

# Evidence assessment and narrative synthesis of the key characteristics of older people living in service-integrated housing facilities, and their ‘accommodation journey’

Juliana Thompson, Michael Hill, Lesley Bainbridge, Daniel Cowie and Emma Flowers

## Abstract

**Purpose** – This paper aims to provide an evidence assessment and narrative synthesis of literature regarding the key characteristics of older people living in service-integrated housing (SIH) facilities and their “accommodation journey”.

**Design/methodology/approach** – A rapid evidence assessment was conducted: 22 research publications met the inclusion criteria and were analysed using narrative synthesis.

**Findings** – The quality of studies in this area is low, but consistency across components of the results of studies included in the review is apparent. Results suggest key characteristics of older people that drive moves into SIH are a decline in health, increased dependency, increased health service use and carer burden. Suggested key characteristics of SIH residents are high levels of health problems, dependency and health service use, but high self-reported health and well-being. Results indicate that the key driver for older people leaving SIH is a lack of workforce competency to manage further declines in health and dependency status.

**Research limitations/implications** – Current policy may not realise or account for the complex health and care needs of SIH residents. Investment into integrated care, robust community health services and workforce development to facilitate a comprehensive assessment approach may be required to support residents to remain in SIH and live well. Further longitudinal studies are required to map the progression of SIH residents’ health status in detail over time to provide an understanding of preventative and enablement support, development of care pathways and workforce planning and development requirements.

**Originality/value** – This evidence assessment is the first to consider the accommodation journey of older people residing in SIH.

**Keywords** Literature review, Assisted living, Older people, Rapid evidence assessment, Care of older people, Service-integrated housing, Sheltered accommodation

**Paper type** Research article

## Background

In the wake of an ageing population, in Europe, East Asia, Australasia and the Americas, there is a rising demand on health and social care services to support growing numbers of older people living with complex care needs including multi-morbidities and frailty (United Nations, 2002; World Health Organisation, 2011; Gordon *et al.*, 2014; Kingston *et al.*, 2018). In these regions, it is increasingly acknowledged that a key aspect of care for older people is the provision of a range of specialist housing models that include care services

Juliana Thompson and Michael Hill are both based at the Department of Nursing Midwifery and Health, Northumbria University, Newcastle upon Tyne, UK.

Lesley Bainbridge is based at Home Group Housing, Newcastle upon Tyne, UK.

Daniel Cowie is based at NHS Newcastle Gateshead Clinical Commissioning Group, Newcastle upon Tyne, UK. Emma Flowers is based at Gateshead Health NHS Foundation Trust, Gateshead, UK.

Received 8 March 2021  
Revised 27 May 2021  
2 July 2021  
16 September 2021  
Accepted 9 November 2021

This study was funded by NHS North of England Commissioning Support (NECS) Unit via Research Capability Funding (RCF) for North East and North Cumbria, UK. The authors would like to thank NECS for their support of this review.

(Yu and Lee, 2017). Used appropriately, these housing models can support older people to live independently and reduce the need for social care (Stula, 2012; UK House of Commons, 2018). Howe *et al.* (2013) devised the term “service-integrated housing” (SIH) as an overarching term to describe accommodation where support services and/or care for residents are incorporated within the housing for older people. SIH is either owned or rented accommodation specifically designed to provide safe, accessible living environments and support services to facilitate residents’ independent living. The level of support offered varies depending on the individual housing model, but usually ranges from the provision of warden and emergency alarm support (sheltered accommodation), to the provision of meals, social activities, personal care and domestic support (assisted living or extra care) (Howe, 2013).

The significance of the role of SIH to supporting independence is such that legislation and government policies are now promoting SIH as fundamental to integrated care provision (Bligh and Kerlake, 2011). In England, for example, a joint action to “improving health through the home” agreed between government departments, the Association of Directors of Adult Social Services, the National Health Service (NHS) England, Public Health England and the Homes and Communities Agency, called for local authorities to proactively shape the market for older people’s accommodation by providing alternatives to institutional care and developing a variety of accommodation to match the needs and choices of local populations (Great Britain, Department of Health and Social Care, 2014). In response, legislation (Care Act, 2014) and government policy (Great Britain, Department of Work and pensions, 2020) require social housing providers and local authorities to cooperate and collaborate in planning SIH that meets local need, is safe and of good design and quality and provides value for money. Furthermore, SIH has been aligned with social care, personalised care and service transformation agendas that position older people at the centre of an integrated housing, health and social care process (Great Britain, Department for Communities and Local Government, 2008; Great Britain, Department of Health, 2010; Laing and Buisson, 2020).

According to a UK Local Government Association (2017) report, SIH is appealing to older people who wish to downsize prior to functional deterioration as SIH provides care support, but residents live independently within their own homes. The report also proposes that there are SIH benefits for local authorities. This is because as older people move into SIH, there is potential for their “family-sized” homes to be released into the housing market. Also, providing care support in SIH is more efficient than home-care provision for older people ageing in place and more cost-effective than residential and nursing home care.

In European countries, between 5% and 10% of older people live in SIH, with between 0.6% and 5% living in assisted living SIH (AL SIH) (Pannell and Blood, 2012; ARCO, 2017), but demand for SIH is increasing. In England, for example, a Centre for Towns survey found that 69% of people aged over 55 years reported that when making decisions about moving house, a strong consideration is that their new accommodation should provide for their current/future health and functional needs (Stern *et al.*, 2019). As a consequence of higher demand, SIH building and adaptation projects are increasing across Europe (Stula, 2012). Similarly, SIH is increasing in the USA (Silver *et al.*, 2018). It might be expected that as a result of this increase in SIH, uptake of care home places for older people would reduce. However, Silver *et al.’s* (2018) study of the prevalence of AL SIH as a substitute for private-pay long-term nursing care found that while private-pay AL SIH beds per county increased by 13.7%, nursing homes experienced only a small decrease in residents from 20.1% to 17.7% and a small decrease in resident days from 21.3% to 17.5%. This may suggest that limited numbers of older people with declining health and function are living in AL SIH instead of nursing homes or AL SIH living only marginally delays nursing home admission.

Admission to nursing and residential care homes from SIH is common. A report for the Joseph Rowntree Foundation analysing the UK “Supporting People Household Units” public

data found that 98% of sheltered accommodation SIH (SA SIH) residents in rented accommodation intended their SA SIH to provide a “home for life” (Pannell and Blood, 2012). However, the report identified that a significant number of residents do move out of SA SIH. For example, the document reports on the outcomes of older tenants of a large SA SIH provider. Within the first year of tenancy, 18% of tenancies ended. Reasons were: death (27%), moves to AL SIH (34%), moves to nursing or residential care (21%). Kneale *et al.*'s (2013) UK study of older people's care transitions to care homes in nine AL SIH facilities showed that within five years of moving in, 8.2% of residents moved into nursing homes and 25% died, often in hospital. For residents over 85 years old, this increased to 12.7% moving into a nursing home, while 49% died. McGrail *et al.*'s (2013) Canadian study of the AL SIH population's characteristics and length of stay found that a quarter of residents leave AL SIH within a year for more intensive facilities such as nursing homes and residential care homes. The study also found that only a third of residents die in AL SIH facilities, while two-thirds die in either hospital or residential or nursing homes.

