

# The Social Value of Sheltered Housing

Briefing paper

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## ABOUT THIS PAPER

In February 2017, Demos carried out research to explore and quantify the social value of sheltered housing, as a form of housing for older people distinct from other housing with care or generic retirement housing options. This was to help Anchor, Hanover and Housing and Care 21 consider the implications of the proposals put forward by the Government, that by 2019, the core rent and service charges for a variety of forms of supported housing will be funded through Housing Benefit or Universal Credit up to the Local Housing Allowance (LHA) rate. The Work and Pensions Committee and the Communities and Local Government Committee launched a joint inquiry into these proposals in December 2016<sup>1</sup>. This paper provides a review of the existing evidence regarding the impact of sheltered housing, and then draws on this to make some initial estimates as to the cost savings it can achieve in a range of fields.

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<sup>1</sup> <http://www.parliament.uk/business/committees/committees-a-z/commons-select/work-and-pensions-committee/news-parliament-2015/future-of-supported-housing-launch-16-17/> - accessed March 2017

## OVERVIEW OF EXISTING EVIDENCE

Demos reviewed 52 academic papers and policy reports related to the social value of sheltered housing, using a variety of key word searchers in academic databases and through well-known sources of housing policy papers (e.g. the Housing LIN). The full list of reports we reviewed are detailed in the bibliography. We can summarise our findings thus:

1. There is a strong evidence base on the relationship between housing and health. There is much data on the relationship between poor housing and increases in falls, excess winter deaths, cardiovascular diseases, and mental health. Older people are the primary group affected by these risks.
2. Within this body of evidence, there are also several papers on the benefits of specialist housing for older people, where improved physical and mental health has been quantified – in many cases comparing tenant health data with control/similar older populations or national averages.
3. There is a much smaller number of studies that then go further and monetise these potential benefits in terms of cost savings to the NHS and/or social care, primarily considering reductions in unplanned hospital admissions and delayed transfers into residential care.
4. The vast majority of these papers do not look at sheltered housing as a particular form of specialist housing. Those that do provide compelling qualitative evidence into how tenants feel about sheltered housing. The vast majority of these show tenants to feel more sociable, more autonomous, safer, healthier and overall happier in this form of housing. Taylor & Neill<sup>2</sup> and Field<sup>3 4</sup>, are good examples of such papers.
5. Research by Berrington<sup>5</sup> is the most recent and most significant attempt at discussing and quantifying the benefits of sheltered housing specifically. It identifies possible areas of value and cost savings, and gives some estimates of the scale of savings. However, it stops short of assessing the probability of achieving these savings, thereby not fully quantifying the value of sheltered housing.

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<sup>2</sup> Taylor & Neill (2009) 'Sheltered housing and care for older people: perspectives of tenants and scheme managers.' *Quality in Ageing*. 10(4): 18-28.

<sup>3</sup> Field et al (2002) 'Social networks and health of older people living in sheltered housing.' *Aging and Mental Health*. 6(4): 372-386.

<sup>4</sup> Field et al (2005) 'The needs of older people in sheltered housing: a comparison of inner city and new town areas.' *Journal of Housing for the Elderly*. 19(2): 107-117.

<sup>5</sup> Berrington J (2017) *The Value of Sheltered Housing*. National Housing Federation.

6. We have identified several sources which do provide estimates of probabilities of achieving particular savings (e.g. fewer falls) in older people's housing, however, these are not specific to sheltered housing:
- Lloyd<sup>6</sup> is an excellent example of cost savings analysis of all specialist housing types relative to older people, such as housing with care, Extra Care villages and of course sheltered housing.
  - Ball<sup>7</sup>, the IPC<sup>8</sup> and Demos<sup>9 10</sup> have all quantified cost savings of retirement housing
  - Holland<sup>11</sup> is a good example of research which quantifies the cost savings achieved by extra care housing.

In the following section, we bring together all of the quantitative data we have gathered to carry out cost calculations of the savings generated to health and social care of sheltered housing. This is, due to the reasons outlined above, an incomplete picture, and therefore an underestimation of sheltered housing's true value - but it still represents the most comprehensive review that currently exists. Furthermore, in every case where we lack sheltered housing-specific data, we have opted to use data related to retirement housing, which would more likely lead to an under-estimation of the cost savings attributable to sheltered housing<sup>12</sup>.

