-sufficient in terms of . . . getting good family support. . .*' Home-based aged care provider

Synthesis

Based on a synthesis of reports from participants and the literature we suggest that, for some patients, there could be a cycle or web of connectivity of chronic disease, depression, social isolation and loneliness. This could then lead into behavioural, emotional and cognitive dysfunction[29] and therefore reduced capacity for managing a chronic illness. This is represented diagrammatically in Fig. 1 in a simplified form. At any point in this cycle, patients could end up with an admission. The diagram attempts to capture the complex combination and interaction of what some of our participants termed the 'indirect' factors that contribute to hospital admission. These included how, for older patients coping with a chronic disease, social isolation interacted with depression, which then impacted on patients' capacity for managing stress, their general self-management such as eating well, and their capacity, motivation and energy to manage the symptoms of their condition. As cited above, one participant made the point that '*. . . it's sort of it's hard to explain but it's not because the condition actually absolutely deteriorates. . .*', and another that loneliness in combination with lack of family support and being '*. . .ill-equipped psychologically to handle personal stress*' led to frequent hospitalisation. The diagram represents an initial step in developing a framework for understanding the potential relationships between these factors.

Discussion

Our research shows that rural community-based service providers perceived social isolation to be an important contributory factor in hospitalisation of older patients with chronic disease. In particular, they described the practical, social, emotional and psychological impacts on chronic-disease management and of living with chronic disease for patients who were living alone, not socialising and were isolated from family.

Being socially isolated was sometimes equated to being lonely, and living alone equated to social isolation and also loneliness. Although there is a common understanding and literature linking social isolation and loneliness,[30–32] other research suggests that living alone, loneliness and social isolation can be different and unrelated experiences.[5,11–14,33] Our participants reported that in some small rural communities, for example, living alone doesn't necessarily limit contact with people. This 'social capital' has been the subject of much recent research and has been characterised as a strength of such communities.[34] Not living alone but being the carer for a person with dementia, for example, can be lonely, and people may experience loneliness in spite of frequent social contact. Loneliness is not necessarily problematic for all people.[35]

Social isolation is a dense and therefore difficult construct to define; however, it is consistently reported as having two components: the extent and structure of a person's social network (quantity) and the functions and provisions given by that network (quality).[4,11,36] The findings of our study suggest several mechanisms by which the quantity of a network (size, frequency of contact) might impact on admission. However, most mechanisms that were described focussed on the functions and provisions offered by a social network. These included patients feeling 'looked after', having someone they could turn to when things went wrong, having someone they could discuss their fears and anxieties with, following particular health behaviours and accessing health information and services.

The emotional and psychological response to social isolation is an intensely personal and individual experience for patients, and some of the data presented here must be treated with caution acknowledging that providers cannot speak directly for patients. Our participants described patients' responses to social isolation based on: participants' direct observation of patients and their home circumstances; having worked with these patients over an extended period of time and getting to know them, their families and social networks; their clinical observation of how patients presented; and their knowledge and experience of the type of interaction and patient care that occurs in the hospital setting, and also what patients had verbally expressed to them directly. The daily work of many of our participants was responding to the consequences of some of the practical features of social isolation described here (e.g. patients not taking their medication, accessing services, self-monitoring).

Several community-based services exist that might partially ameliorate the impact of social isolation; however, our participants reported that these services have often been reduced in recent years (e.g. services that used to offer accompanied shopping trips now only offer unaccompanied shopping). These services often have long waiting lists and there are often considerable additional barriers to accessing services, sometimes specific to rural locations.[25,37]

A limitation of our study is that we did not aim to explore social isolation and it was not discussed in depth in every interview. We acknowledge that in-depth exploration of social isolation within interviews would have yielded greater detail and insight. However, a strength of the study is the consistency with which the impact of social isolation on admission was reported, and the importance it was afforded by participants. Although we interviewed a broad range of providers (by type, geography and role) it was not an exhaustive list and as our method elicited opinion and often personal reflection the generalisability of our findings remains open to question. However, gathering insight from professionals with many years' experience of working with countless patients from this group lends some broader credibility to our findings.

Our findings on the perceived negative effects of social isolation are supported by the wider literature,[1–6,8,29,38] although the complex mechanisms by which social isolation might impact on hospitalisation (an example of which is illustrated in Fig. 1) are less well described.[6] Jordan *et al.*'s UK case-control study of patients over 65 with winter exacerbations of respiratory disease either admitted to hospital or treated in the community[12] reports findings from patients that generally affirm what community-based providers suggested in our own study. In Jordan *et al.*'s study social isolation was significantly and independently associated with an increased risk of hospital admission, although the study is limited by small numbers and must be interpreted cautiously. A recently published Australian qualitative study of clinicians' perspectives similarly reported that characteristics such as lack of family support were associated with a history of frequent readmission.[39] In a related study by our group (under review), we surveyed 102 older patients with chronic disease and a history of frequent admission. Amongst this group we found a statistically significant association between social isolation and patients who were very frequently admitted ($\geq$4 admissions in 12 months) compared with those who were less frequently admitted (3 admissions).

Although our research shows that social isolation is perceived to be an important contributor to admission from the perspectives of community-based service providers, the emphasis in health services is still firmly on the clinical, or the structure, accessibility and coordination of health services. Further work is needed to explore if service providers' perceptions are similar to those of the patients themselves by both measuring social isolation and its association with admission and by understanding the patients' experience of social isolation and how it might impact on admission. This improved understanding is needed as at present our knowledge of effective interventions to alleviate social isolation is inadequate.[40]

Conclusions

This analysis provides an explanatory framework for understanding how social isolation was perceived by community-based service providers to impact on admission via a complex

combination and interaction of indirect factors. Further work is needed to understand the level of social isolation experienced by this group, patients' perspectives on how social isolation impacts on admission, and interventions that may reduce this impact. Gaining this understanding will inform policy and programs aimed at reducing hospitalisation among older people with chronic disease.

Competing interests

The authors declare that they have no competing interests.

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