In global regions with ageing populations such as Europe, East Asia, North America and Australasia, the numbers of SIH facilities are increasing and government policies and service providers promote SIH as an attractive, cost-effective accommodation option for older people, where they can live for the remainder of their lives. However, the reality is that for a significant number of residents, a move to other care facilities providing more intensive support or end-of-life care is required. If SIH is to be used effectively as an accommodation option for this population, it is essential to have an understanding of residents' health and well-being needs, from their intention to move into SIH to the end of their residency. It is also important to understand the health and well-being needs of both AL SIH residents and SA SIH residents to determine similarities and differences. The purpose of this review was to ascertain what is known about the key health and well-being needs characteristics and “accommodation journey” of older people living in AL SIH and SA SIH to inform service providers', service commissioners' and policymakers' plans for SIH service provision.

## Aim

The aim of this evidence assessment and narrative synthesis was to undertake a comprehensive search of the international research evidence base to identify the key health and care needs characteristics of older people living in SIH facilities, and their “accommodation journey”.

## Method, search strategy and data sources

To address the aim, a structured, rigorous rapid evidence assessment using a narrative synthesis approach was undertaken of research literature. A rapid assessment approach is appropriate in circumstances where the time frame of the study is restricted, for example, by time frames determined by service providers, commissioners or policymakers. This review was undertaken as part of a wider study to profile the progression of health-care needs of older people residing in SIH facilities in the locality. The wider study will be used to inform service provision in the near future and as such, the timeframe is limited. The rapid assessment approach is rigorous and systematic, but takes legitimate steps to limit the breadth of the review so that it is achievable within a shorter timeframe. Steps include a literature search that is systematic and precise but focusses explicitly on the review question; restricting or excluding grey literature and performing a “simple” quality appraisal of the items included (Grant and Booth, 2009). These steps go some way to mitigate against the main perceived weaknesses of rapid assessments i.e. risk of publication bias and inattention to appraisal.

The narrative synthesis approach describes, explains and summarises results of the literature and is appropriate for reviews that include data from different study designs

including qualitative designs and previous literature reviews. Systematic reviews have been criticised for being too rigid and narrow, and not accounting for the legitimate information derived from qualitative studies investigating experiences and views of participants (Snilstveit *et al.*, 2012). The primary perceived weakness of the narrative synthesis approach is that there is a lack of clarity and guidance about how to conduct the synthesis and appraise the items included (Mays, 2005). However, more recently, Ryan (2013) and Popay *et al.* (2006) have provided guidance about conducting narrative synthesis in a more systematic and transparent way using a process of grouping studies into clusters; assessing methodological quality and exploring/identifying relationships between studies to arrive at results and recommendations. In this review, primary clusters were outcomes relevant to residents' accommodation journey, i.e. factors influencing moves to SIH, health and well-being characteristics of older people while living in SIH and factors influencing moves out of SIH. Secondary clusters were aims or phenomena of interest. Methodological quality was assessed using the Evidence for Policy and Practice Information Centre (EPPI) approach. According to Popay *et al.* (2006), this is a simple but appropriate approach for narrative synthesis reviews that include qualitative methodologies as well as quantitative. Studies' trustworthiness, appropriateness of design and relevance to the literature review aims are assessed on a scale of 1 = high, 2 = medium, 3 = low. The overall weight for each item is then calculated. Consistency of results outcomes was investigated via the following activities:

- Mapping study results to identify common results across studies. For example, during the mapping exercise, it became apparent that a number of characteristics were common to a number of studies, such as high levels of health problems, high dependency, high use of health services, the presence of dementia and carer burden.
- Methodological triangulation to explore whether studies with different designs had consistent or inconsistent results components. Consistent/common results identified by activities and informed results of the review.
- Textual description to provide a richer, in depth description of results (Popay *et al.*, 2006).

To identify items for review, databases were selected that would be likely to include studies relating to the care of older people and SIH health and care services and facilities. The following databases were, therefore, searched: allied and complementary medicine database which focusses on occupational therapy, rehabilitation and care at home, including SIH as home; cumulative index to nursing and allied health literature, which covers nursing and allied health care in all services including social care and home care; PROQUEST - this is an error. It should be ProQuest which includes health and medicine, including care of older people, interdisciplinary studies, including integrated care and care crossing different sectors and sociology and social change, including ageing populations and housing; Cochrane Reviews, which include effective practice and organisation of care and supportive care; and Medline, which focusses on medicine, including geriatric medicine. Articles published in English from 2010 to 2020 (the period since the introduction of the *Vision for Adult Social Care* policy (Great Britain, Depart of Health, 2010) facilitating older people to have control and choice about services they access) were searched using the following MeSH terms and free words:

"older people", "older adults", "elderly people", "geriatric(s)", "retired", "retirement", "senior citizen(s)", "pensioner(s)", "residents", "aged 65 or 65+".

AND

"assisted living", "sheltered accommodation", "sheltered housing", "extracare", "community care", "care plus", "supported housing", "supported living", "service-integrated housing".

NOT

“technology”, “ambient” (to exclude studies that focus on assistive technology).

## Results

### *Item selection*

The initial search led to the identification of 1,710 records. The research team screened the titles of the identified items. Duplicates and false hits were removed (e.g. those which focussed on assistive aids, housing, home care, residential care and nursing homes). After this process, 351 items remained. Records were then excluded if they:

- did not investigate the explicit aim of the evidence assessment;
- did not include a research method that described or assessed resident health and well-being profiles;
- were already reviewed in literature reviews included in this review; and
- not written in English.

Following the initial review of the identified items, 74 records were selected for further screening based on title, abstract then full article assessment. This process resulted in 22 articles being included in the review (Figure 1).

### *Methodological quality*

Using the EEPI assessment of validity approach, Gilbert *et al.*'s (2015) mixed research integrative literature review was assessed as being of medium quality. All other studies included were of low quality (<http://doi.org/10.25398/rd.northumbria.16610479.v1>). However, the activity to investigate the consistency of results indicated that consistency across the studies was apparent with regard to a number of results components (<http://doi.org/10.25398/rd.northumbria.16610479.v1>). This suggests that some results are meaningful and can inform the debate about SIH residents and care required to meet their needs.

