1. Introduction

In 2015 there were over 46 million people living with dementia worldwide, which is projected to increase to 131.5 million by 2050. In Europe, there are currently 10.5 million people living with dementia (Alzheimer's Disease International 2015) with 850,000 people with dementia in the UK. Two thirds of those living with dementia in the UK are women and there are 670,000 carers. This costs the UK 26 billion per year, with family carers saving the UK 11 billion annually (Alzheimer's Society 2014).

Housing is an integral part of the dementia journey that can affect and support independence, wellbeing and quality of life. Two thirds of the people in the UK living with dementia live in the community and others in care home settings (Alzheimer's Society 2014). The following report provides an overview of the housing and dementia agenda, exploring insights from current literature on the key issues affecting the research. The literature suggests that not only does housing play a role in supporting those with dementia, but housing organisations and housing staff are underutilized in regards to their potential to support those living with dementia in a number of ways. This goes beyond design and adaptions to creating integrated solutions regarding the physical, social and psychological environment that meets the aspirations of those living with dementia, families, carers and housing staff.

Previous literature reviews around housing and dementia care have highlighted the 'relative neglect of housing as a central aspect of care planning' for older people and those with dementia, as well as the long-term future of people with dementia (see O'Malley and Croucher 2005: 570). This report focused on some of the key issues from the literature, looking at public policy, empowerment and choice, design, service delivery arrangements, technology and partnerships. The second half of the report outlines best practice examples and implications for front-line delivery in more depth.

1.1. Public Policy

The optional protocol on the convention of the rights of persons with disabilities points to the importance of mainstreaming disability issues as an integral part of relevant strategies of sustainable development, with Article 9 and 28 emphasizing in importance of adequate buildings, indoor and outdoor facilities and housing (United Nations 2006). As of 2011, Scotland, England, Wales, Australia, Denmark, France, South Korea, Norway and the Netherlands have published linked national dementia plans. Key themes within the international policies are early-detection of dementia and access to diagnosis (Alzheimer's Disease International 2012).

For the UK, the Department of Health (2009) report *Living Well with Dementia* heralded a 'clear pathway' for improving support to people with dementia, their families and carers through raising awareness, early assessment and diagnosis and improving quality of care. The UK Government has further commitments to

dementia through the Prime Ministers *dementia challenge,* aiming to improve the care of people with dementia and increase funding for dementia research throughout the UK.

The Scottish Government has published two National Dementia Strategies from 2010-2013 and 2013-2016 that have been met positively within the sector. The Dementia strategy is linked to the Scottish Government (2011) *Standards of Care in Dementia* and commissioned guidance from Alzheimer's Scotland (2012) for people with dementia and their carers. Within this framework, housing is noted under the 'experience a person- centered approach to support and care' standard and is linked to *Promoting Excellence: A framework for health and social care staff working with people with dementia and their carers* (SSSC and NES). The third Dementia Strategy for 2016 onwards will be published soon, with the sector anticipating that dementia will continue to be a priority within the health and social care as it is aligned with the 2020 vision for health and care in Scotland (Scottish Government 2013). One of the main priorities for the strategies has been to prevent and shorten hospital admission and improve services for post-hospital stays, in which housing takes a central role. In connection with the Scottish Governments housing strategy for older people, *Age, Home and Community* (Scottish Government 2011) and *Reshaping Care for Older People 2011-2021*, the emphasis is around people staying longer in their own homes and living independently in the community. The strategy notes the importance of adaptions, interventions and housing design, with an acknowledgement of the importance of front-line housing staff:

> *The frontline housing officers and technical staff, who deliver these housing-related services, may often be working with people who have dementia, most likely in the early (sometimes undiagnosed) stages. Many staff would benefit from an increased understanding of what dementia is, how to identify the signs and what to do next to help support people with dementia (Scottish Government 2013: 10)*

In regards to commitment, the emphasis has been and continues to be on the role of adaptions. Commitment 5 in the strategy is one of the key areas for housing:

> *COMMITMENT 5: We will take further action to support safe and supportive home environments and the importance of the use of adaptations and assistive technology, in maintaining the independence and quality of life of people with dementia and their carers (Scottish Government 2013: 10).*

The Christie Commission (2011) heralded a reform and 'renewal' of public services in Scotland with an emphasis on partnership, integration, investment and improvement. Within this context, local government strategy in Scotland around dementia is expected to have a place within the health and social care

integration agenda. The Public Bodies (Joint Working) (Scotland) Act established the legal framework for integration to be implemented by April 2016 and aims to bring together NHS and local council care services in partnership with the housing sector. This integration is focused on:

> *'Enabling people to stay in their homes, or another homely setting, where possible, sharing their lives with their family and friends, doing the things that give life meaning and value' (Scottish Government 2014).*

The National Health and Wellbeing Framework (Scottish Government 2015) does not have a focus on housing in regards to the health and social care integration agenda, although the Joint Improvement Team (JIT 2015a) have been active in integrating housing into the delivery of health and social care. They note that Health and Social Care Integration is not just about health and social care services in that:

1. Some 'housing' functions will become part of the integration arrangements with the lead responsibility shifting to health and social care.
2. Delivering the national health and wellbeing outcomes set out in the new Regulations will require people to be supported (e.g. aids and adaptations) so that they can live in their own home for longer
3. The strategic planning process will expect to take into account the information contained within local housing strategies.

