

<b>Institution:</b> University of Stirling		
<b>Unit of Assessment:</b> 20. Social Work and Social Policy		
<b>Title of case study:</b> Changing professional practice in design, modification and adaptation of spaces and places for people living with dementia		
<b>Period when the underpinning research was undertaken:</b> 2009-2019		
<b>Details of staff conducting the underpinning research from the submitting unit:</b>		
<b>Name(s):</b>	<b>Role(s) (e.g. job title):</b>	<b>Period(s) employed by submitting HEI:</b>
Alison Bowes	Professor in Sociology	1977 – Present
Alison Dawson	Senior Research Fellow	2003 – Present
Anthea Innes	Senior Lecturer in Dementia Studies	2001 – 09/2005, 04/2016-11/2018
Fiona Kelly	Lecturer Dementia Studies	2004 – 04/2014
Grant Gibson	Lecturer Dementia Studies	04/2015 – Present
Jane Robertson	Lecturer Dementia Studies	10/2012 – Present
Louise McCabe	Senior Lecturer in Dementia Studies	2002 – Present
Ozlem Dincarslan	Research Assistant	2000 – 09/2013
Catherine Pemble	Research Fellow	01/2019 – 11/2020
<b>Period when the claimed impact occurred:</b> 1 <sup>st</sup> January 2014 - 31 <sup>st</sup> July 2020		
<b>Is this case study continued from a case study submitted in 2014?</b> No		
<b>1. Summary of the impact</b>		
<p>Research in Social Work and Social Policy at the University of Stirling has identified how spaces and places can be designed to improve quality of life for people living with dementia. Because of research at Stirling, commercial and professional design practice has changed across the world to respond to the needs of people living with dementia. Care facilities are now designed and being remodelled, and public and green spaces are being adapted and used so that they support people to live better with dementia and to be socially and physically active in their communities. These impacts are across the world, in Australia, Cambodia, Canada, India, Japan, New Zealand, Singapore and USA, as well as throughout the UK.</p>		
<b>2. Underpinning research</b>		
<p>The University of Stirling is an international centre of excellence providing research and design support for both professionals and individuals seeking to improve spaces and places for people living with dementia. This case study draws on our research on design of places and spaces that has investigated homes, the objects and fixtures within them and outdoor spaces. Our research is underpinned by our ethos of engagement with people living with dementia, who are involved not only in contributing data, but also in evaluating the analysis and conclusions of the research. Our findings, recommendations, and subsequent impact thus rest on a fundamentally inclusionary approach: we have brought a social science perspective into design.</p> <p>Dementia is an international challenge for ageing populations, with 850,000 people in the UK (Alzheimer's Research UK) and 50 million world-wide affected by the condition (Alzheimer's Disease International). Spaces and places that people use can magnify or mitigate the effects of the condition and good design can enable people with dementia to live their lives more fully. Our applied research has focused on identifying, understanding, and changing design to help address the significant global challenge of dementia.</p> <p>Our research on home and care environments (<b>R1, R2, R3</b>) has been externally funded by trusts including the Dementia Services Development Trust (<b>R1, R2</b>) and the Thomas Pocklington Trust (<b>R3</b>). We have carried out both critical systematic review of existing evidence and original research using interview, discussion group, and observational data from people with dementia, their carers, and service providers.</p>		

Our analyses of these data (**R1**, **R2**, **R3**) have been translated into recommended design strategies and environmental design features for use by architects, service planners, designers, and people in their own homes to promote changed professional practice. Research participants have been involved in developing the recommendations through workshops which drew both on the research synthesis (**R2**) and on the detailed empirical research findings (**R1**, **R3**).

Our research identifies evidenced innovations that help people find their way around more easily and understand their environment. The innovations can also address problems, such as behavioural difficulties and distress that unsuitable environments can cause in interaction with the condition of dementia. The research (**R3**) showed, for example, that sensitive use of colour and contrast in a building could enable people living with dementia to overcome visual disturbances associated both with dementia and with the ageing eye. It identified practical responses for service providers to implement such as ensuring lighting is adjusted to individual needs. The recommendations were validated through extensive consultations with people living with dementia.