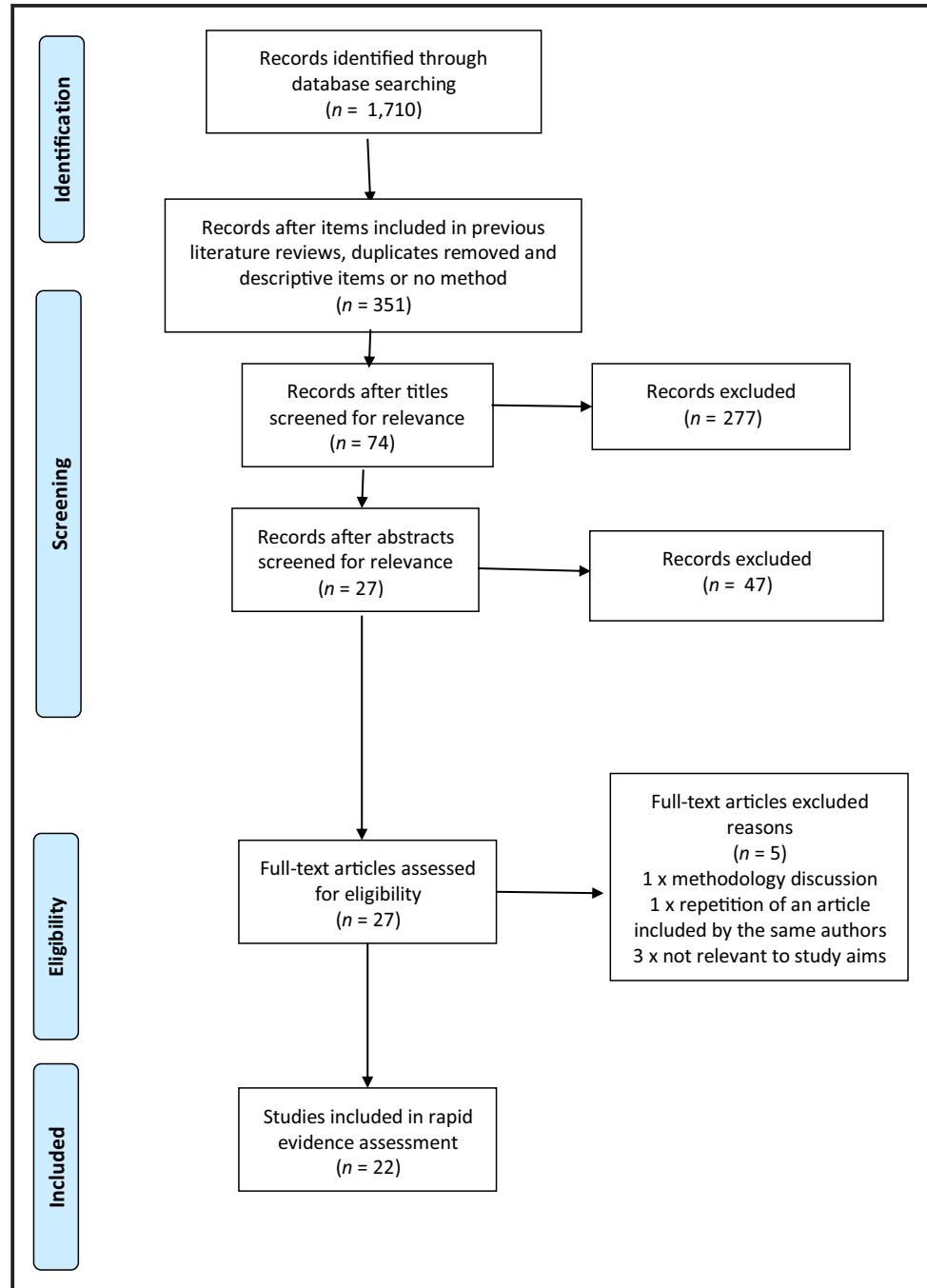
Of the items reviewed, 16 were primary research studies which considered AL SIH, 5 were primary research studies which considered SA SIH and 1 was a literature review that included both AL SIH and SA SIH studies.

### *Factors influencing moves to service-integrated housing*

Eight studies explored factors influencing moves into SIH. Using a range of designs, five of these investigated factors influencing older people's decisions to move to SIH. These studies consistently reported that increased dependency and carer burden were important push factors. They also reported that AL SIH admission was influenced by pull factors such as AL SIH staff support and supervision, safe and accessible access to living accommodation and access to social activities. However, none of the studies included a discussion of SA SIH pull factors, suggesting that there was a dearth of research regarding pull factors influencing SA SIH admission. Three studies of association and predisposing factors for moving to SIH consistently indicated that decline in health (including dementia diagnosis), increasing use of health services and increasing dependency were important factors. However, these three studies all used secondary data analysis designs and consistency was limited as they considered different populations (one examined SA SIH and the other two AL SIH).

Gilbert *et al.*'s (2015) mixed integrative literature review of factors influencing older adults' relocation to SIH found a motivation for moving was a decline in health and increasing frailty, regardless of the type of SIH. Increased dependency demonstrated by reduced ability to cope with housekeeping activities was also an important factor. These “push

**Figure 1** Article selection process



factors” were exacerbated where there were inconsistencies in family support or unwillingness on behalf of older people to move in with family. The study identified “pull” factors for AL SIH. Most pull factors arose because AL SIH provided continuous supervision, on-site care and support and accessible living environments.

Bäumker *et al.*'s (2012) survey of demographic factors and health characteristics influencing older people's move decisions in England found that increasing dependency due to problems with coping with daily tasks and lack of adequate home support services

were important factors in the decision to move to AL SIH. Pull factors included a secure environment, availability of social activities and communal facilities, availability of onsite care and support and accessible accommodation i.e. facilities and services that contribute to maintaining independence for people with declining function.

Three qualitative studies using interviews with SIH residents reported similar findings. [Johnson et al.'s \(2020\)](#) UK qualitative longitudinal study found that moving into AL SIH was commonly a reactive decision prompted by increasing dependency and inability to cope at home. The study found that fear of being a burden on the family was a motivator for some older people to move to AL SIH. Also, family members often encouraged a move due to not coping with increasing care responsibilities arising from their older relatives' declining health and function. [Koenig et al.'s \(2014\)](#) USA study found that difficulties in self-management of medications, bathing and dressing and managing household tasks such as cooking, cleaning and laundry were significant AL SIH push factors. These participants were afraid of becoming a burden on family, so moved into AL SIH. [Koenig et al. \(2014\)](#) found that pull factors for moving into AL SIH included a secure environment and availability of social activities and communal facilities. [Buckland and Tinker's \(2020\)](#) study found that older people's decisions to move to AL SIH were often prompted by health deterioration or sudden illness events and for some older people, a consequent fear of being a burden on the family. This study, however, also found that upon moving into EC SIH, older people enjoyed improved well-being. The authors proposed that this resulted from staff providing support with medication administration, maintaining independence and providing social and community activities which improved residents' mental and social health.

