Loughborough University

World Congress on Design & Health 2015, Hong Kong

Global application of salutogenic perspectives on improving human health and wellbeing by design

Design for People Living with Dementia

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Aim of the presentation

Introduce the dementia-friendly design principles and dementia-friendly core design features that:

- emerged from the £50m Department of Health England Dementia Capital Investment Programme (115 pilot projects);
- were used to underpin the new “Health Building Note 08-02: Dementia-friendly Health and Social Care Environments.”

A DH funded 24 month programme of work: selecting pilots; monitoring progress and impact; and developing HBN.

(Department of Health, Health Building Note 08-02: Dementia-friendly health and social care environments, 2015)

Outline of the presentation

1. Aim and context
2. Health and Social Care in the UK
3. DH England Dementia Capital Investment Programme
4. Health Building Note 08-02
5. Dementia-friendly design principles
6. Dementia-friendly core design features
7. Conclusions and recommendations

Context: Ageing population global challenge

- Reduced fertility rates and increased life expectancy are leading to ageing populations.

  (UN - Department of Economic and Social Affairs - Population Division - World Population Prospects: The 2012 Revision, 2013)

- By 2016 the number of people over 65 will outnumber the number of children under 5.

  (WHO - National Institute on Aging - National Institutes of Health, Global health and ageing, 2011)

- Ageing population brings together a series of implications and co-morbidities.

  (CSDH, Closing the gap in a generation: health equity through action on the social determinants of health. Final Report of the Commission on Social Determinants of Health, 2008)

Context: Dementia global challenge

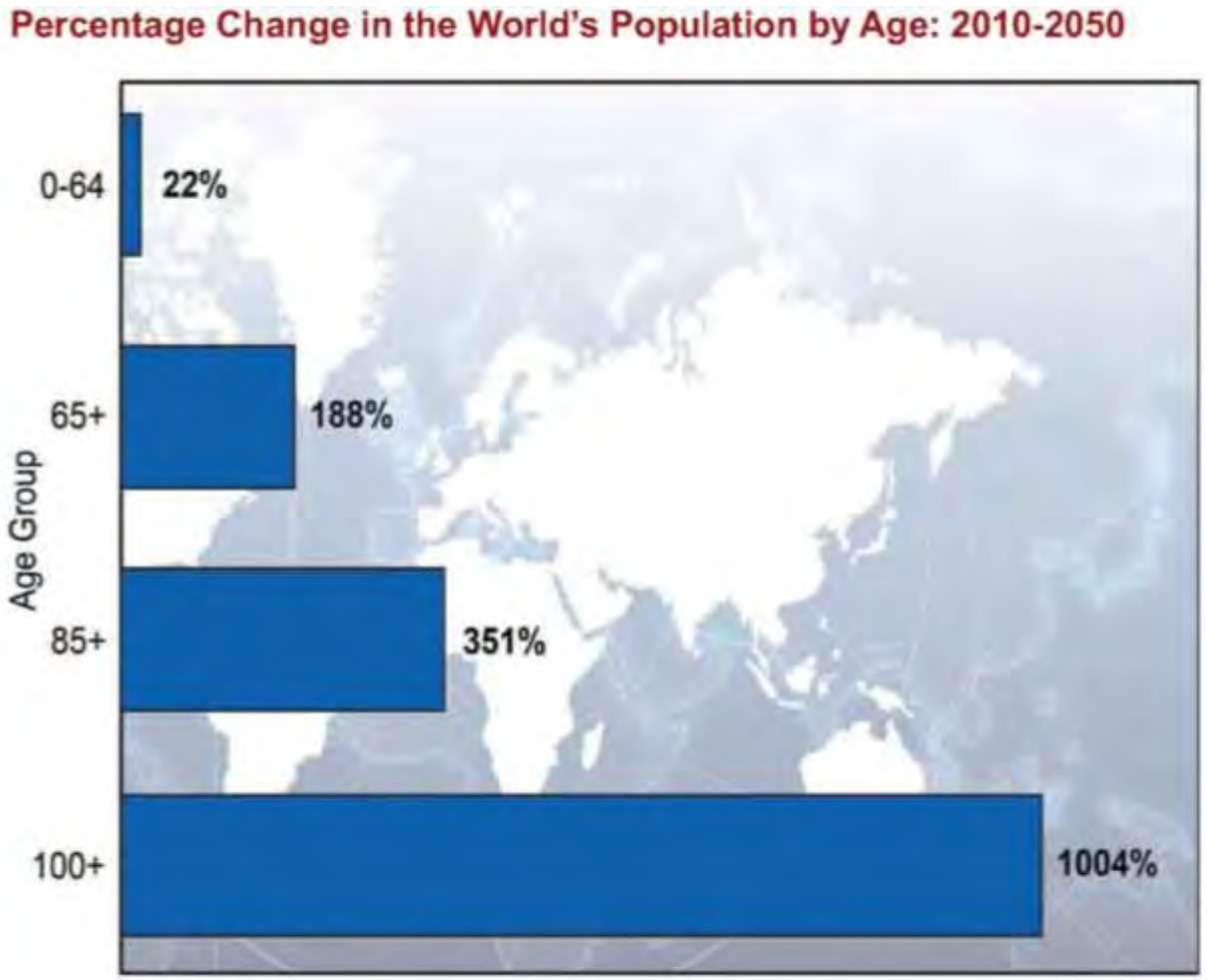
- Dementia encompasses a range of conditions, which are progressive, degenerative, irreversible and with currently no cure. *(Access Economics Pty Limited, Alzheimer's Australia: Australia, 2010)*
- In 2012 the number of people living with dementia was estimated at 35.6 million worldwide. In March 2015 it was estimated at 47.5 million.