Within the home, we have demonstrated that carefully-designed fixtures, fittings and objects can support living better with dementia (**R1**, **R2**). We have also shown (**R4**) how people living with dementia and their carers use and interact with objects, using them creatively to address their own particular challenges. For example, carers adapt everyday objects to make them more usable by a person with dementia, such as by covering up buttons on a microwave. This research demonstrates the significance of personal preferences, choices, and actions in the context of seeking and providing supportive design.

Outside the home environment, we have studied ways to make the natural environment, including green spaces in urban settings, more accessible and friendly for people with dementia, who have been excluded from the benefits of sociable walking. Our research for Paths for All (**R5**, **R6**), a Scottish charity that exists to increase walking for everyone for health and well-being, recommended ways of including people with dementia in walks, as well as identifying ways in which all aspects of walks – organisation, leadership, content and recruitment – could be made more dementia-friendly. We demonstrated benefits of the walks for people living with dementia, including better health, sociability, better relationships, and enjoyment.

Throughout, our research supports the need for an emphasis on the ability and capacity of people with dementia, rather than disability and deficit. We involve them in research, listen to their perspectives and build understanding of how they interact with homes, objects, and open spaces.

### 3. References to the research

**R1.** Innes A, Kelly F and Dincarslan O (2011) Care home design for people with dementia: what do people with dementia and their carers value? *Aging and Mental Health* 15,5:548-56. DOI: [10.1080/13607863.2011.556601](https://doi.org/10.1080/13607863.2011.556601).

**R2.** Bowes A and Dawson A (2019) *Designing environments for people with dementia: a systematic literature review* London: Emerald (original research conducted 2010-11). DOI: [10.1108/978-1-78769-971-720191002](https://doi.org/10.1108/978-1-78769-971-720191002). (submitted to REF2).

**R3.** Bowes A, Dawson A and McCabe L (2018) Developing best practice guidelines for designing living environments for people with dementia and sight loss *Ageing and Society* 38,5:900-925. DOI: [10.1017/S0144686X16001409](https://doi.org/10.1017/S0144686X16001409).

**R4.** Gibson G, Dickinson C, Brittain K and Robinson L (2018) Personalisation, customisation and bricolage: how people with dementia and their families make assistive technology work for them. *Ageing and Society* 39,11:2502-2519. DOI: [10.1017/S0144686X18000661](https://doi.org/10.1017/S0144686X18000661).

**R5.** Robertson J, Gibson G, Pemble C, Harrison R and Thorburn S (2018) *Dementia-friendly Walking Project: Evaluation Report*, Available at: <https://www.pathsforall.org.uk/resources/resource/dementia-friendly-walking-project-report>

**R6.** Robertson J, Gibson G, Pemble C, Harrison R, Strachan K, Thorburn S. (2020) "It is part of belonging": walking groups to promote social health amongst people living with dementia *Social Inclusion* 8,3:113-122 DOI: <http://dx.doi.org/10.17645/si.v8i3.2784>

#### Research grants

- (2009-10) Design for people with dementia, Dementia Services Development Trust GBP18,748 PI: Anthea Innes (supported R1)
- (2010-2011) Designing environments for people with dementia, Dementia Services Development Trust GBP20,000, PI Alison Bowes (supported R2)
- (2012-2014) Best practice in the design of residential environments for people living with dementia and sight loss, Thomas Pocklington Trust GBP75,659 PI Alison Bowes (supported R3)
- (2017) Paths for All evaluation, and (2017-18) Phase 2 Evaluation Paths for All GBP6,680 and GBP5,039, PI Jane Robertson, CI Grant Gibson (supported R5, R6)

#### 4. Details of the impact

We have achieved impact on changing practice in professions, business, and building design through **training and education, consultancy, accreditation of designs and products, business development and activities in outside spaces**. Through these actions, we ensure our inclusionary approach is embedded in design thinking for dementia. Our national and international reputation as the 'go-to' place for advice on design for dementia provides an important pathway for our research impact to achieve its reach. Media reports of newly opened and refurbished care facilities for people with dementia regularly cite the University of Stirling's guidance in their design (Nexis search to 31<sup>st</sup> July 2020 identifies 333 verified results, see **S1**). Research by the University of York (Buildings in the Making study 2019, see **S2b**) found architects widely knowledgeable about and using our guidance (**S2a**). The Iris Murdoch Building (IMB - completed 2003), to our knowledge the first public building worldwide to be built on dementia-friendly design principles, houses the Dementia Services Development Centre (DSDC), which exists to translate research into impactful activities, and is staffed by architects, designers, and trainers.