Three studies investigated associations between transitions to SIH and the health and dependency characteristics of older people. [Vlachantoni et al.'s \(2016\)](#) longitudinal study of secondary data from England and Wales examined associations of transitioning into SA SIH with a range of demographic, health and socioeconomic predictors. The study found a significant association for older people's move to SA SIH was their increasing use of primary care services due to deterioration in their health and increasing frailty. Increased dependency due to reduced ability to cope with housekeeping activities was also significant. [Rockwood et al. \(2013\)](#) undertook a cross-sectional descriptive survey of admission records and deterioration and dependence scales of AL SIH residents and nursing home residents. The study then compared predisposing events and symptoms for admissions to AL SIH with nursing home admission. Results showed that while older people move to nursing homes with high dependence and severe dementia, those moving into AL SIH are not simply "the worried well". Rather, their move decisions are precipitated by dementia diagnosis, recent hospitalisation and impaired health and decline in self-management of activities of daily living. The study also found that in some cases, family care-giver stress or illness led to a move to AL SIH for the older person. [McGrail et al.'s \(2013\)](#) study described the AL SIH population's characteristics in a region of Canada. The study found that older people's use of health-care services tended to increase before the move to AL SIH and that 24% of AL SIH residents have a diagnosis of dementia within the first year of moving in. The study also noted a wide use of benzodiazepines and atypical antipsychotics for this population upon moving in. This may indicate a reliance on medication rather than non-pharmacological therapies to support the care of residents with dementia.

### ***Health and well-being characteristics of older people while living in service-integrated housing***

In total, 11 studies explored the health and well-being characteristics of older people while living in SIH. A range of cross-sectional studies, mixed methods and qualitative studies consistently reported that both AL and SA SIH residents had significant health problems including multi-morbidity and dementia, had high levels of dependency and their levels of



health-care service use were high. Studies that included self-reporting surveys of well-being consistently found that scores were high. One cross-sectional study indicated that SA residents' quality of life was low compared to people ageing in place, but this was not found in any other study. There was also an indication from one study that AL SIH struggles to meet residents' increasing health-care needs.

Darton *et al.*'s (2012) survey compared the characteristics of AL SIH and care home residents in England. The study found that while people living in AL SIH were younger and less physically and cognitively impaired than those living in care homes, rates of functional problems were nevertheless apparent and a significant minority of residents had high levels of dependency. Maxwell *et al.*'s (2015) Canadian mixed methods study aimed to identify hospitalisation risk of AL SIH residents with dementia compared to long term care residents with dementia. The study found that although rates of dementia were higher in the nursing home population (71%), a significant proportion of AL SIH residents had dementia (57%). Results showed that despite rates of dementia being higher in nursing homes, the non-elective hospitalisation rate of AL SIH residents with dementia was almost four-fold higher than in long term care. This may suggest that AL SIH facilities are less equipped to manage the care needs of residents with dementia than nursing homes.

Comparisons between SIH resident characteristics and those living in place included Kistler *et al.*'s (2017) USA study. Using co-morbidity and mortality indices to survey health status, the study found that the AL SIH population was less healthy than community-dwelling older adults. Four comparative studies also found that SIH residents were less healthy and had less functional ability than older people living in place, but, perhaps, paradoxically, had better self-reported health and well-being than participants living in the place. Gaines *et al.*'s (2011) USA longitudinal study compared characteristics of AL SIH and home dwellers. Results showed that AL SIH residents had more chronic diseases than those living at home, and used more home-based services and health-care services. The study also identified that despite this, AL SIH residents had better self-reported health. The authors suggested this may be because AL SIH participants were comparing themselves with older or more infirm residents within their facilities. Similarly, Fox *et al.*'s (2017) survey of older people's housing needs in Ireland found that older people living in SA SIH accessed health services more frequently than those living at home. However, this study found that SA SIH residents reported better health status. The authors proposed that this may reflect the effect of SA SIH services on perceived health. Corneliusson *et al.*'s (2019) cross-sectional survey examined the health and health-related quality of life among residents in SA SIH, compared to ageing in place in Sweden. Results showed that SA SIH residents had more problems with mobility, self-care, usual activities and pain/discomfort. They were more dependent concerning both activities of daily living and instrumental activities of daily living, resulting in difficulties in managing household tasks. Also, they more frequently reported problems with anxiety and depression and had the lower self-reported quality of life, but their self-reported well-being was higher. In a paper reporting on another aspect of the same study, Corneliusson *et al.* (2020) attempted to explain this paradox. They proposed that accessibility to increased safety and better home design/adaptations, and opportunities for meaningful activity in SA SIH contributed to residents' well-being. Avery *et al.* (2010) undertook a study in the USA to identify what health and functional status variables separate older AL SIH residents from older people living at home. The study found that AL SIH residents walked significantly shorter distances over 6 min, had lower Mini-Mental State Exam and higher Centre for Epidemiological Studies Depression Scale scores indicating lower functional, cognitive and mental health. The study also found AL SIH residents had significantly lower serum 25-OH vitamin D levels indicating poor diet, long periods of time spent indoors and higher risk of developing vitamin deficiency-related health problems. These, in turn, may indicate that poor function and health had a detrimental impact on residents' ability to self-care or that challenges in self-care negatively impacted on function and health. In either case, these results could indicate that the SIH care provided was not adequately addressing residents' health and well-being needs.



Three studies describing the health, well-being and functional characteristics of older people while living in SIH did not take a comparative approach. A mixed methods study located in England by [Cook et al. \(2016\)](#) investigated SA SIH residents' perceptions of well-being and their usage of hospital services. The study found that residents of SA SIH were likely to have chronic conditions, with arthritis, heart and respiratory conditions being most common. Residents were also likely to require unscheduled hospital admission. [Shaw et al.'s \(2016\)](#) UK longitudinal qualitative study of older people's experiences of living in EC SIH found that their health and frailty over time deteriorated. Similar to the results of [Gaines et al. \(2011\)](#), [Fox et al. \(2017\)](#) and [Corneliusson et al. \(2019, 2020\)](#), participants in [Shaw et al.'s \(2016\)](#) study reported that despite their health decline, where care staff supported them to engage in meaningful activity and social interaction, residents perceived themselves as living well. [Han et al. \(2016\)](#) reviewed secondary data from the USA National Survey of Residential Care Facilities. The review found that 80% of AL SIH facilities reported that more than 95% of their residents had a cognitive impairment and residents were likely to have urinary incontinence, need help in emergencies and require mobility support and medication support. This study also investigated the profile of care staff working in AL SIH facilities and found that despite residents having considerable care needs, 60% of staff had limited formal training in caring for older people with complex needs.

### *Factors influencing moves out of service-integrated housing*

Three studies using different designs investigated factors influencing residents' moves out of AL SIH. All proposed that the AL SIH workforce, which is primarily comprising non-registrant care staff, do not have the necessary skills to care for older residents with increasingly complex health needs including dementia. No studies explored factors influencing moves out of SA SIH.