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<sup>6</sup> Lloyd J (2016) Valuing Retirement Housing: Exploring the economic effects of specialist housing for older people. The Strategic Society Centre.

<sup>7</sup> Ball M (2011) Housing markets and independence in old age: expanding the opportunities. Henley Business School.

<sup>8</sup> Institute for Public Care (2014) Local area economic impact assessment.

<sup>9</sup> <https://www.demos.co.uk/wp-content/uploads/2016/04/Building-Companionship-Report.pdf>

<sup>10</sup> <https://www.demos.co.uk/files/TopoftheLadder-web.pdf?1378922386>

<sup>11</sup> Holland C et al (2015) Collaborative Research between Aston Research Centre for Ageing (ARCHA) and the ExtraCare Charitable Trust.

<sup>12</sup> This is because retirement housing is age specific, accessible and adaptable housing, often with communal facilities on site. Sheltered housing is similar in style, but also usually includes the on-site presence of a manager and an in-built alert system. We can assume, therefore, that sheltered housing would generate higher cost savings related to (for example) the prevention of unplanned hospitalisation, thanks to these additional features.

## QUANTIFYING THE SOCIAL VALUE OF SHELTERED HOUSING

In this section, we have brought together, quantified and monetised various elements which may combine to give an estimate of the social value of sheltered housing, using the data available.

Summary box – possible cost savings per year<sup>13</sup>

Area of saving	Cost saving
Reducing inpatient stays (all)	£300 million
Reducing inpatient stays (following an emergency admission specifically)	£156 million
Averting falls – savings to ambulance and A&E	£1.79 million £10.98 million
Averting falls – savings to hospital care for hip fractures	£79.5 million
Averting falls – savings to post-treatment bed days specifically for hip fractures	£47.3 million
Averting falls – savings to all health and social care for hip fractures	£156.3 million
Reducing loneliness – reduced health service use	£17.8 million <sup>14</sup>

We cannot sum all of the totals in the table above, as some costs overlap. We would, however, reasonably be able to sum the following from the above table to provide an overall social value calculation:

- Reduced inpatient stays (all) = £300m
- Reduced immediate care costs of falls prevented (all) = £12.7m
- Reduced health and care costs of hip fractures prevented = £156.3m
- Reduced health service use by reducing loneliness = £17.8m

**Total = £486m per year**

<sup>13</sup> All savings in this table are based on the middle-point estimate of a range of costs

<sup>14</sup> This assumes loneliness would be halved in sheltered housing, based on data from retirement housing and excluding many costs related to loneliness – therefore a significant underestimate

## 1. The cost of hospital stays

### General inpatient stays

Residents in sheltered housing are more likely to have a disability or persistent health issues than the general older population, so it is not surprising that research found 21% of sheltered housing residents (compared to 17% of general population aged 75+) have been an inpatient in hospital in the previous year<sup>15</sup>. However, these 21% only spent a week (7.4 nights) in hospital, in comparison to 17 nights for an average inpatient stay for the older general population. One of the reasons for the relative brevity of sheltered housing tenants' time in hospital is the fact that they can more easily integrate back into appropriate and accessible housing with an element of support already present.

There are just under half a million (485,575) people in sheltered housing, so 101,971 of these spent 7.4 nights in hospital in one year. If we assume the cost of a hospital bed is £300 a day<sup>16</sup>, then the cost to the NHS was £226m.

But consider the cost to the NHS if those 101,971 people were not in sheltered housing, and so did not have appropriate housing and support to be discharged to. If they had spent 17 days in hospital instead of one week, the cost to the NHS would have been £520m.

Sheltered housing may therefore save the NHS almost £300m per year in facilitating shorter inpatient stays

### Emergency inpatient stays

Data from Cook et al<sup>17</sup> of one sheltered housing site show that 43% of the tenants went to hospital in the study year, of which 53% were emergency admissions. They stayed in hospital on average 8.2 days following an emergency admission. However, older people in the general population have an average stay in hospital following an emergency admission of 12.9 days<sup>18</sup>, again suggesting sheltered housing facilitates a shorter inpatient stay<sup>19</sup>.