The policy framework in Scotland for housing and dementia encompasses different sectors and is therefore still developing and evolving. At the same time, there are many other dementia specific initiatives that affect organisations and people in Scotland. European, national and local policies further promote the idea and drive for 'dementia friendly communities' (see NEF 2014). The JRF programme *Dementia Without Walls* outlines images, videos, stories, blogs, diaries, toolkits and reports linking to the idea of dementia friendly communities where *"… one in which every person with dementia, and their families, feels included, welcomed, supported, listened to and understood"* (Joseph Rowntree Foundation, 2013). Morgan and Williamson (2014) note that the concept overall is not well defined but includes:

- Greater public awareness of dementia, and how to relate to people living with dementia.
- People's openness to being supportive to those living with dementia (such as their neighbors or customers).
- Being more inclusive, encouraging people to remain active in society.

Related to this, but slightly different, is the *Dementia Friends* and *Champions* initiative, which is to encourage more people to be dementia aware and enhancing the interaction with those living locally with dementia (Alzheimer's Society 2015). The Scottish Dementia Working Group (SDWG) is also group of people with

dementia who give up their time to promote better care for people with dementia through awareness raising, lobbying and educational work,

In the housing sector more specifically, the role of housing in dementia care was recently explored in a report for the National Housing Federation that explored early diagnosis, intervention and best practice in housing (Andrews and Molyneux 2013). In Scotland, the *Improving Housing and Housing Services for People with Dementia* survey (DSDC/JIT/CIH 2014) centered on awareness raising, design practice guidelines and partnership support and development. 76% of the respondents believed there is a role for housing staff in working with people with dementia but that linking up to other organisations can be a challenge, with support being sporadic. The next sections explore these key issues more closely.

1.2.   Empowerment and Choice

Dementia as a syndrome is understood as a deterioration of the ability to process thought and although related mostly to memory problems, it can impact on orientation, comprehension, calculation learning, language and judgement. Understanding of dementia has developed into a broader has developed to a bio-psycho-social condition through the interplay of neurological damage, personal psychology and the social and physical environment, with the personhood of those living with dementia becoming central (Kitwood 1997). The housing setting has been seen to be significant to the wellbeing of those living with dementia (Kitwood 1995).

Empowerment, choice and belonging are key to the quality of life of older people, especially those living with dementia. McLaren et al (2013) have noted that housing type is central to generating a sense of belonging and elevating depression in older age, with those in assisted living facilities experiencing lower levels of belonging. In a review of the design contributions of older adults, Jacelon and Hanson (2013) noted that service user involvement can improve the desirability of homes. However, in a review of the literature Evans and Vallelly (2007: 23) noted that:

> *Opportunities for service users to be involved in decisions about care delivery*
> *and service development on an ongoing basis are increasingly seen as central to*
> *a sense of well-being. However, older people in a range of residential settings*
> *appear to have relatively low levels of participation in such decision making.*

The concept of increasing quality of life is a key element to thinking about the positive outcomes that housing can provide for those living with dementia. The housing setting is important to dementia, with studies suggesting that purpose built and staffed housing is better for promoting quality of life for older adults with dementia (Reimer et al. 2004). Furthermore, examples of interventions in extra care housing have also seen to have long term positive impacts on the quality of life of those living with dementia (Brooker et al. 2011).

However, the social needs of those living in residential care have not been met in some cases (Hancock et al. 2006).

The idea of co-production in public services aims to address the needs of those who have remained relatively powerless within the decision making process within services. In East Dunbartonshire, co-production with those with dementia was explored to transform the current service system. They support 'co-production as a default' in the commissioning, designing, delivering and assessment of public services connected to their needs as it improves personal and social outcomes (JIT 2015b). Therefore the literature not only supports the improvement of empowerment and choice but the mechanisms, such as co-production are already developing in relation to housing and dementia.

1.3. Design

One of the more developed areas of the literature that connects dementia and housing is around design. Often housing solutions are targeted to the use of technology and implementation of modifications to the housing environment (van Hoof et al. 2009). These are the tangible, physical changes that can be made to support those living with dementia in a variety of tenures. This ranges from the wider outside environment such as parks and gardens (Rodiek and Schwarz 2013), to home care (Soares-Weiser 2011) to specific environments such as care comes and nursing homes (Karim et al. 2012). Wider design recommendations for housing older people have been outlined in the HAPPI (2012, 2009) reports.