  (WHO and Alzheimer's International, Dementia. A public health priority, 2012)
- At the current rate, the number people living with dementia is projected to increase to 75.6 million by 2030 and more than triple by 2050.

  (ADI, World Alzheimer Report 2014: Dementia and Risk Reduction - an analysis of protective and modifiable factors, 2014)
- An estimated 25-30% of people aged over 85 have dementia.

  (WHO Institute for Ageing, Global Health and Ageing, 2013)

Context: Dementia global challenge



Source: United Nations, *World Population Prospects: The 2010 Revision.*
Available at: http://esa.un.org/unpd/wpp.

Context: Impact of the care environment

- Purpose-built and staffed built environments impact on the quality of care and on the wellbeing of people with dementia.

  (Brod, Stewart, and Sands, Conceptualization of quality of life in dementia, in Assessing Quality of Life in Alzheimer's Disease, 2000)

- Design elements and layouts have been frequently associated with quality of care and behavioural outcomes.

  (Kovach, C., et al., Impacts of a therapeutic environment for dementia care. American Journal of Alzheimer's Disease and Other Dementias, 1997)

However,

- Limited understanding and lack of proven evidence on elements of the built environment for people living with dementia.

  (Calkins, Evidence-based long term care design. NeuroRehabilitation, 2009)

Health and Social Care in the UK: quality and safety

- In England, ~22% of NHS acute hospital buildings pre-date 1948 and 25% were built between 1948 and 1974.

  (Short et al, Building resilience to overheating into 1960's UK hospital buildings within the constraint of the national carbon reduction target: Adaptive strategies, 2012)

- In 2010, the DH set the target to save up to £20 billion by the year 2014, and reinvest them to improve quality and raise productivity through improvements in space utilisation.

  (DH/NHS Finance Performance and Operations, The Operating Framework for the NHS in England 2011/2012, 2010)

- The Francis Report and the Keogh Review provided evidence and validation of quality and safety issues in the national healthcare infrastructures.