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<sup>15</sup> <http://www.housingcare.org/downloads/kbase/1669.pdf>

<sup>16</sup> <https://www.theguardian.com/society/2017/feb/15/social-care-crisis-hospital-beds-nhs>

<sup>17</sup> Cook G et al (2016) Older UK sheltered housing tenants' perceptions of well-being and their usage of hospital services. Health and Social Care in the Community.

<sup>18</sup> <https://www.nao.org.uk/wp-content/uploads/2015/12/Discharging-older-patients-from-hospital-Summary.pdf>

<sup>19</sup> Again, using a standard bed day of £300 per day.

If we extrapolate these data to the entire population in sheltered housing, then 110,663 tenants may be admitted to A&E in any one year, at a cost of £272m (for 8.2 days' stay).

But if these sheltered housing tenants were not in sheltered housing, their increased length of stay would cost £428m.

Sheltered housing, in facilitating shorter inpatient stays following emergency admissions, therefore may save the NHS £156m per year.

## 2. The cost of falls

There are between 3,327,271 and 3,380,474 falls each year in the 65+ population<sup>20</sup>, and the combined cost of falls to the NHS and social care is roughly £6 million per day or £2.3 billion annually<sup>21</sup>, of which around £1.2 billion are likely to be hospital bed days<sup>22</sup>.

Sheltered housing is adapted to be appropriate for older people and the presence of hand rails and ergonomic furniture reduces the risk of falls. It is estimated that sheltered housing actually reduces the probability of an older person falling by between 1.5 and 2.8 times<sup>23</sup>. This gives us a range<sup>24</sup> of between 57,000 and 110,000 falls being prevented nationally<sup>25</sup>. We use the middle point of that range, which is about 91,940 falls prevented each year, to calculate a range of resulting cost savings:

### Ambulance and emergency admissions

600,000 older people attend A&E following a fall each year (about 17% of all falls), and around a third are then admitted to hospital. If we assume 91,940 falls are prevented by people living in sheltered housing, then this has prevented 15,629 A&E attendances and 5,209 emergency admissions.

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<sup>20</sup> Calculations made from statistics from: <https://www.nice.org.uk/guidance/cg161/evidence/falls-full-guidance-190033741>

<sup>21</sup> [http://www.ageuk.org.uk/documents/en-gb/campaigns/stop\\_falling\\_report\\_web.pdf?dtrk=true](http://www.ageuk.org.uk/documents/en-gb/campaigns/stop_falling_report_web.pdf?dtrk=true)

<sup>22</sup> [https://www.kingsfund.org.uk/sites/files/kf/field/publication\\_file/exploring-system-wide-costs-of-falls-in-torbay-kingsfund-aug13.pdf](https://www.kingsfund.org.uk/sites/files/kf/field/publication_file/exploring-system-wide-costs-of-falls-in-torbay-kingsfund-aug13.pdf)

<sup>23</sup> Snell et al (2012) Building a business case for investing in adaptive technologies in England. PSSRU, p. 4.

<sup>24</sup> We have made calculations using three scenarios, in which sheltered housing reduces the chances of falling by 1.5 times (low efficacy), 2.15 times (middle efficacy) and 2.8 times (high efficacy).

<sup>25</sup> Calculations made from statistics from: <https://www.nice.org.uk/guidance/cg161/evidence/falls-full-guidance-190033741>

As ambulance call outs cost at least £115 each<sup>26</sup>, this saves £1.79m a year simply in ambulance costs. We can estimate that the cost of a fall to emergency admissions is around £2,108<sup>27</sup>. The savings to the NHS regarding emergency admissions generated by sheltered housing are likely to be, therefore, £10.98m per year.

## Hip fractures

Every year 300,000 people over 65 are hospitalised for a hip fracture<sup>28</sup>. Each hip fracture costs the NHS £10,170 on average<sup>29</sup>, and more than 95% of hip fractures are caused by falling<sup>30</sup>. 285,000 hip fractures per year are therefore caused by falls among the over 65s, costing the NHS almost £3billion (£2,898,450,000) per year.