The role of architecture and the wider building sector is key in supporting those with dementia long term, as particular issues around signage, furnishings, lighting and colours 'cannot compensate for an adverse architectural design' (Marquardt 2011). This highlights the need to thinking about housing and dementia from the very beginning of the planning and development cycle to the final social environment of the resident.

Marshall et al. (1997 in Utton 2009) outline an international consensus on design principles that include:

- design should compensate for impairments;
- design should maximise independence;
- design should enhance self-esteem and confidence;
- design should demonstrate care for staff;
- design should be orientating and understandable;
- design should reinforce personal identity;
- design should welcome relatives and the local community;
- design should allow the control of stimuli.

Despite these universal principles, design in housing is focused most strongly for specialist housing, care homes and extra care housing. Utton (2009) outlined the principles of design for dementia care for care homes and extra care housing that include:

- Physical: requiring a wheelchair, walking frame or handrail;

- Visual: no or partial sight;

- Aural: full or partial deafness;

- Cognitive: dementia, which can be mild or severe and affects individuals in different ways.

At the moment, public policy and practice in the housing sector is very much focused on accessibility and adaptions, but the literature highlights that this is only a part of the overall design elements that should be taken into account. Indeed, the environment is linked widely to quality of life issues (Brawley 2001) and the generation of person-centered care (Aeisel 2013; Chaudhury 2013). Utton (2009) noted that the built environment is just one aspect of a person-centered care approach and that:

> *'The design and layout of buildings should allow, facilitate and add to the quality of care and to the quality of life of the residents, their families and the people who provide care for them' (Utton 2009: 390).*

People living with dementia often have other, wider health issues such as sight and hearing impairments. Judd *et al*, (1998) set out some of the early issues for designing for dementia although the more recent design guidance takes this into account account integrated solutions. Greasley-Adams et al. (2014) outline the good practice design of homes and living spaces for people with dementia and sight loss (more details in the next section) but one of the key documents for housing staff working with individual tenants and residents is the DSDC (2013) guidance on *Improving the design of housing to assist people with dementia* that outlines key areas of design in the external and internal environment. Linked to the Scottish Government dementia strategy (2013), the guidance gives implications for new build housing, refurbishment and aids and adaptions.

1.4.   Service delivery arrangements

Integrated service delivery is a challenge as ageing, dementia and housing are often treated as separate entities within social policy initiatives (O'Malley and Croucher 2003) and the role of front-line housing workers have often been overlooked. This is despite 58% of housing workers responding to the housing and dementia survey in Scotland having contact with someone with dementia and 25% having regular contact (DSDC/JIT/CIH 2014). In response to this, Alzheimer Scotland's (2012) *8 Pillars Model of Community Support* is useful for thinking about delivering integrated dementia care:

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Housing is an 'essential component' under Pillar 7, the Environment with the focus on adaptions, aids, design and assistive technology to maintain independence of those living with dementia and carers. The Dementia Practice Coordinator is aimed to be linking housing practitioners with OT's, physiotherapy and nursing practitioners (Alzheimer's Scotland 2012).

Literature around service delivery is very much focused on the *management* of dementia. This is focused on nursing homes, ward and care home environments especially. The management arrangements around dementia have also had a high-level of criticism (Peck 2004) and two thirds of those with dementia live at home (Alzheimer's Society 2014).

Whatever tenure, however, community care has had a strong emphasis in both housing and dementia policy. Alzheimer's Scotland's (2008) evaluation of community support services in day care, home care and overnight respite noted that although specialist dementia care was valued there was a shortfall in this type of provision and in Scotland. There was also a shortfall in homecare provision in many local authorities.

Therefore, although there has been development of service delivery policy there still remains much that housing can support in regards to partnership, management and community care around dementia.

1.5. Technology

Technology within dementia care often refers to assistive technology, where technological advances can support those living with dementia, increase the possibilities of independence and enhance safety. The potential of assistive technology is promoted in the Scottish Government's (2013) dementia strategy but the

literature available frames the use and understanding of technology in relation to dementia as still controversial (Cash 2003).

Bowes et al (2013) looked at the literature surrounding the cost effectiveness of assisted technology in supporting people with dementia. They note that the outcomes for assisted technologies are complex and highly variable with intended impacts including cost reduction, improved services, quality of life for people with dementia, improvements for support of those with dementia, families and care givers and providers. Development costs are a clear barrier to the development of technology for dementia care but also there were issues highlighted for staff. Technology could in fact be seen to disempower staff and training for housing tenants and staff buy-in was seen as extremely important.

Telecare is one of the more dominant forms of technology that has been utilized and promoted in housing (Alzheimer's Society 2012). The Scottish Government Health and Social Care directorate have a high interest in this area, especially looking at the benefits of telecare to support those with dementia. An evaluation of the Renfrewshire Partnership project (Health Economics Consortium 2013: v) noted that:

> *… Telecare can be used to support a significant proportion of dementia sufferers to live in the community; they, and their carers, are generally satisfied or highly satisfied with the service. Staff and the Police see major advantages; NHS staff seem increasingly accepting of it. It has also shown the key resource saving is likely to be care home admissions avoided.*

McClatchey et al. (2001) note that in housing there are areas in need of improved support, such as adaptions aids access to housing benefits and repairs. Front-line housing staff often felt 'ill-prepared' to work with those with dementia and did not realise the potential support they could provide. Therefore, although technology has developed, and the benefits of it have been highlighted in the literature, this still seems focused on special initiatives rather than streamlined into housing practice.