[Maxwell et al.'s \(2013\)](#) Canadian study aimed to identify predictors of nursing home admission from AL SIH facilities. The study found an increased risk of nursing home placement for older AL SIH residents with increasing cognitive and/or functional impairment, increasing health instability, recent falls, recent hospitalisations/emergency department visits and severe bladder incontinence. However, the risk of nursing home placement was lower for residents living in large AL SIH facilities that employed licenced or registered nurses or who were affiliated with a general practitioner (GP). [Maxwell et al. \(2013, 2015\)](#) concluded that AL SIH facilities with no licensed or registered nursing staff (i.e. most SIH facilities) struggle to adequately address the needs of residents with complex health challenges and high dependency. [Cameron et al.'s \(2020\)](#) qualitative study of residents' experiences of living in EC SIH agreed, concluding that many residents, as well as staff, were concerned that staff could not cope with some of the additional needs that residents often experienced as their health and function declined over time. This precipitated moves to more intensive care support. [Sloane et al. \(2011\)](#) studied physicians' perceptions and experiences of care in AL SIHs. The study found that physicians have lower confidence in AL SIH care staff's ability to adequately assess/monitor the needs of older people with increasingly complex conditions, leading to a higher likelihood of physicians referring residents to hospitals and recommending moves to nursing homes.

## **Discussion**

Using the EPPI methodological quality assessment approach, overall, the quality of the studies included in the literature was low. Although a limitation of the review results, mapping the components of the results, methodological triangulation and textual description highlighted areas of consistency across study results. This suggests that in these areas, results may be meaningful and may inform the debate about SIH residents and care required to meet their needs as well as areas of weakness and where further research is required.

### ***Factors influencing moves to service-integrated housing***

The studies reviewed that focus on factors influencing moves to SIH primarily use the “push and pull framework” as their theoretical base (Lee, 1966). This framework highlights that inadequate aspects of the original living environment (push factors) work together with the attractions of the new environment (pull factors) to explain why people move. However, the results of the review indicate that push factors are the primary reasons behind SIH move decisions. This suggests that older people move for reactive reasons i.e. reaction to health-related events and high dependency, rather than for proactive reasons such as downsizing and anticipating future support to maintain independence as suggested by policy statements (UK Local Government Association, 2017). The potential mismatch between what policymakers expect SIH resident health status to look like and their actual health status could mean that SIH is not adequately prepared to address the complex needs of residents.

### ***Health and well-being characteristics of older people while living in service-integrated housing***

The review also indicated characteristics of SIH residents. Results suggest that SIH residents have significant dependency levels and high levels of multi-morbidity which may explain their utilisation of high levels of referrals to health-care services. However, the majority of SIH are care support staff, rather than registered professional staff. The review suggested that AL SIH staff may not have been trained or have the skills to support the management of complex needs of residents in-house, thus referring to external care services. The review also indicated frequent use of anti-psychotic and sedative medications and high rates of hospital admissions for residents with dementia. This suggests that SIH residents may not be accessing care from staff with skills in caring for people with dementia and cognitive impairment, and using non-pharmacological interventions in dementia care. Also, high prevalence of depression suggests that residents may not have access to skilled geropsychiatric or gero-mental health staff or staff are failing to effectively treat mental health conditions.

Despite the health and functional challenges faced by SIH residents, studies investigating residents’ self-reported health and well-being consistently reported that this was high, which may be because of having access to safe and supported living. This suggests that SIH does provide the care support and benefits as current policy describes and expects (Great Britain, Department for Work and Pensions, 2020), but that these policies have not recognised or accounted for the reactive health reasons why people move to SIH or the severity of health and functional problems that SIH residents have, reinforcing the mismatch between residents’ expected and actual needs.

### ***Factors influencing moves out of service-integrated housing***

Lawton and Nahemow’s (1973) person-environment theory proposes that an older person’s deterioration in health and function results in a poor fit between their health needs and their living environment. This leads to the risk of further decline and/or the requirement to move to a more supportive environment. The literature reviewed that focusses on factors influencing moves out of SIH uses this theoretical perspective to identify the weaknesses of SIH as care environments. However, results of the review suggest that it is the workforce working in and into SIH, rather than the SIH physical environment that is the source of the person-environment misfit. Despite residents’ intentions that SIH will provide a “home for life”, Pannell and Blood (2012), McGrail *et al.* (2013) and Kneale and Smith (2013) found significant numbers of SIH residents move to more intensive care facilities such as nursing homes and Silver *et al.* (2018) found that increases in SIH utilisation does not have a corresponding impact in care home utilisation. In regard to AL SIH, the results of this review suggest that this may be because the AL SIH workforce does not have the competency or support from primary care services to meet the needs of residents with declining health and functional status and increasing frailty.

### *The need for comprehensive care*

Recent governments appear to perceive SIH as primarily addressing pull factors i.e. SIH should provide safe, convenient, accessible, easily manageable accommodation, that appeals to downsizers, people anticipating future care needs or people requiring support with personal care. The literature included in this review, however, uses push/pull and person-environment theoretical frameworks to emphasise resident health needs within the context of SIH. The juxtaposition of a “pull factors” approach and “health needs” approaches highlights that the development of SIH as accommodation with care is not entirely successful, as governments’ focus on pull factors fails to account for the significant complex health needs of this older population. With regard to the care home sector in England, this problem was acknowledged in 2015 when the NHS introduced the Enhanced Health in Care Homes plan as part of the New Models of Care initiative (NHS, 2016). The plan required that care home care models should be designed around what residents want and need with regard to health care as well as accommodation with care support. Significantly, this requires a redesigning of the workforce around resident need to offer residents better, joined up health care and rehabilitation services. In many respects, the plan reflects health-care services’ realisation that effective care for older people requires a competent workforce using an integrated, holistic approach based on “comprehensive assessment” that includes assessment and intervention regarding medical needs, cognitive and psychological needs, functional needs, social needs and environmental needs (British Geriatrics Society, 2019). Similar new models have emerged in care homes in other countries. Medicare Advantage Institutional Special Needs Plans in the USA (McGarry and Grabowski, 2019) and nurse practitioners in care homes in Canada (Kilpatrick *et al.*, 2020) integrate medical care and social care, for example, by increasing the numbers of expert clinicians working on site alongside social care staff to provide comprehensive care. The results of this literature review suggest that a comprehensive approach may be required for the SIH sector too.