As mentioned above, there are an estimated between 3,380,474 and 3,327,271 falls each year in the 65+ population, 285,000 of which result in hip fractures. This means that 8.5% of falls in over 65s result in a hip fracture.

If 91,940 falls were prevented by the having just over half a million older people in sheltered housing, and if 8.5% of these falls resulted in hip fracture, then sheltered housing may save the NHS £79.5m per year in treatment costs by preventing falls which lead to hip fractures.

In addition, hip fracture patients spend just under 3 weeks (20.2 days) in acute wards after treatment<sup>31</sup>. With the average cost of a hospital bed at £300 per day, this means that the average stay costs the NHS £6,060 per fracture – so sheltered housing is potentially saving the NHS an additional £47.3m per year in hospital stays after surgery by preventing falls which lead to hip fractures.

While the costs to the NHS of hip fractures is estimated to be just over £10k (excluding post-treatment bed days), a ROSPA study found that the total cost of a hip fracture, including health and social care costs, is actually more like £20,000<sup>32</sup>. The total savings generated by sheltered

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<sup>26</sup> <https://www.theguardian.com/society/2015/dec/25/frequent-999-callers-nhs-england-ambulance-emergency>

<sup>27</sup> Burgess (2013) Analysis of the potential value for money to the public purse of the Lincolnshire Home Improvement Agency Housing Options for Advice Service. Cambridge Centre for Housing and Planning Research, p. 10.

<sup>28</sup> HCUPnet. Healthcare Cost and Utilization Project (HCUP). 2012. Agency for Healthcare Research and Quality, Rockville, MD. <http://hcupnet.ahrq.gov>

<sup>29</sup> <http://www.insidehousing.co.uk/journals/2016/08/19/j/u/n/Valuing-Retirement-Housing.pdf>

<sup>30</sup> Parkkari J, Kannus P, Palvanen M, Natri A, Vainio J, Aho H, Vuori I, Järvinen M. Majority of hip fractures occur as a result of a fall and impact on the greater trochanter of the femur: a prospective controlled hip fracture study with 206 consecutive patients. *Calcif Tissue Int*, 1999;65:183–7

<sup>31</sup> Mayor, Susan. "Length of hospital stay for hip fracture falls by a day, audit shows." (2012): e5940.

<sup>32</sup> <http://www.rospa.com/ROSPAWeb/docs/public-health/big-book/index.html#p=18>



housing to both the NHS and social care by preventing falls which lead to hip fracture, could therefore be £156.3m) per year.

These calculations are still an underestimation of the overall and ongoing savings of preventing a fall/hip fracture, as they only take into account short to mid-term periods of social care. For many older people, a hip fracture can mean years of ongoing social care and permanent mobility issues. We do not have data available to calculate how many older people need long term or permanent care packages following a fall and/or hip fracture, but we do know that the Kings Fund quantifies the cost of community care and social care as £7,071 and £2,034 respectively, per service user for every month in the year following a fall<sup>33</sup>. If half of all injured fallers require a year of social care following discharge, then the cost of this would be between £8.4bn and £12.6bn – not a figure we would include in our estimates as it remains too speculative, but it does demonstrate the potential for very significant longer term savings generated by sheltered housing which has yet to be captured by current research.

### 3. The cost of loneliness

14.5 per cent of people between 65 – 79 and 29.2 per cent of people over 80 report being lonely some or all of the time<sup>34</sup>. However, Demos research found retirement housing residents were half as likely to report feeling lonely as their counterparts of the same age in the general population<sup>35</sup>. The ILC also found that a retirement village resident experiences half the amount of loneliness (12.17%) than those in the community (22.83%)<sup>36</sup>, so we can reasonably assume that tenants in sheltered housing are also similarly less lonely. Research shows that lonely people use health services more frequently. They are:

- 1.8 times more likely to visit the GP
- 1.6 times more likely to visit A&E
- 1.3 times more likely to experience an emergency admission<sup>37</sup>