1.6.   Partnerships, roles and relationships

The Scottish Dementia Strategy (2010; 2013) takes a strong partnership approach and joint working is central to the delivery of services for those living with dementia. Research has shown that:

> *In order to ensure older people are supported to remain within the community and at home, social housing providers need to develop interventions and relationships with other relevant partners to ensure older tenants living with a diagnosis of dementia are supported effectively (Hucker 2014).*

Andrews and Molyneux (2013) note the key partners that need to communicate to overcome fragmented dementia pathways include:

- Local authorities
- Housing providers
- Home improvement agencies
- GPs
- NHS

The role of Allied Health Professionals in increasing good dementia practice in Scotland has had a very positive impact (Gordon and Griesback 2015). Gordon and Griesback (2015) noted the central role of AHP consultants in supporting joint-working and strengthening relationships between different partners. Other types of partnerships are also working through different models such as the Dementia Adviser Service and Peer Support Network (Department of Health 2009). However, The Alzheimer's Society (2012) *Home Truths* report noted that

> *'To meet housing needs of people with dementia, there must be a greater commitment to co-ordination of services, provision of information, funding for adaptions and choice in housing options'*

Within the wider partnership agenda, relationships are also important for the housing sector as relationships are central to the creation of a meaningful and inclusive home environment. A 'home-like' physical and social setting for those living with dementia (Robinson et al 2010).Relationships were also highlighted as significant in the *Brighter Futures* report, where those in regular contact with other residents had significantly higher levels of well-being in nursing, care home and dementia care settings (Kitwood et al.1995).

Dementia Partnerships is a specialist knowledge portal catered to overcome the partnership issues around dementia. They provide a partnership mind map (see references) connected to the cross cutting themes of Commissioning, Leadership, Outcomes, Networks, and Voices. Housing solutions are set within the 'supported well' theme with issues around design solutions, care homes and innovative models of care all linked to effective partnership working.

2. Best practice and innovation in dementia care

This section at the report focused less on the wider picture of housing and dementia issues to highlight more of the practical elements for housing practitioners. However, it should be noted that:

> *'Throughout the policy literature there is little to guide practitioners, service planners or relatives in housing-related choices or issues for older people with dementia'. (O'Malley and Croucher 2003: 571).*

Best practice in dementia care must go beyond the physical elements of housing to the centralization and development of social relations meaningful to everyone in the network – including the family, staff, carers and of course person living with dementia (Nolan et al. 2002). However, relationship practice has not developed to the point where social relations are understood as essential to dementia care (Robinson et al 2010). For the housing sector, 63% of housing organisations do not have a dementia strategy (Hucker 2014).

The literature around best practice in housing and dementia is very much scattered. Often housing has been taken into account as a secondary element within the dementia literature. However, this section aims to bring together some key points around the more practical steps for housing practitioners in regards to housing and dementia.

2.1. Access, empowerment and choice

Owen (2006) promotes the importance of involving older people in decision making processes in housing settings. However, many people in a range of tenures do not participate in decision making, and Abbott et al. (2000) argue for a change to practice to enable older people to participate. Arneil Johnston (2014: 11) noted in their review of the literature on the demands and expectations for older peoples' housing that:

- Access, Empowerment and Choice need to be at the heart of future solutions;
- Consideration needs to be given to how a personal outcomes approach can be embedded in future product and service delivery thereby maximising choice;
- It should be noted that the personal outcomes approach so central in health and social care has major similarities with the 'Housing Options' agenda; and
- Partners should consider how the personal outcomes agenda, combined with the housing options agenda might shape their future product and service development to maximise customer access, empowerment and choice.

A discussion paper on housing options for people with dementia (Dementia Care 2015) noted that although the majority of people with dementia choose to live in their own home, issues can include:

- Loneliness and social isolation.

- Care and support (unpaid or professional) falling short of the level required.

- Home maintenance becoming more challenging.

- The cost of running a home becoming an issue.

The movement to co-production of services in housing and dementia has already been highlighted (JIT 2015b) but work within housing areas such as tenant participation and tenant scrutiny have yet to focus on dementia specifically. Indeed, for the housing sector the overall idea of tenant participation is still being developed (see JRF work around tenant participation). The most common ways that housing organisations engage older residents includes consultation and decision making committees (Hucker 2014). This may be connected to housing workers general unfamiliarity with dementia assessment and intervention.