#### Improving professional practice through training and education

Our research (e.g. **R1**) has been used extensively in **training** qualified architects in dementia-friendly design, mainly of care environments. Training is led by a professional architect, Lesley Palmer, who holds a knowledge exchange post in DSDC. During 2014-2020, 446 (**S3**) professionals have attended the training, including architects, interior designers, construction companies, care home companies, project managers and others. This includes 116 internationally based professionals from 21 countries. They report changes to their practice in a range of contexts as a result of our training (**S4**). A company team leader states they are 'using the knowledge to better inform the architects and designers I work with about the best practice when designing for dementia' (**S4**). A museum developer reports 'I was able to look at every aspect of the design and fit-out plans in detail and make confident decisions on how to put theory into practice in our unique space', affecting 2,500 visitors (people living with dementia and their carers) per year (**S4**). A planner in a large Northern UK local authority explained they were now making 'towns and developments more accessible and more attractive to those living with dementia, ensuring that pedestrianisation schemes are more inclusive' (**S4**).

Our research is regularly integrated into **practitioner education** through our Dementia Studies postgraduate programmes (291 graduates 2014-2020) (**S5a**). Students taking these programmes

generally work in dementia care, and cover a range of professions including medicine, nursing, allied health professions, care work and social work. Professionals who have completed their studies report how their practice has been enhanced: '(I am) able to effect policy matters at government level' (India); 'I was able to discover a whole new world of knowledge' (Canada) (**S5b**).

### **Embedding dementia friendly design through consultancy**

We provide **consultancy** nationally and internationally (**S6a**): Since January 2014, we have provided input to design work for 312 clients (including 28 outside the EU: in Australia, Cambodia, India, Japan, New Zealand, Singapore, and the USA). We calculate from our records of clients that the resulting designs and redesigns have benefited at least 8,000 people through design modifications to the environments in which they live, as clients have implemented the advice (**S6a**). Examples include working with Mediva, Japan to design the Grancreer Setagaya Nakamachi (Tokyo) and the Yokohama Tokaichiba Creer Residence. Both these developments include senior housing and care facilities for 75 and 91 people respectively. In Australia, we worked with Life Care Australia on its Gaynes Park Manor (**S6b**) development in Joslin, South Australia, which includes a 96-bed nursing care home. This facility won a prestigious award for its architecture at the 6th Asia Pacific Eldercare Innovation Awards 2018.

### **Driving good practice through accreditation**

We provide care facilities and other buildings with research-informed assessments of their **dementia-friendliness** using our Design Audit Tool (**S7a & S7b**). Clients modify their buildings using our guidance and can receive our 'Gold Award' once they meet all the guidelines: 27 have been awarded 2014-2020, including 3 in Japan and 1 in Australia (**S7c**). Our DSDC consultants were involved throughout the design and building process of the Great Sankey Neighbourhood Hub in Warrington, a community facility incorporating sports pitches, fitness studios, a swimming pool, a spa and a library. In January 2020, we accredited the Hub with a Gold Award, with the Council Leader reporting 'Our plans for Great Sankey... place dementia-friendliness at the heart of the facility... receiving this recognition from the University of Stirling is great news' (**S7d**).

Using our evidence regarding the effectiveness of design features e.g. **R3**, DSDC operates a **product accreditation** scheme (**S8a**), whereby companies can have their products assessed for dementia friendliness. Through this process, our research evidence is directly informing the fixtures, fittings and furnishings which are used in care facilities, nationally and internationally, through its influence on commercial operations. The accreditation is done by a team in Stirling, including our architects and designers and Gibson provides embedded research expertise, drawing on his work on user choices (**R4**). In the REF period, 929 products and product ranges were accredited (**S8b**). Clients include Arjo (a major supplier of medical equipment), Altro, Forbo and Polyflor (flooring), Gradus (interior design), Wallgate (washrooms and sanitaryware) and Grayson (clocks), all of which are suppliers to care environments (**S8b**). Companies report that the accreditation supports them to advise clients on the best products to use in environments where people with dementia will be living, enhancing their commercial offering, market status and bottom line. For example, Polyflor state 'DSDC accreditation is a further example of Polyflor as a manufacturer highlighting its commitment to the health and care sector'; and Gradus explains 'The knowledge we have gained from DSDC has helped improve our service, recommendations and new product development process' (**S8b**).