### *Workforce development*

At present, models of care such as the Enhanced Health in Care Homes plan in England do not include the SIH sector. According to Anderson *et al.* (2021), provision of a quality effective SIH sector depends on ensuring investment into integrated care and robust community health services. However, accessing primary care expertise to support SIH residents with multi-morbidity, frailty, dementia and complex needs is challenging. The current systems of working and health-care professional training focus on single condition care, which does not adequately address the complex needs of SIH residents (Frenk *et al.*, 2010; Greenaway, 2013). Roller-Wirnsberger *et al.*’s (2018) report on the workforce caring for older people in 22 European countries calls for a fully competent, integrated and co-ordinated, multi-disciplinary workforce that can support the comprehensive health and care needs of older people with multi-morbidity and frailty. Foley and Luz’s (2021) review of government and professional organisation documents and workforce data in the USA agree, and argue for a sizeable workforce trained in all aspects of integrated gerontological care. Initiatives such as the Enhanced Care of Older People workforce strategy (Thompson *et al.*, 2018) are supporting integrated workforce planning across sectors, professions and roles in an attempt to upskill the workforce across the system, but is essential that such initiatives include opportunities for SIH staff development as well as community and primary care staff working into SIH.

In regard to SIH staff, as with much of the social care workforce across the UK, Europe and USA, they have received limited investment in terms of working conditions and career development. In the UK, the SIH workforce is under pressure due to high vacancy rates and attrition and high staff turnover are exacerbated by 0-h contract employment policies with no guaranteed income and/or low pay (Fenton *et al.*, 2020). In turn, high vacancy rates can lead to reliance on temporary staff which impacts on consistency and quality of care (Gilster *et al.*, 2018). It is essential that investment into SIH staffing is prioritised, if the sector is to offer the support required for residents with complex needs.

### *Implications for research, policy and practice*

Although the approach to this literature review was systematic, the limitations of the rapid evidence assessment approach must be acknowledged. Further full systematic reviews and/or meta-analyses are, therefore, recommended. The results of this review indicate that both AL and SA SIH residents may have a number of similar characteristics. However, there is a lack of research regarding SA SIH admission pull factors. There is also a dearth of research investigating factors influencing moves out of SA SIH, and whether workforce issues impact on these factors. In addition, although four longitudinal studies were identified by the review, two are qualitative studies, one focusses on transitioning into SIH, and the other is a comparative study of home dwellers' and SIH residents' health status. The review indicates that further longitudinal studies are required to map and explain the progression of SIH residents' health status and health and social care service use in detail over time. As a consequence of this finding, the review authors are undertaking a retrospective study of SIH residents' health and social care records and service input from pre-admission to termination of SIH residency to identify the relationship between care provided and residents' outcomes. This will provide an understanding of preventative and enablement support, development of care pathways, and workforce planning and development requirements to support SIH residents.

The results of the review suggest that reasons for moving in SIH are likely to be reactive. This strengthens the need for health and social care policy to focus on ensuring integrated pathways, resources and appropriately trained staff are in place to support older people at every stage of their care journey i.e. facilitating people to remain safely in their own homes as long as possible, support older people to anticipate and plan for moves into SIH if and when required, and support SIH residents with complex needs to remain and live well in SIH facilities.

### References

\*Research article included in the review.

Anderson, *et al.* (2021), "Securing a sustainable and fit-for-purpose UK health and care workforce", *The Lancet*, Vol. 397 No. 10288, available at: [https://doi.org/10.1016/S0140-6736\(21\)00231-2](https://doi.org/10.1016/S0140-6736(21)00231-2)

ARCO (2017), "Written evidence submitted by ARCO (the associated retirement community operators) [HOP 060]", available at: <http://data.parliament.uk/writtenevidence/committeeevidence.svc/evidencedocument/communities-and-local-government-committee/housing-for-older-people/written/49340.pdf> (accessed 1 March 2021).

\*Avery, E., Kleppinger, A., Feinn, R. and Kenny, A. (2010), "Determinants of living situation in a population of community-dwelling and assisted living-dwelling elders", *Journal of the American Medical Directors Association*, Vol. 11 No. 2, pp. 140-144, available at: <https://doi.org/10.1016/j.jamda.2009.07.006>

\*Bäumker, T., *et al.* (2012), "Deciding to move into extra care housing: residents' views", *Ageing and Society*, Vol. 32 No. 7, pp. 1215-1245, doi: [10.1017/S0144686X11000869](https://doi.org/10.1017/S0144686X11000869).

Bligh, J. and Kerslake, A. (2011), *Strategic Housing for Older People: planning, Designing and Delivering Housing That Older People Wants*, Housing Learning and Improvement Network (LIN) and ADASS, London.

British Geriatrics Society (2019), *Comprehensive Geriatric Assessment Toolkit for Primary Care Practitioners*, BGS, London.

\*Buckland, M. and Tinker, A. (2020), "Extra care housing: exploring motivations, expectations and perceptions", *Housing, Care and Support*, Vol. 23 No. 1, pp. 15-26, doi: [10.1108/HCS-02-2019-0007](https://doi.org/10.1108/HCS-02-2019-0007).

\*Cameron, A., Johnson, E. and Evans, S. (2020), "Older people's perspectives on living in integrated housing and care settings: the case of extra care housing", *Journal of Integrated Care*, Vol. 28 No. 3, pp. 281-290, doi: [10.1108/JICA-09-2019-0040](https://doi.org/10.1108/JICA-09-2019-0040).

Care Act (2014), c.23, available at: [www.legislation.gov.uk/ukpga/2014/23/contents/enacted](http://www.legislation.gov.uk/ukpga/2014/23/contents/enacted) (accessed 26 May 2021).

\*Cook, G., *et al.* (2016), "Older UK sheltered housing tenants' perceptions of well-being and their usage of hospital services", *Health & Social Care in the Community*, Vol. 25 No. 5, pp. 1644-1654, available at: <https://doi.org/10.1111/hsc.12398>

\*Corneliusson, L., *et al.* (2019), "Residing in sheltered housing versus ageing in place: population characteristics, health status and social participation", *Health and Social Care in the Community*, Vol. 27 No. 4, pp. e313-322, available at: <https://doi.org/10.1111/hsc.12734>

\*Corneliusson, L., *et al.* (2020), "Well-being and thriving in sheltered housing versus ageing in place: results from the U-age sheltered housing study", *Journal of Advanced Nursing*, Vol. 76 No. 3, pp. 856-866 2020, available at: <https://doi.org/10.1111/hsc.12734>

\*Darton, R., *et al.* (2012), "The characteristics of residents in extra care housing and care homes in England", *Health & Social Care in the Community*, Vol. 20 No. 1, pp. 87-96. No available at: <https://doi.org/10.1111/j.1365-2524.2011.01022.x>

Fenton, W., Polzin, G., Price, R., McCaffrey, R. and Fozzard, T. (2020), "The state of the adult social care sector and workforce in England", available at: <https://www.skillsforcare.org.uk/adult-social-care-workforce-data/Workforce-intelligence/documents/State-of-the-adult-social-care-sector/The-state-of-the-adult-social-care-sector-and-workforce-2020.pdf> (accessed 20 May 2021).