2.1.1. Assessment and intervention

The DSDC/JIT/CIH (2014) survey of the housing sector in Scotland indicated that front-line workers would like more information and training on dementia as an illness and the related behaviors to look out for. The

Cognitive Impairment	Behavioural Manifestation	Functional Limitations
Memory	Personality, behavioural and mood changes	Self-care
Confusion	Apathy	Activities of daily living
Concentration	Anger	Balance and gait
Disorientation	Anxiety	Motor skills
Language	Sleep disturbance	Visuo-spatial difficulties
Learning capacity	Delusions	
Judgement	Hallucinations	
Thinking	Physical aggression	
Comprehension	Depression	
Calculation	Disinhibited social behaviour	
Time perception		

Alzheimer   **Figure 1: Alzheimer Scotland 8 Pillars model 2012: 7**   Scotland's 8 Pillars model

outlines the range of symptoms as:

However, housing practitioners should keep in mind that these differ as people's journeys are dynamic and individualized. The next step after understanding dementia is the steps to intervention. The focus on intervention for housing and dementia is on early intervention:

The value of housing and early intervention (Table 3)
Figure 2: in Andrews and Molyneux 2013: 14
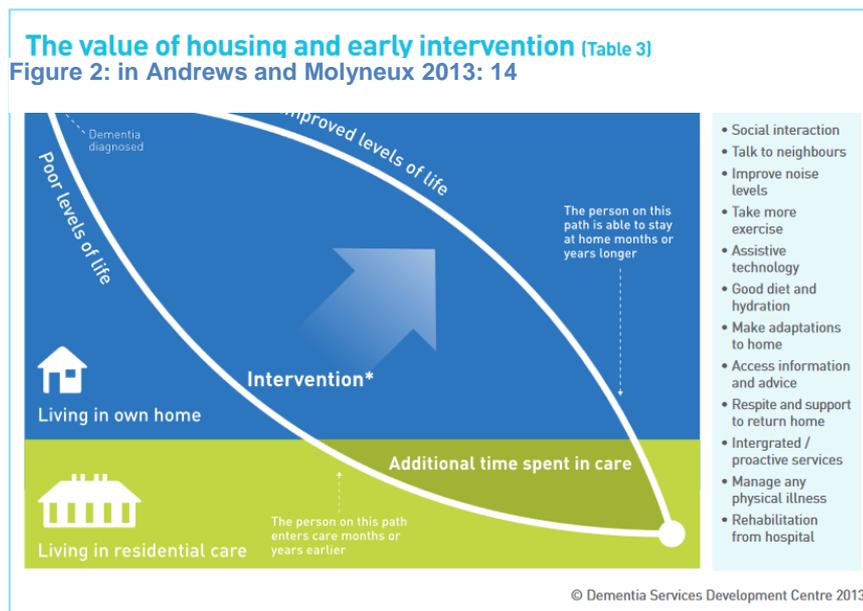
Housing interventions are central to the assessment tool developed by the Housing Learning and Improvement network (Housing LIN 2016). Housing LIN (2006) frame service delivery within three housing elements that include:

Physical Environment	Services and interventions	People and networks
• Homes – range of tenures and types, from general needs to specialist	• Support services enabling people to live independently in their home (not social care)	• Housing sector workforce and volunteers
• Re-modelling or refurbishment of existing homes and housing schemes to be more dementia-friendly	• Safeguarding interventions such as awareness raising amongst customers	• People with dementia and their families and carers
• Home adaptations	• Dementia awareness-raising sessions for customers	• Community groups and networks that housing organisations link into
• Aids and assistive technology devices	• Health and wellbeing services, including identifying signs of dementia and encouraging early diagnosis	• Multi-agency forums and multi-disciplinary working
• Repair and handyperson services	• Alarm call and monitoring services	
	• Working towards becoming dementia-friendly organisations	
	• Working with others to develop dementia-friendly communities	
	• Group activities within their sheltered or ECH schemes open to older people in the wider community which fulfil a preventative function as well as providing information, advice, peer support or stimulation to people with dementia and their carers	
	• Home from hospital schemes	
	• Step-up and step down services	

Figure 3: Housing LIN 2006: 5

In regards to technological intervention, Bowes and McColgan (2009) conducted a 3 year evaluation of the West Lothian telecare programme that focused on both care home and housing within care settings. The benefits included:

- Staff working in a new culture of care, emphasizing support and capacity building;
- client satisfaction;
- quality of life for both older people and unpaid family caregivers;
- local authority performance in terms of — delivery on performance indicators; and — the supply of good-quality services at low cost.

Therefore, there are benefits to housing intervention in the literature but clearly a wide range of types of intervention in practice. The emphasis is on individualized, personalized care when possible.

2.1.2. Barriers to access: Social isolation and stigma

People with dementia and those that care for them continue to face a range of challenges including social disconnection and loneliness. A third of those living with dementia (33%) said they lost friends following a diagnosis and more than a third (39%) of people with dementia responding to the survey said they felt lonely

(Alzheimer's Society 2013). There is a noted prevalent stigma attached to a dementia diagnosis, which hinders diagnosis, care and research (International Longevity Centre UK 2014).