### **Improving design through business development**

The design principles, closely informed by our evidence appraisal (**R3**), have been incorporated into an app, IRIDIS (see **S9**), developed in partnership with a national construction technologies innovation company, Space Group Ltd. This collaboration has generated (2020) a spin-out Joint Venture **business development**, showing commercial impact. IRIDIS enables existing buildings

and buildings in the process of design to be assessed for dementia-friendly design, and suggests what modifications may be needed. Launched in 2017, IRIDIS is designed to be used, free of charge, by carers, occupational therapists and people living with dementia to optimise homes, for example by making changes to decoration, soft furnishings or floor coverings. IRIDIS has been installed 2,608 times since launch (**S9a & S9b**), including international users in Australia, Canada, New Zealand, and USA. In 2018, IRIDIS won the 'Best Collaborative' category at the Blackwood Design Awards - an international contest held to 'discover and champion brilliant concepts, designs and products that have the potential to help people live independently' (**S9c**). IRIDIS is now developing more sophisticated applications for care professionals and architects.

### Supporting the use of outside spaces by setting standards

Our work on **outside spaces** with Paths for All (PfA) has delivered tangible impact for people with dementia across PfA's whole area of operation (**S10**). Throughout Scotland, PfA are using a Dementia Friendly Walking Accreditation directly derived from our research as a tool to ensure good practice. To achieve accreditation, walks must demonstrate they meet criteria derived from our research including involvement of people with dementia in developing the walks, training walk leaders in dementia friendly practice, and partnering with organisations to ensure knowledge of the walks for people living with dementia. Since 2015, 31 Walking for Health projects have achieved the accreditation and are delivering over 145 Dementia Health Walks every week, supported by 579 specially trained Volunteer Walk leaders. The PfA outcome has been identified as an exemplar case study to support promotion of international standards in support for people with dementia by the ISO (International Standards Organization) Technical Committee for Ageing Societies, of which Robertson is a member (**S10**).

## 5. Sources to corroborate the impact

- S1.** Nexis search results identifying references to Stirling design expertise, its recognition and use (specific coverage highlighted).
- S2.**
  - a. Stirling DSDC guidance and audit tool: notes on observations and feedback.
  - b. *Buildings in the Making* final report.
- S3.** Numbers of design trainees by date and country.
- S4.** Material on what trainees have done differently (blogs and responses to survey).
- S5.**
  - a. Dementia Studies Courses Graduate numbers and case studies.
  - b. 2016-2019 Student Feedback Surveys.
- S6.**
  - a. List of consultancy clients over the REF period.
  - b. Gaynes Park Manor, see their website: <http://stir.ac.uk/41n>
- S7.**
  - a. Dementia Design Audit Tool. Part 1 Guidance Notes.
  - b. Dementia Design Audit Tool. Part 2 Workbook.
  - c. Dementia Design Audit Gold Awards list.
  - d. Council Leader, reported in 'Livewire' (22 January 2020): <http://stir.ac.uk/4cx>
- S8.**
  - a. Product Accreditation Scheme website: <http://stir.ac.uk/41q>
  - b. Portfolio of question responses from accreditation scheme customers.
- S9.** Data from IRIDIS showing downloads and geographical distribution.
  - a. Apple App Store Connect - 31 July 2020. IRIDIS on Apple App Store: <http://stir.ac.uk/5jf>
  - b. Google Android New Users Acquired. IRIDIS on Google Play Store: <http://stir.ac.uk/5jc>
  - c. Blackwood Design Awards: <http://stir.ac.uk/5j6> & <http://stir.ac.uk/5j9>
- S10.** Testimonials from PfA and BSI.