  (Francis, Report of the Mid Staffordshire NHS Foundation Trust Public Inquiry, 2013)

  (Keogh, Review into the quality of care and treatment provided by 14 hospital trusts in England: overview report, 2013)

Health and Social Care in the UK: dementia

- In the UK 850,000 people live with dementia. They are expected to increase to over 1 million by 2021.
  (Alzheimer's Society. Dementia UK: Update. Second edition. London, UK: Alzheimer's Society, 2014)
- The current cost of dementia care for the UK economy is estimated on £26.3 billion a year.
  (Alzheimer's Society. Dementia UK: Update. Second edition. London, UK: Alzheimer's Society, 2014)
- In England there are: 168 NHS Acute Trusts; 8,000 GP practices from 7,331 locations; and 21,407 care homes.
- Older people occupy ~70% of acute hospital beds.
  (Department of Health, Living well with dementia: A National Dementia Strategy, 2009)
- In the UK ~66% of people with dementia live in the community.
  (Alzheimer's Society , Response to the consultation on the recognition process for dementia friendly communities, 2013)

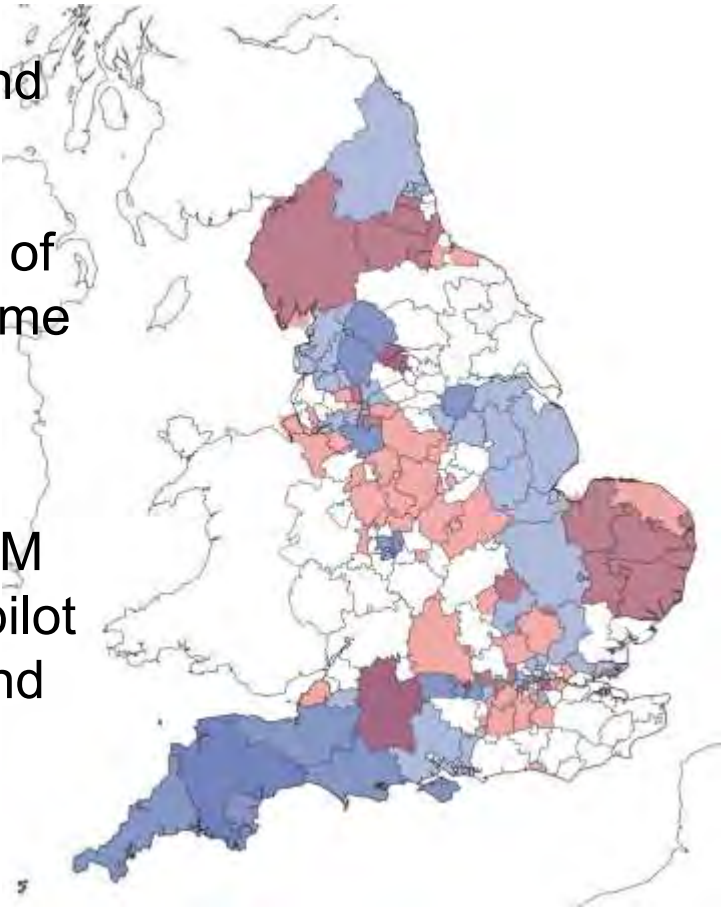
Health and Social Care in the UK: policy

- With the publication of *Living well with dementia: A National Dementia Strategy* in 2009, Dementia has become a UK national priority.

- In March 2012, the Prime Minister David Cameron launched the *Dementia Challenge* to tackle one of the most important issues we face as the population ages.