Pannell and Blood (2012) in their review of the evidence for supported housing for older people in the UK noted that residents with dementia were often seen as a negative light by existing residents who could view the resident with dementia as a safety threat. Increasing awareness and support that enhanced integration was seen as best practice in these instances.

2.2.   Processes and Pathways

Only 58% of those responding to the housing and dementia survey in Scotland said they knew what to do when coming across someone who they thought may have dementia (DSDC/JIT/CIH 2014). This is a very important element to address, as early diagnosis is important as it 'provides access to a pathway of evidence based treatment, care and support' across the dementia journey (Alzheimer's Disease International 2011). Andrews and Molyneux (2013) noted that 'integrating housing into the dementia care pathway can deliver better outcomes, better value for money and help to meet the aspirations of those living with dementia'

Supporting those with dementia is also aimed equally at supporting the carers. The literature on housing and dementia is weighed heavily on supported accommodation settings and special initiatives. However:

> *The weight of literature in this scoping study dealing with special/ collective settings is perhaps misleading in the sense that had carers' issues been included there would have been much greater emphasis placed on ordinary/ domestic settings (O'Malley and Croucher 2003: 572)*

McCall et al (2016) have noted in their research looking at dementia, housing and volunteers that the services involved in supporting those with dementia often see the carers and services users as a 'package'. Yet, there remains little and inconsistent research for supporting those with dementia in ordinary housing (O'Malley and Croucher 2003: 572). Furthermore, the Department of Health (2009) noted a lack of evidence in two service support models, namely enabling easy access to care, support and advice and development of structured peer support learning networks.

HACT and the NHF published an implementation support guide for care pathways that has lessons that are also useful for Scotland. Notably, it has to be acknowledged that no single agency can deliver housing and dementia outcomes, investment in the workforce and skills are needed. A connected care pathway focuses on:
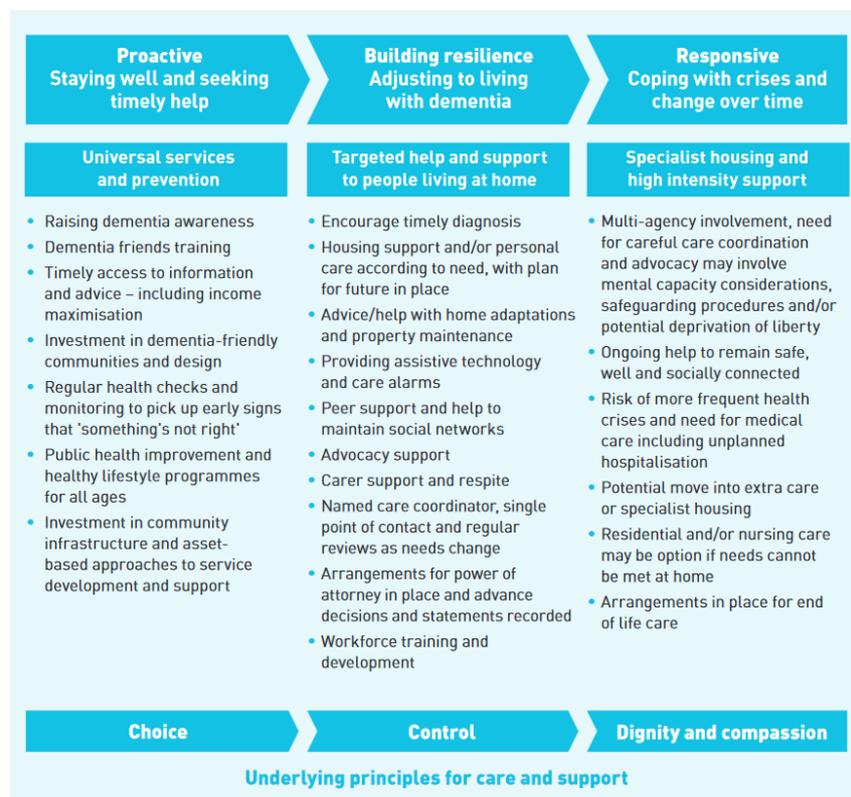
Figure 4: Elements of a connected care pathway (HACT and NHF 2015: 6)

However, there are 5 stages that reflect the overall pathway including 1. Early symptom identification and first service encounters 2. The assessment process 3. Diagnosis 5. Post diagnosis support and 5. Access to appropriate interventions as needs change (Samsi and Manthorpe 2014 in HACT and NHF 2015: 7). They note that a clear pathway in for those with dementia is anything but clear, and must be integrated into other strategies for older age.

2.2.1. Planning and design

In a review of the best practice in promoting social-wellbeing in extra-care housing, Evans and Vallelly (2007) noted the importance of 'imaginative and accessible design that promotes a sense of community'. DSDC (2013: 35) guidance also gives the top 10 housing adaptions and priorities for best practice in dementia design within four priority areas:

1. Double the usual levels of lighting in the home.
2. Pay attention to acoustics and reduce noise pollution.
3. Ensure there is good signage mounted low enough for older people.
4. Use contrast of tone (rather than colour) to differentiate between walls, skirting boards and floors. Ensure that the tone of flooring/paving is consistent throughout the house and also in outside areas.