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<sup>33</sup> [https://www.kingsfund.org.uk/sites/files/kf/field/field\\_publication\\_file/exploring-system-wide-costs-of-falls-in-torbay-kingsfund-aug13.pdf](https://www.kingsfund.org.uk/sites/files/kf/field/field_publication_file/exploring-system-wide-costs-of-falls-in-torbay-kingsfund-aug13.pdf)

<sup>34</sup> ONS Population Data 2015. <https://goo.gl/4aOhs7>

<sup>35</sup> <https://www.demos.co.uk/wp-content/uploads/2016/04/Building-Companionship-Report.pdf>

<sup>36</sup> Beach, B. "Village Life, Independence, Loneliness and Quality of Life in Retirement Villages with Extra Care." *ILC-UK: London* (2015).

<sup>37</sup> [http://www.socialfinance.org.uk/wp-content/uploads/2015/06/Investing\\_to\\_Tackle\\_Loneliness.pdf](http://www.socialfinance.org.uk/wp-content/uploads/2015/06/Investing_to_Tackle_Loneliness.pdf)

NAO statistics put the average cost of a GP consultation at £21<sup>38</sup>, A&E attendance at £124<sup>39</sup>, and an emergency admission at £2358.50<sup>40</sup>. Combining these figures with the increased likelihood of lonely people using NHS services, we can estimate that the annual total cost of loneliness to the NHS is £714m per year, or £398.10 per person for the over 65s.

If we use the aforementioned estimate that older people are 50% less likely to feel lonely in sheltered housing, and apply it to the half a million older people currently living in sheltered housing, then we can estimate that [sheltered housing currently saves the NHS £17.8m annually in reduced health service use \(£36.30 per person\) by tackling loneliness](#). This is a highly conservative estimate, as it does not take into account the additional costs of long term conditions associated with loneliness – for example, there is a 29% increased risk of a heart or angina attack and a 32% heightened risk of having a stroke<sup>41</sup>. Loneliness also presents a 64% higher risk of suffering from dementia.

#### 4. The cost of emergency call outs

Anchor provided Demos with some further data regarding the role of Anchorcall<sup>42</sup> in diverting calls from the Emergency Services (EMS). We do not include these in our cost savings calculations, as we do not have information on how cord-pull alarm services work in other sheltered housing sites, nor the penetration of these across the sector. However, we have provided some indicative estimations of cost savings to demonstrate the potential for further savings, beyond those more commonly attributed to sheltered housing.

#### Fire

Between 2015 and 2016 there were 11,851 false smoke alarms sent to Anchorcall, which were then prevented from reaching the Emergency Services. Evidence suggests false alarms cost around £35.56 per call to attend<sup>43</sup> and data from one fire service suggests around 70% of false

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<sup>38</sup> <https://www.nao.org.uk/wp-content/uploads/2015/11/Stocktake-of-access-to-general-practice-in-England.pdf>

<sup>39</sup> <https://www.nao.org.uk/wp-content/uploads/2015/11/Stocktake-of-access-to-general-practice-in-England.pdf>

<sup>40</sup> <https://www.nao.org.uk/wp-content/uploads/2013/10/10288-001-Emergency-admissions.pdf>

<sup>41</sup> <http://heart.bmj.com/content/early/2016/03/15/heartjnl-2015-308790>

<sup>42</sup> Anchor's in-house pull cord alarm system. We do not know what proportion of sheltered housing in the UK has emergency alarm systems – although in the Netherlands we know this is about 84%. We have not therefore extrapolated the cost savings that may occur nationally if all sheltered housing sites were able to divert fire service call outs through their in-house alarm systems.

<sup>43</sup> <http://www.seton.co.uk/legislationwatch/article/human-and-financial-cost-of-false-fire-alarms/>

calls are attended<sup>44</sup>. The cost to the national Fire and Rescue Service could have been, therefore, almost £300,000 in just one year if Anchorcall had not prevented these false alarms.

### Other emergency services

In 2015-16, only 6,000 of 202,127 alarm calls to Anchorcall were directed to the EMS, which means that 196,127 (97%) calls were not considered urgent enough to direct to the Emergency Services. If these older people had not had Anchorcall, and just had called 999 instead, this would have cost on average £7.81 per (non-attended) call<sup>45</sup>, or over £750, per year. We then might also consider that some may have called their GP instead, generating further costs in other parts of the NHS<sup>46</sup>.

