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## **“How to make a Sensory Room for people living with dementia” – developing design guidance for health care practitioners**

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### *Abstract*

*This paper reports the results of a recent study funded by the AHRC into the current provision of multisensory stimulation for people with dementia living in care homes, in particular the design of multisensory spaces - often referred to as ‘Sensory Rooms’ or ‘Multisensory Environments’ (MSEs). The investigation aimed to establish new knowledge from which coherent, user-centred design solutions supporting improved dementia care could be developed.*

*Previous research has shown that the use of Sensory Rooms in dementia care has beneficial effects as a resource for meaningful engagement and they are established in many UK care homes. However, evidence suggests that they often fail to benefit the people with dementia resulting in staff becoming discouraged, perceiving the space of little value, and subsequently becoming unused. Sixteen care homes with some type of sensory space were recruited for a study. Data were collected using ethnographic methods including semi structured interviews with 32 care home staff and observations were made from the perspective of the person with dementia. Results suggested that existing Sensory Rooms had inadequate design, inappropriate set-up and poor facilitation by staff. A focus group workshop was conducted further exploring design and methods of multisensory stimulation with staff from 4 care homes.*

*Based on these results, design criteria and recommendations were identified that can potentially improve accessibility for people with dementia, and published in a Guide book “How to make a Sensory Room for people living with dementia” (accessible online [kingston.ac.uk/sensoryroom](http://kingston.ac.uk/sensoryroom)). The Guide is a tool for health care practitioners, care home staff and carers enabling them to create a sensory environment that is appropriate for residents with dementia and their families.*



Keywords: dementia, Sensory Room, Multisensory Environment (MSE), care home, design guidance for care practitioners, interdisciplinary, wellbeing of older people, inclusive, evidence based

## Introduction

Research into current provision of multisensory stimulation for people with dementia living in care homes, in particular the design of multisensory spaces is limited. This project is part of an ongoing interdisciplinary collaboration between design and health care, with designer Anke Jakob and occupational therapist Lesley Collier as the research team, and Care UK, one of UK's leading independent providers of health and social care services, as the project partner. The research was funded by the Arts & Humanities Research Council UK (AHRC) running from March 2013 to November 2014.

## Context

By 2015 there will be 850,000 people living with dementia in the UK, and by 2025 the number will have risen to 1 million (Alzheimer's Society, 2015). As there is no cure, treatment focuses on optimising care methods and living conditions to alleviate the signs and symptoms of the disease. Behavioural and psychological symptoms such as challenging behaviour and depression should and can be managed without resorting to antipsychotic medication (DoH, 2009; Alzheimer's Society, 2012). A number of approaches for non-pharmacological interventions, including multisensory stimulation, have been recommended for people with dementia by the NICE clinical guidelines (NICE, 2009/2012).

Depriving someone of sensory stimulation and appropriate activity has a devastating impact on a person's physical and mental health. People with dementia may not be able to access this kind of stimulation by themselves, they, therefore, need to be offered and helped to engage with sensory stimulation to enhance feelings of comfort and wellbeing, to relieve stress and boredom.

The Multisensory Environment (MSE) is a space where stimulation of the senses (sight, sound, touch, taste, smell and movement) can be provided in a controlled way. It offers the opportunity for activities, free from cognitive demands, to be enjoyed with care workers, family members and informal carers. Activities can be sensory stimulating or calming in their effects. First established at the De Hartenburg Institute in the Netherlands (Hulsegge & Verheul, 1986), the concept of the MSE developed from a leisure-based activity for engaging people with severe learning disabilities who were unable to participate in more conventional occupation, to a therapeutic intervention for people with cognitive and physical impairment. It has been successfully applied with a range of users including people with autism, acquired head injuries, stroke, and those with limitations of movement, vision and/or hearing.

MSEs have also been used with people with dementia and there is growing body evidence that their use has beneficial effects as a resource for meaningful engagement reducing agitation and improving functional performance (Maseda *et al*, 2014; Riley-Doucet & Dunn, 2013; Collier *et al*, 2010). Although many MSEs (also called 'Sensory Rooms') have been established in UK care homes,

the facilitation of sensory stimulation and the use of Sensory Rooms in practice have been inconsistent and limited. It has been reported that existing spaces often fail to achieve the beneficial effect for people with dementia resulting in staff becoming discouraged, perceiving the space of little value, and subsequently the room becoming unused (Dalke & Corso, 2010).