Foley, K. and Luz, C. (2021), "Retooling the health care workforce for an aging america: a current perspective", *The Gerontologist*, Vol. 61 No. 4, pp. 487-496, available at: <https://doi.org/10.1093/geront/gnaa163>

\*Fox, S., Kenny, L., Day, M.R., O'Connell, C., Finnerty, J. and Timmons, S. (2017), "Exploring the housing needs of older people in standard and sheltered social housing", *Gerontology and Geriatric Medicine*, Vol. 3, pp. 1-14, available at: <https://doi.org/10.1177/2333721417702349>

Frenk, J., *et al.* (2010), "Health professionals for a new century: transforming education to strengthen health systems in an interdependent world", *The Lancet*, Vol. 376 No. 9756, pp. 1923-1958, available at: [https://doi.org/10.1016/S0140-6736\(10\)61854-5](https://doi.org/10.1016/S0140-6736(10)61854-5)

\*Gaines, J., Poey, J., Marx, A., Parrish, J. and Resnick, B. (2011), "Health and medical services use: a matched case comparison between CCRC residents and national health and retirement study samples", *Journal of Gerontological Social Work*, Vol. 54 No. 8, pp. 788-802, available at: <https://doi.org/10.1080/01634372.2011.595476>

Gilster, S., Boltz, M. and Dalessandro, J. (2018), "Long-term care workforce issues: practice principles for quality dementia care", *The Gerontologist*, Vol. 58 No. suppl\_1, pp. S103-S113. <https://doi.org/10.1093/geront/gnx174>

\*Gilbert, S., Amella, E., Edlund, B. and Nemeth, L. (2015), "Making the move: a mixed research integrative review", *Healthcare*, Vol. 3 No. 3, pp. 757-774, available at: <https://doi.org/10.3390/healthcare3030757>

Gordon, A., *et al.* (2014), "Health status of UK care home residents: a cohort study", *Age and Ageing*, Vol. 43 No. 1, pp. 97-103, available at: <https://doi.org/10.1093/ageing/aft077>

Grant, M.J. and Booth, A. (2009), "A typology of reviews: an analysis of 14 review types and associated methodologies", *Health Information & Libraries Journal*, Vol. 26 No. 2, pp. 91-108, doi: [10.1111/j.1471-1842.2009.00848.x](https://doi.org/10.1111/j.1471-1842.2009.00848.x).

Great Britain, Department for Communities and Local Government (2008), *Lifetime Homes, Lifetime Neighbourhoods. A National Strategy for Housing in an Ageing Society*, Department for Communities and Local Government, London.

Great Britain, Department of Health (2010), *A Vision for Adult Social Care: capable Communities and Active Citizens*, Department of Health, London.

Great Britain, Department of Health and Social Care (2014), "Joint action on improving health through the home: memorandum of understanding", available at: [www.gov.uk/government/publications/joint-action-on-improving-health-through-the-home-memorandum-of-understanding](http://www.gov.uk/government/publications/joint-action-on-improving-health-through-the-home-memorandum-of-understanding) (accessed 26 May 2021).

Great Britain, Department of Work and pensions (2020), "Supported housing: national statement of expectations", available at: [www.gov.uk/government/publications/supported-housing-national-statement-of-expectations/supported-housing-national-statement-of-expectations](http://www.gov.uk/government/publications/supported-housing-national-statement-of-expectations/supported-housing-national-statement-of-expectations) (accessed 26 May 2021).

Greenaway, D. (2013), "The shape of training review", GMC, available at: [www.gmc-uk.org/-/media/documents/Shape\\_of\\_training\\_FINAL\\_Report.pdf\\_53977887.pdf](http://www.gmc-uk.org/-/media/documents/Shape_of_training_FINAL_Report.pdf_53977887.pdf) (accessed 20 May 2021).

- \*Han, K., Trinkoff, A., Storr, C., Lerner, N. and Yang, B. (2016), "Assisted living facilities: admissions, resident care needs, and staffing", *Journal of Nursing Scholarship*, Vol. 49 No. 1, pp. 24-32, available at: <https://doi.org/10.1111/jnu.12262>
- Howe, A.L., Jones, A.E. and Tilse, C. (2013), "What's in a name? Similarities and differences in international terms and meanings for older peoples' housing with services", *Ageing and Society*, Vol. 33 No. 4, pp. 547-578, doi: [10.1017/S0144686X12000086](https://doi.org/10.1017/S0144686X12000086).
- \*Johnson, E., *et al.* (2020), "Ageing in extra-care housing: preparation, persistence and self-management at the boundary between the third and fourth age", *Ageing and Society*, Vol. 40 No. 12, pp. 2711-2731, doi: [10.1017/S0144686X19000849](https://doi.org/10.1017/S0144686X19000849).
- Kilpatrick, K., Tchouaket, É., Jabbour, M. and Hains, S. (2020), "A mixed methods quality improvement study to implement nurse practitioner roles and improve care for residents in long-term care facilities", *BMC Nursing*, Vol. 19 No. 1, pp. 1-14, doi: [10.1186/s12912-019-0395-2](https://doi.org/10.1186/s12912-019-0395-2).
- Kingston, A., Comas-Herrera, A. and Jagger, C. (2018), "Forecasting the care needs of the older population in England over the next 20 years: estimates from the population ageing and care simulation (PACSim) modelling study", *The Lancet Public Health*, Vol. 3 No. 9, pp. e447-e455.
- \*Kistler, C., *et al.* (2017), "Health of older adults in assisted living and implications for preventive care", *The Gerontologist*, Vol. 57 No. 5, pp. 949-954, available at: <https://doi.org/10.1093/geront/gnw053>
- Kneale, D. and Smith, L. (2013), "Extra care housing in the uk: can it be a home for life?", *Journal of Housing for the Elderly*, Vol. 27 No. 3, pp. 276-298, doi: [10.1080/02763893.2013.813423](https://doi.org/10.1080/02763893.2013.813423).
- \*Koenig, T.L., Lee, J.H., Macmillan, K.R., Fields, N.L. and Spano, R. (2014), "Older adult and family member perspectives of the decision-making process involved in moving to assisted living", *Qualitative Social Work*, Vol. 13 No. 3, pp. 335-350, doi: [10.1177/1473325013475468](https://doi.org/10.1177/1473325013475468).
- Laing and Buisson (2020), "Homecare and supported living UK market report", 3rd ed., Laing and Buisson, London.
- Lawton, M.P. and Nahemow, L. (1973), "Ecology and the aging process", in Eisdorfer, C. and Lawton, M. P. (Eds), *The Psychology of Adult Development and Aging*, American Psychological Association, Washington, DC DC, pp. 619-674, available at: <https://doi.org/10.1037/10044-020>
- Lee, E.S. (1966), "A theory of migration", *Demography*, Vol. 3 No. 1, pp. 47-57, available at: <https://doi.org/10.2307/2060063>
- \*McGrail, K.M., *et al.* (2013), "Health care services use in assisted living: a time series analysis", *Canadian Journal on Aging/La Revue Canadienne du Vieillessement*, Vol. 32 No. 2, pp. 173-183, available at: [www.muse.jhu.edu/article/511822](http://www.muse.jhu.edu/article/511822)
- McGarry, B. and Grabowski, D. (2019), "Managed care for long-stay nursing home residents: an evaluation of institutional special needs plans", *American Journal of Managed Care*, Vol. 25 No. 9, pp. 438-443.
- \*Maxwell, C., *et al.* (2013), "Predictors of nursing home placement from assisted living settings in Canada", *Canadian Journal on Aging/La Revue Canadienne du Vieillessement*, Vol. 32 No. 4, pp. 333-348, doi: [10.1017/S0714980813000469](https://doi.org/10.1017/S0714980813000469).
- \*Maxwell, C., *et al.* (2015), "Elevated hospitalization risk of assisted living residents with dementia in Alberta, Canada", *Journal of the American Medical Directors Association*, Vol. 16 No. 7, pp. 568-577, available at: <https://doi.org/10.1016/j.jamda.2015.01.079>
- Mays, N., Pope, C. and Popay, J. (2005), "Systematically reviewing qualitative and quantitative evidence to inform management and policy-making in the health field", *Journal of Health Services Research & Policy*, Vol. 10 No. 1\_suppl, pp. 6-20, doi: [10.1258/1355819054308576](https://doi.org/10.1258/1355819054308576).
- National Health Service (2016), "New models of care", available at: [www.england.nhs.uk/wp-content/uploads/2015/11/new\\_care\\_models.pdf](http://www.england.nhs.uk/wp-content/uploads/2015/11/new_care_models.pdf) (accessed 1 July 2021).
- Pannell, J. and Blood, I. (2012), *Supported Housing for Older People in the UK: An Evidence Review*, JRF, York.
- Popay, J., *et al.* (2006), *Guidance on the Conduct of Narrative Synthesis in Systematic Reviews*, Lancaster University, Lancaster.
- \*Rockwood, J., *et al.* (2013), "Precipitating and predisposing events and symptoms for admission to assisted living or nursing home care", *Canadian Geriatrics Journal*, Vol. 17 No. 1, pp. 16-21, available at: <https://doi.org/10.5770/cgj.17.93>