## CONCLUSION

In reviewing the available evidence related to sheltered housing, it is clear that an estimation of the cost savings generated by this housing (as distinct from other forms of older people's housing) can be achieved. This, combined with the qualitative findings in the research, creates a compelling picture of significant social value delivered to the tenants who live there, and to the NHS, social care and related emergency services.

The limitations of the available evidence suggests sheltered housing is an under-researched sector, but this does not undermine the credibility of the conclusions here, nor the cost saving estimations presented. Rather, it would point to the fact that our calculations are an under-estimate – and in some instances significantly so – of the potential cost savings generated by sheltered housing. Given the very large (and growing) costs to the NHS and social care of an ageing population, anything which tackles the primary drivers of health and care costs among older people (namely, poorly insulated housing, falls and loneliness) will gain ever more importance in years to come.

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[http://www.ipswichstar.co.uk/news/fire\\_crews\\_called\\_to\\_thousands\\_of\\_false\\_alarms\\_and\\_hoax\\_calls\\_each\\_year\\_1\\_4457730](http://www.ipswichstar.co.uk/news/fire_crews_called_to_thousands_of_false_alarms_and_hoax_calls_each_year_1_4457730)

<sup>45</sup> <https://www.theguardian.com/society/2015/dec/25/frequent-999-callers-nhs-england-ambulance-emergency>

<sup>46</sup> Again, we have only considered this data at an Anchor- rather than national-level, given the level of unknowns regarding other site's alarm services.

## BIBLIOGRAPHY

Ball M (2011) Housing markets and independence in old age: expanding the opportunities. Henley Business School.

Berrington J (2017) The Value of Sheltered Housing. National Housing Federation.

Blomqvist & Hallberg (1999) Pain in older adults living in sheltered accommodation – agreement between assessments by older adults and staff. *Journal of Clinical Nursing*. 8: 159-169.

Callaghan et al (2009) The development of social well-being in new extra care housing schemes. Joseph Rowntree Foundation.

Caughey (1994) Weight and skeletal size: comparisons between elderly people living in the community and in sheltered housing. *Journal of Human Nutrition and Dietetics*. 7(6): 437-440.

Cook et al (2016) Older UK sheltered housing tenants' perceptions of wellbeing and their usage of hospital services

Ellaway et al (1999) 'Someone to talk to? The role of loneliness as a factor in the frequency of GP consultations.' *British Journal of General Practice*. 49(442): 363-367.

Family Mosaic (2016) Health begins at home: final report.

Field et al (2002) 'Social networks and health of older people living in sheltered housing.' *Aging and Mental Health*. 6(4): 372-386.

Field et al (2005) 'The needs of older people in sheltered housing: a comparison of inner city and new town areas.' *Journal of Housing for the Elderly*. 19(2): 107-117.

Fielden (1990) Reminiscence as an intervention for sheltered housing residents. *British Journal of Social Work*. 20(1): 21-44.

Foord et al (2002) 'Sheltered housing tenant satisfaction.' *Working with Older People*. 6(4): 31-35.

Foord M (2004) Not everything that can be counted counts and not everything that counts can be counted – towards a critical exploration of modes of satisfaction measurement in sheltered housing. *Health and Social Care in the Community*. 12(2): 126-133.

Frontier Economics (2010) Financial benefits of investment in specialist housing for vulnerable and older people

Fulton & Jupp (2015) Investing to tackle loneliness: A discussion paper. Social Finance.

Harley D (2010) Making the Wii at Home: Game Play by Older People in Sheltered Housing. *Human – Computer Interaction in work, learning, life and leisure*. Pp. 156-176.

Hawkins, Charles H. (1991) 'Yanks vs. Brits: American Compared with English Retirement Homes'. *Journal of Housing for the Elderly*. 7(1).

Hawkey et al (2009) 'Loneliness predicts reduced physical activity: cross-sectional & longitudinal analyses'. *Health Psychology*. 28(3): 354-363.

Herbers & Meijering (2015) Interpersonal Relationships and Subjective Well-being among Older Adults in Sheltered Housing. *Research on Ageing and Social Policy*. 3(1): 14-44.