## Research problem and aims

This gave reason to investigate further into the problem and preliminary visits were made in 6 care homes with a Sensory Room. These visits revealed a number of issues. There appears to be a gap between academic knowledge regarding the benefits of sensory stimulation in dementia care and how it might be implemented in practice. Often simple practicalities prevent the frequent use of the Sensory Room such as location and staff time. Further, they had been installed with little thought to their design or how they are to be used. Care homes often relied on the supplier to design and set up the room with little or no involvement of care home staff.

As there has been very little research addressing the impact of functionality and aesthetic quality of Sensory Rooms - in particular whether their current design is benefiting people with dementia and older people in general - the aims of this research were:

- to undertake a critical appraisal of the use of Sensory Rooms in dementia care from a design perspective; to study the design (aesthetic and functional qualities) of existing multisensory facilities available in care homes and how they are used.
- to identify design criteria and features that can improve accessibility of multisensory spaces for people with dementia; to develop ideas for design solutions that can help care homes to create an environment that is appropriate for the needs of residents, families and staff.

## The Study

A study/survey was conducted involving care homes within London and South UK to examine in-depth and record the current use of Sensory Rooms, their design and the opinions of staff using these facilities.

## Methodology

Sixteen care homes with either existing or planned multisensory spaces were recruited. Data were collected using ethnographic methods incorporating:

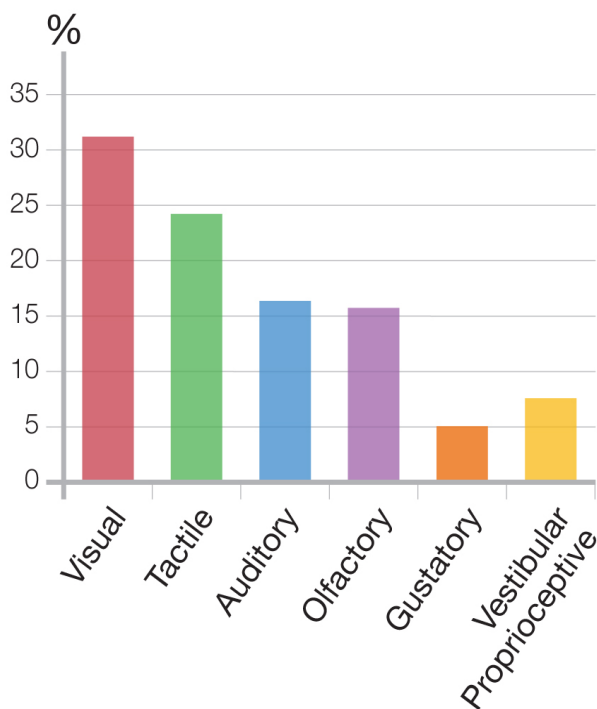
- a) semi-structured interviews with 32 care staff including care home managers, activity coordinators and care staff to describe the sensory facilities available and the experiences of using them from a care worker's perspective.

- b) observations of the design of the existing facilities including what sensory equipment and items were used, how the space was set up, how facilities were integrated into the general living environment, and recording of examples of successful practice.
- c) observations during sensory sessions from the point of view of the person with dementia.
- d) focus group workshop with activity coordinators from 4 care homes.

## Findings

Findings suggest that often Sensory Rooms do not feature an appropriate range of sensory equipment and residents struggle to engage with the space appropriately. The idea of multisensory stimulation is often neglected as equipment available is predominantly focused on visual stimulation. Some consideration has been given to the other senses, although gustatory and vestibular/proprioceptive stimulation is often not offered at all. (Table 1)

Table 1: The graph shows the percentage of the provision of stimulation for each sense.



Staff believe that using the Sensory Room is a good activity for people with dementia, particularly those at the later stages of the disease. They also acknowledged that the spaces are often poorly constructed. There was a feeling that the environment should include sensory items and equipment that are more appropriate for people with dementia, more familiar, natural, warm and soft items as well as abstract equipment such as colour changing lights. Some spaces visited were very technical and 'cold' in appearance, others were too juvenile and over-whelming in design.

According to information given during interviews, frequency of use varied greatly ranging from daily to weekly or less. Most staff confirmed that their facility could be used more often if there was more time to take residents there and/or if residents would/could go to the room by themselves. In most cases the room was locked when not in use because staff thought it was not safe for either the residents and for the expensive equipment (see Figure 1). In most homes, residents were accompanied by the activity coordinator. Relatives were not involved in using the Sensory Room.