Roller-Wirnsberger *et al.* (2018), "Report on the content, scope and gaps on frailty and frailty prevention in the curricula of the participant member states' health related workforce", available at: <https://ec.europa.eu/research/participants/documents/downloadPublic?documentIds=080166e5be1f4ba2&appId=PPGMS> (accessed 13 September 2021).

Ryan, R. (2013), "Cochrane consumers and communication review group: data synthesis and analysis", available at: <https://ccrg.cochrane.org/sites/ccrg.cochrane.org/files/public/uploads/AnalysisRestyled.pdf> (accessed 10 May 2021).

\*Shaw, R., West, K., Hagger, B. and Holland, C. (2016), "Living well to the end: a phenomenological analysis of life in extra care housing", *International Journal of Qualitative Studies on Health and Well-Being*, Vol. 11 No. 1, p. 12, doi: [10.3402/qhw.v11.31100](https://doi.org/10.3402/qhw.v11.31100).

Silver, B., Grabowski, D., Gozalo, P., Dosa, D., Kali, M. and Thomas, S. (2018), "Increasing prevalence of assisted living as a substitute for private-pay long-term nursing care", *Health Services Research*, Vol. 53 No. 6, pp. 4906-4920, available at: <https://doi.org/10.1111/1475-6773.13021>.

\*Sloane, P.D., *et al.* (2011), "Physician perspectives on medical care delivery in assisted living", *Journal of the American Geriatrics Society*, Vol. 59 No. 12, pp. 2326-2331, available at: <https://doi.org/10.1111/j.1532-5415.2011.03714.x>

Snilstveit, B., Oliver, S. and Vojtkova, M. (2012), "Narrative approaches to systematic review and synthesis of evidence for international development policy and practice", *Journal of Development Effectiveness*, Vol. 4 No. 3, pp. 409-429, doi: [10.1080/19439342.2012.710641](https://doi.org/10.1080/19439342.2012.710641).

Stern, D., Warren, I. and Forth, A. (2019), *A Home for the Ages: planning for the Future with Age-Friendly Design*, Royal Institute of British Architects & Centre for Towns, London.

Stula, S. (2012), "Living in old age in Europe - current developments and challenges", working paper, observatory for sociopolitical developments in Europe", available at: [www.sociopolitical-observatory.eu/uploads/tx\\_aebgppublications/AP\\_7\\_EN.pdf](http://www.sociopolitical-observatory.eu/uploads/tx_aebgppublications/AP_7_EN.pdf) (accessed 1 March 2021).

Thompson, J., *et al.* (2018), "A workforce competency framework for enhanced health", *Nursing and Residential Care*, Vol. 20 No. 4, pp. 153-157, available at: <https://doi.org/10.12968/nrec.2018.20.4.153>

UK House of Commons (2018), "Housing for older people: second report of session 2017-19", available at: [www.housinglin.org.uk/\\_assets/Resources/Housing/Policy\\_documents/CLG\\_HousingForOP.pdf](http://www.housinglin.org.uk/_assets/Resources/Housing/Policy_documents/CLG_HousingForOP.pdf) (accessed 1 March 2021).

UK Local Government Association (2017), *Housing Our Ageing Population*, LGA, London.

United Nations (2002), "Political declaration and Madrid international plan of action on ageing. in: second world assembly on ageing", *Madrid*, april 8-12 2002, available at: [www.un.org/en/events/pastevents/pdfs/Madrid\\_plan.pdf](http://www.un.org/en/events/pastevents/pdfs/Madrid_plan.pdf) (accessed 8 September 2021).

\*Vlachantoni, A., Maslovskaya, O., Evandrou, M. and Falkingham, J. (2016), "The determinants of transitions into sheltered accommodation in later life in England and Wales", *Journal of Epidemiology and Community Health*, Vol. 70 No. 8, pp. 771-777.

World health Organisation (2011), "Global health and ageing", available at: [www.who.int/ageing/publications/global\\_health.pdf](http://www.who.int/ageing/publications/global_health.pdf) (accessed 8 September 2021).

Yu, C. and Lee, Y. (2017), "Housing requirements for an ageing society", *Indoor and Built Environment*, Vol. 26 No. 4, pp. 441-446, doi: [10.1177/1420326X17704285](https://doi.org/10.1177/1420326X17704285).

## Corresponding author

Juliana Thompson can be contacted at: [juliana2.thompson@northumbria.ac.uk](mailto:juliana2.thompson@northumbria.ac.uk)

---

For instructions on how to order reprints of this article, please visit our website:  
[www.emeraldgroupublishing.com/licensing/reprints.htm](http://www.emeraldgroupublishing.com/licensing/reprints.htm)  
Or contact us for further details: [permissions@emeraldinsight.com](mailto:permissions@emeraldinsight.com)