5. Use contrast of colour or tone to make switches and objects easily visible.

6. Use objects or pictures rather than colours to differentiate between rooms and different parts of the building.

7. Ensure that kitchens and bathrooms are easy to understand. Avoid modern fixtures and fittings such as taps or kettles.

8. Ensure that people can see important rooms such as the toilet, as easily as possible, and that furniture and fittings clearly indicate the purpose of each room. Use unambiguous signage on the doors of rooms.

9. Place illuminated clocks in each room indicating whether it is am or pm

10. All doors should ideally be visible on entering the dwelling. Cupboards should be glass-fronted or open.

Four priority areas

1. Improve lighting
2. Ensure flooring/paving is consistent in tone
3. Ensure the toilet is easy to find
4. Ensure good contrast in the toilet/bathroom

Greasley-Adams et al (2014) outline the good practice design of homes and living spaces for people with dementia and sight loss. The key design elements are centered on recognition of individuality, upholding people's dignity, independence and right to their own choices. Best practice guidance centers around the following themes:

- Colour and contrast – strong colour and contrast can facilitate independent living as older people may experience colours as 'washed out; and different tomes of grey, blue, greens and purples are harder to differentiate. Using colour and furniture that contrasts can highlight hazards and improve safety. The most famous example is contrasting toilet seats to make surfaces more visible.

- Lighting – maximizing natural light is a key design feature that can help visual stimulation and movement. The choice of artificial lighting is important, with lower energy bulbs being seen as less effective. Appropriate lighting can promote independence and help sleep patterns, with the preference for setting up lighting so residents can have full control and choice

- Fixtures and fittings – one of the key elements that can facilitate independence. Handrails and grabrails are important near stairs and steps and should be in contrasting colours. Markers to move around the house can also be useful at key signal points. Rugs and mats should be avoided as tripping hazards although people do feel more at home with familiar furnishings. Appropriate controls and switches are important for residents to operate them safely with larger screens and controls

easier to use. Best practice could also include audible confirmation when things are switched on. Light switches and electrical sockets need to be clear and positioned as easily accessible.

- Signage – clear, easily seen signage can help movement and independence. Meaningful visual representations can help locate key areas such as the bedroom or toilet more easily. Often photographs and labels also help.

- Safety – alarms and systems must be easily accessible with audible confirmation when keys are depressed some of the easier ones to use. Intercoms that can be accessed anywhere in the house and an audible warning with the door is opened can enhance feelings of safety.

- Outdoor spaces – Easy access to gardens with minimal door thresholders make it easier for people to go outside. Well defined paths and free-flowing loops can minimize trips. Hand rails in gardens have been found to be useful with outdoor spaces having appropriate lighting and contrasting colours help outline hazards.

2.2.2. Commissioning and delivery

In terms of commissioning, Housing LIN (2016) with the LGA, Public Health England and Alzheimer's Society has developed a toolkit for practice. The toolkit helps practitioners to gather data and intelligence to inform commissioning. This covers local market data, local policy and plans, the physical environment and monitoring. This document also outlines a variety of links and resources for housing practitioners that will help not only with commissioning but the delivery of a wide range of services.

However, Arneil Johnston (2014: 27) noted in their literature review that:

- Procurement and Commissioning remains complex and is in a period of change.
- The specialist RSL movement needs to find ways of engaging at a strategic level with commissioning partners to champion new models of delivery and secure appropriate investment.
- Self-directed funding presents a clear opportunity for the specialist RSL movement to develop new services and products which meet customer demands.

Effective service delivery still remains a challenge as organisations still face barriers to integration and joint working.

2.3. Best Practice in Housing

Andrews and Molyneux (2013) outline examples of best practice in housing. Some key themes from these examples include:

- The central role of front-line housing staff and training
- Importance of sharing information and improved access to information
- Personalization of services in response to residents dementia care needs

- Building relationships with GPs

- Working with the voluntary sector to support wider services such as Care or Repair

- Liaising closely with the NHS, especially in times where there has been a hospital visit

- A focus on maintaining independence

- Providing tailored activities for those living with dementia

- Utilising assisted technology to increase independence

DSDC also have a virtual tour to show best practice in housing design, interior and exterior: http://dementia.stir.ac.uk/design/virtual-environments

For the workforce, Garwood (2014) outlines best practice for housing providers that include:

1. Encouraging staff and customers to take advantage of free Alzheimer's Society Dementia Friends sessions and supporting those willing to go on to become Dementia Friends Champions

2. Making dementia awareness a core element of induction for all staff

3. Developing a dementia-awareness and training offer that suits their organization's approach and customer base, and in line with the different staff categories outlined in this report, using external resources as necessary

4. Involving people with dementia and their carers where possible

5. Supplementing training with other sources of information to reinforce key messages

6. Supplementing training with support and guidance appropriate to the staff member's role

7. Gearing up the Human Resources department to respond to those who come forward with personal experience of dementia

In regards to training, the SSSC are working with the CIH and JIT in developing the housing workforce to be more active in dementia support through their Promoting Excellence workshops. On a similar note, DSDC have also launched a dementia programme focus on professionals. The CIH have developed focused training on housing and dementia and postgraduate programmes in Housing Studies, such as that at the University of Stirling have a focus on Healthy Housing and dementia.