Figure 1: Examples of Sensory Rooms with MSE equipment provided by suppliers: bubble column, disco ball, projector with themed image-wheel, coloured optic-fibres, CD player/sound system, waterbed and furniture with liquid resistant vinyl covering.

The study also revealed that training for care workers was very limited. In some homes specialist training was offered by suppliers on how to operate equipment. In-house training was provided by staff with an interest in sensory activity but not necessarily formal training. Consequently, staff lack the skill and knowledge to set up and utilise the facility for residents, and to run an effective sensory session. There is a lack of guidance of what to include in a Sensory Room although staff have been able to work this out by trial and error. There is a need for clearer direction, training and on-going support for care staff.



A focus group was organised with activity coordinators from 4 care homes. Participants were asked to respond to the question “What would be your ideal Sensory Room?” and to explore how multisensory stimulation for people with dementia should “look and feel”. The workshop aimed to offer the opportunity to contribute to the design development within the research, but also to explore the care practitioners’ approach, level of skills and knowledge, how they would work with a multisensory space, and what, in their view, works well (examples of best practice). The workshop confirmed the findings of the study in terms of lack of knowledge and skills in how to facilitate sensory stimulation and sensory environments. Participants showed great passion and enthusiasm for improving facilities and care home environments, and appreciated the advice and inspiration they received during the workshop.

## The Guide Book

Two issues emerged from the study: a) the set-up and design of Sensory Rooms currently existing in care homes is, in most cases, not appropriate and suitable for older people; b) there is a lack of knowledge and guidance for care practitioners about how to facilitate sensory activities and environments.

Based on this outcome a guide book “How to make a Sensory Room for people living with dementia” was developed as a first step towards closing this knowledge gap (accessible online via [kingston.ac.uk/sensoryroom](http://kingston.ac.uk/sensoryroom)). The guide offers advice on best practice regarding the engagement of residents in daily activities that support health and wellbeing. It aims to be a tool for practitioners, to equip care givers and staff in care homes with ideas and materials to provide multisensory spaces and stimulation that meet the specific needs and preferences of people living with dementia, their families and the care homes they live in.

## Design process

A number of examples of good practice were visited. This included Sensory Rooms in 4 homes for older people in Helsinki, Finland, which were set up by Sari Hedman (care home manager and textile artist). By using textiles, sheepskin, twigs, rocking chairs, very tactile soft furnishing and careful lighting these rooms are turned into soft, calm spaces, which are more user friendly and appropriate for this age group (Figure 2). Elements of these rooms were included in the Guide book, in particular regarding the use of textiles.





Figure 2: Sensory Rooms in Kontula, Riistavouri and Roihuvuori Centre, Helsinki, Finland

Based on the research results and the input from the visits and the meetings with the project's Advisory Panel of Experts, a design brief was developed defining design principles taking into account lighting, climate, accessibility, use of technology, health & safety/maintenance, maintaining dignity, familiarity etc. Following points emerged from this process as the most important criteria to be considered when designing a successful and effective multisensory space for people with dementia:

- Comfortable and safe
- Meaningful and familiar
- Multisensory experience
- Stimulation and relaxation
- Control and interaction
- Age-appropriate and usable

These criteria also served as headings and structure for the guide book. Design ideas and suggestions were compiled under each heading giving advice and guidance how these features can be achieved through appropriate set-up, and selection of appropriate items, equipment and technology. Recommendations of what to avoid (e.g. over-stimulation, too many things going on at the same time, irritating reflections, very dark spaces) were also included.

Further, the guide provides a brief introduction to the needs of people living with dementia, in particular their sensory needs, what multisensory stimulation means and the benefits of a Sensory Room in dementia care. Comments and testimonies from care workers and managers are also documented. Tips and advice are given concerning practicalities and questions that frequently emerged.

Three undergraduate graphic design students from Kingston University were invited to collaborate on developing the design of the guide book. Requirements here were: clear and accessible, easy to navigate and well structured, yet inspiring and refreshing. This was achieved by applying colour coding for each heading making navigation easier and emphasising each theme, using a lot of images and limiting the text and written information, employing clear graphics and signs.



Figure 3: Pages from the Guide Book

The guide was reviewed by practicing professionals in dementia care, occupational therapy and design, and their feedback included. It was launched during the exhibition *Sensory Rooms: Designing Interventions to support dementia care* in Central London, 21-25 October 2014. The exhibition showcased the results of the research and was part of the *Inside Out Festival 2014* ([insideoutfestival.org.uk](http://insideoutfestival.org.uk)). Visitors came from organisations such as Alzheimer's Society and Dementia Action Alliance, Care UK, Brendon Care, Sussex Partnership NHS Foundation Trust, Moorfields Hospital, UCL Partners, OM-Interactive, Medical Architecture.