HM Government (2016) Funding for supported housing.

Holland C et al (2015) Collaborative Research between Aston Research Centre for Ageing (ARCHA) and the ExtraCare Charitable Trust

Holt-Lunstad et al (2010) 'Social Relationships and Mortality Risk: A Meta-analytic Review.' *PLoS Medicine*. 7(7) e100316.

Housing and Ageing Alliance (2013) Policy Paper: Economic implications of housing in an ageing society.

Housing LIN (2015) What role for extra care in a socially isolated landscape?

Institute for Public Care (2012) Identifying the health gain from retirement housing.

Institute for Public Care (2012) Local area economic impact assessment.

Institute of Public Care (2012) Identifying the health gain from retirement housing.

Kneale and Smith (2013) 'Extra care housing in the UK: Can it be a home for life?' *Journal of Housing for the Elderly*. 27(3)

Kneale D (2013) What role for extra care housing in a socially isolated landscape? International Longevity Centre for Housing and Learning & Improvement Network.

Lansley et al (2004) 'Can adapting the homes of older people and providing assistive technology pay its way?' *Age and Ageing*. 33: 571-576.

Lloyd J (2016) Valuing Retirement Housing: Exploring the economic effects of specialist housing for older people. The Strategic Society Centre.

Marston et al (2014) North Tyneside Living: An integrated housing, health and social care model to deliver preventative and enabling sheltered housing services: Case Study 98. Housing LIN.

Moyle et al (2010) 'Older people maintaining well-being: an appreciative inquiry study in four countries.' *Journal of Nursing and Healthcare of Chronic Illness*. 2(2): 113-121.

Moynihan (2007) The nutrition knowledge of older adults living in sheltered housing accommodation. *Journal of Human Nutrition and Dietetics*. 20: 446-458.

Nocon & Pleace (1999) Sheltered housing and the community. *Social Policy & Administration*. 33(2): 164-180.

Oliver et al (2014) Making our health and care system fit for an ageing population. The King's Fund.

ORB (2004) A Better Life: Private Sheltered Housing and Independent Living for Older People.

Parliamentary Office for Science and Technology (2011) Housing and health

Robards et al (2014) Mortality at older ages and moves in residential and sheltered housing: evidence from the UK. *Journal of Epidemiology & Community Health*. 68(6)

Robinson & Moen (2000) 'A life-course perspective on housing expectations and shifts in late midlife.' *Research on Aging*. 22(5): 499-532.

Rockwood et al (2006) 'Long-term risks of death and institutionalization of elderly people in relation to deficit accumulation at age 70.' *Journal of the American Geriatrics Society*. 54: 975-979.

Rouwendal & Thomese (2010) Homeownership and Demand for Long-Term Care. Discussion Paper No. 11/2010-068. University of Amsterdam.

Russell et al (1997) 'Loneliness and nursing home admission among rural older adults.' *Psychology and Aging*. 12(4): 574-589.

Sviden et al (2002) Elderly persons' reflections on relocating to sheltered accommodation. *Scandinavian Journal of Occupational Therapy*. 1: 10-16.

Taylor & Neill (2009) 'Sheltered housing and care for older people: perspectives of tenants and scheme managers.' *Quality in Ageing*. 10(4): 18-28.

Snell et al (2012) Building a business case for investing in adaptive technologies in England. PSSRU.

Thompson & West (1984) The public appeal of sheltered housing. *Ageing & Society*. 4(3): 305-326.

Van Bisen et al (2008) Sheltered housing compared to independent housing in the community. *Scandinavian Journal of Caring Sciences*. 22(2): 265-274.

Vlachantoni (2016) The determinants of transitions into sheltered accommodation in later life in England and Wales. *Journal of Epidemiology & Community Health*. 70(8)

Walker et al (1998) Do health and use of services differ in residents of sheltered accommodation? A pilot study. *International Journal of Geriatric Psychiatry*. 13(9): 617-624.

Wood & Salter (2016) Building companionship: how better design can combat loneliness in later life. McCarthy & Stone and Demos.

Wood (2013) Top of the Ladder, Demos.