2.3.1. Models of service delivery and technology

Models of delivery are complex as they must take into account that dementia is often a dynamic mixture of physical, clinical, physiological and social factors. O'Malley and Croucher (2003: 572) found five dominant housing types for those living with dementia:

- own home/other family home

- sheltered housing

- very sheltered housing

- long-stay residential care

- end-of-life care

As has been shown in the previous section, community care has had a strong emphasis in both housing and dementia policy. However, Alzheimer's Scotland's (2008) found that there was an overreliance on traditional models of day care. In Scotland we have moved to a:

> *A bio-psychosocial approach to understanding the experience of dementia provides an appropriate model to identify the factors that determine the nature of dementia, progression of the illness and appropriate interventions (Alzheimer's Scotland 2012: 12).*

Specialist dementia care settings have continually been assessed as significantly better for the quality of life for those with dementia (Weyerer et al. 2010) although there is more acknowledgement of the dynamic nature of the dementia journey and need to develop better support for those living at home. However, alternatives to care home provision have been less developed in Scotland and *A Better Life* Programme (JRF 2013: 9) recommended the development of:

- The diversity of supported housing provision
- The need for a broader range of age-friendly housing options, both general and specialist
- The complexity behind the commissioning, funding and delivery of housing with care
- The differing expectations of residents, family, staff, providers, commissioners and regulators as to what housing with care can offer
- The fostering of mutually supportive relationships both within such
- developments and between specialist housing and the wider community
- The need to acknowledge and mediate between contested roles and responsibilities in housing with care schemes
- The influence of perceptions of affordability and value for money on the decision-making of older people
- The uncertainties generated by the complexity and inconsistencies of different eligibility and entitlement systems for state help and the uncertainty for the individual as to what the future may bring in terms of needing care and how much it will cost benefit
- A number of practical areas which could benefit from improvement: workforce and management; partnerships; commissioning; welfare benefits advice; resident involvement

Personalisation of service model, as supported by Alzheimer's Scotland (2010), is needed in response to increased demand and complexity of needs. Personalisation models enable people with dementia and carers that have barriers to using direct payments the chance to still have a personalized service. The key to

this model is flexibility, awareness, and the streamlining of systems and partnerships between social work and local authorities (Alzheimer's Scotland 2010).

In regards to assistive technology, Cash (2003) gives insight to the priority issues for practitioners, giving the examples of the Gloucester Smart Housing, a joint research and development project between Dementia Voice, Housing 21 and the Bath Institute of Medical Engineering. Those in the focus groups highlighted issues such as:

- Safety with gas
- Fear of flooding
- Fear of the person with dementia falling, especially at night
- Safe dispensing of medication
- Fear of people walking out of the house and getting lost
- Need for purposeful activity
- Forgetting keys

These were seen as areas that technology in a housing environment specifically can help and support. The evidence suggests that technology did not help *regain* independence, but can help *maintain* living in a community setting. So the use of technology in the dementia journey has to be timely.

Fleming (2011) developed an environmental audit tool and Heijmen and Manthorp (2011) outline international models for dementia care. In Sweden, a group-living model has been developed in residential homes with specially trained staff (van der Voordt, 1997). Examples of 'dementia cottages' that are developed to being more 'home-like' in nature were much more attractive for both residents and their family members.However, Robinson et al. (2010: 491) argue that 'care models lacking in attention to effective relational care practices, both philosophically and in practice, will be unable to create a meaningful home for persons with dementia'.

The literature now leads us to ask key questions in response to the issues outlined. These are in the section below for consideration.

3.   Key questions

3.1. How do we promote housing and dementia within the health and social care agenda?

3.2. How can housing organisations promote and support independence in the home setting?

3.3. How do we manage the negotiation between safety and service-user choice and empowerment?

3.4. Could current channels for tenant participation and tenant scrutiny include those living with dementia?

3.5. How do we approach housing design and go beyond adaptions for more integrated solutions and support?

3.6. Can assistive technology be streamlined into housing practice?

3.7. How do we advance our understanding and support of dementia and housing for those living at home?

3.8. How do we promote and integrate dementia considerations into the full housing process i.e. from housing development to interior design to the final social environment of the resident

3.9. How can models of service delivery take into account relational care?

3.10. How do we fill the gap in knowledge about the role of front-line housing staff in supporting those with dementia?

3.11. What are the realistic alternatives to traditional models of day care?

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