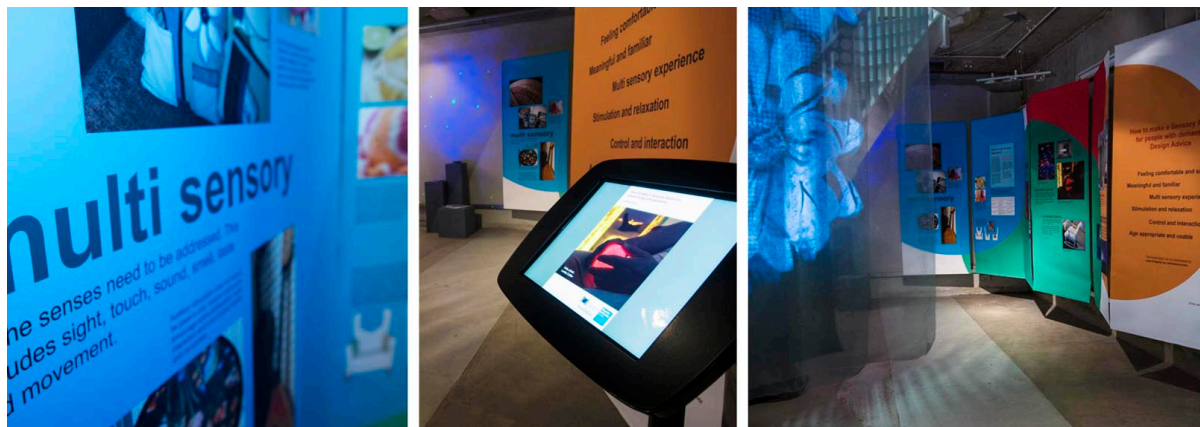


Figure 4: Public exhibition *Sensory Rooms: Designing Interventions to support dementia care* in October 2014.

## Case study

The Guide book features a case study where a dysfunctional Sensory Room is successfully transformed into a multipurpose lounge. After the first researcher's visit, one of the care homes decided to improve their sensory space, taking advice and inspiration from the conversation staff had with the researcher. This presented an opportunity to record an example of a 'Before and After' scenario as well as feedback on how the new room is now perceived and used.

**Before:** During the first visit, the room was cluttered with furniture and various items, some broken or dysfunctional, frequently used as a temporary store room for excess furniture, uninviting and confusing in appearance. The room was locked and only used occasionally. On the other hand, this spacious and light room had potential with direct access to the garden and an adjacent store room which could be used to store additional items and equipment for multisensory sessions.

**After:** The room is a now pleasant lounge featuring wallpaper with a life size image of a 1950s kitchen and new elegant furniture and curtains with green and dark red colouring matching the colours in the image. On the other side of the room, a sensory corner has been arranged featuring sensory equipment (bubble column). Liked for its stimulating, yet calm and soft atmosphere a destination has been created regularly frequented by the residents. The door to the room is kept open inviting the residents to stay and from here to stroll into the garden. A new sound system has been added replacing the low quality transportable CD player. Having music of good sound quality yet moderate volume playing is another attraction for the residents to spend time in the room.

Feedback from the home's activity coordinator: "The new room benefited especially from your advise to de-clutter and get rid of inappropriate items. Also, I valued your input regarding how to arrange the space. We have now also installed a LED projector as advised and are about to put up a tactile curtain enabling us to divide the space. Feedback from residents has been positive.

Residents (as well as staff members and relatives!) use the space for relaxation which helps to reduce challenging behaviour and stress. This applies not only to residents with dementia but also to residents with other mental health issues and Asperger's Syndrome. Residents do not call it 'Sensory Room' though, rather 'quiet room', 'beautiful room', 'lovely room' etc. A resident who used to express his distress by shouting and abusing other residents and who feels better and calmed down when spending time in our new space, one day said to me: 'I cannot take it anymore, can I go to Paradise room now?' "

## Research continues

Currently the researchers are contacting the care homes who participated in the study to gather feedback and comments whether the Guide Book has benefited their work, and, if changes to the home's environment have been made on the basis of the advice from the guide, how residents have been responding to the improvements.

Further, on the basis of the results of this project, subsequent research will be undertaken to establish a 'proof of concept' study involving residents with dementia, family members and staff.

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