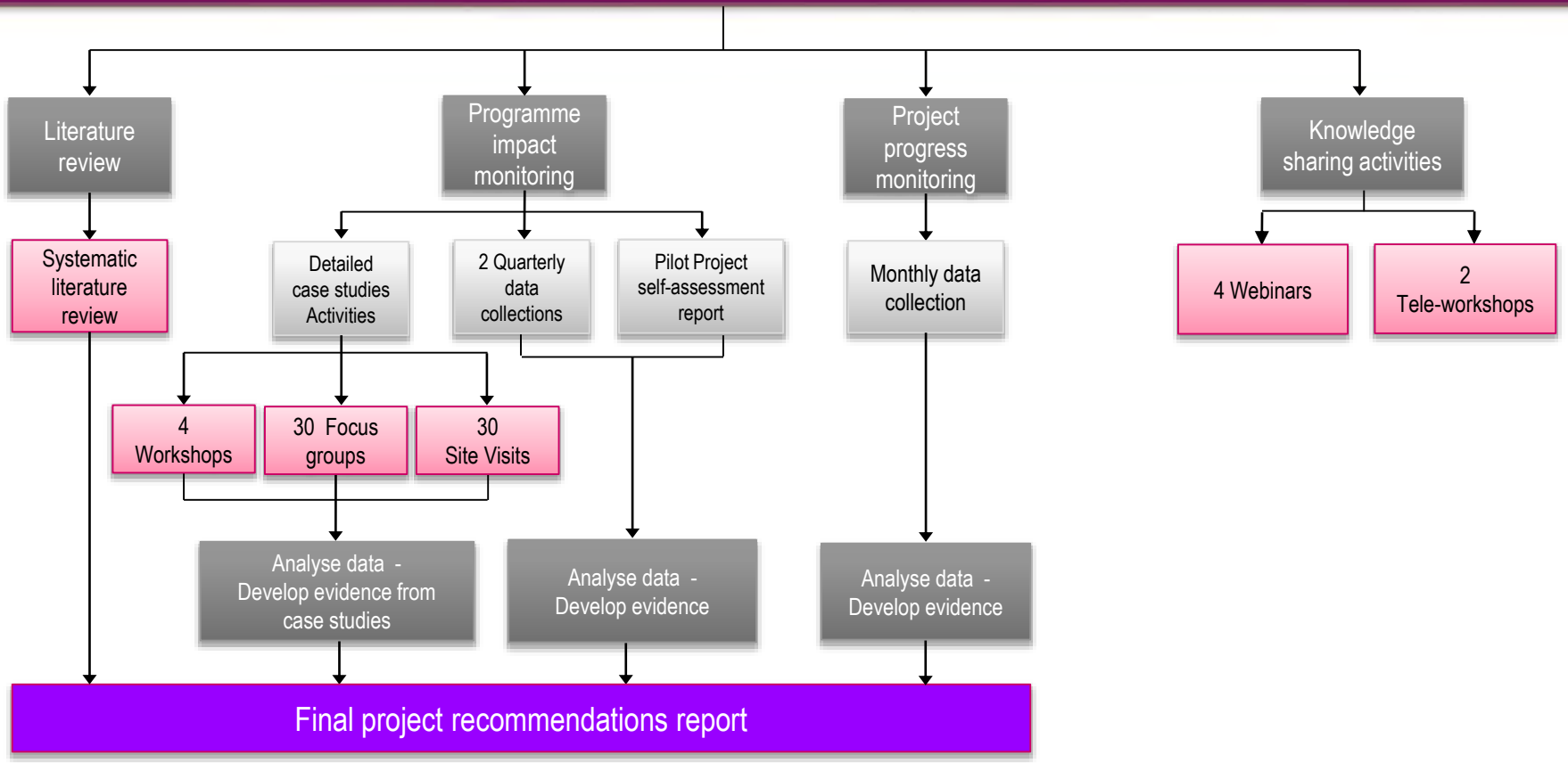
DH England Dementia Capital Investment Programme

- Health and social care environments need to respond to the needs of ageing populations and all its related conditions including dementia.
- One such response has been the Department of Health's England Capital Investment Programme **"Improving the environment of care for people with dementia"**.
- The DH Capital Programme has provided £50M capital funding for 116 NHS and Social Care pilot projects to improve the environment of care and gather evidence that will support the development of evidence-based design standards and guidance.



(Loughborough University Enterprise Ltd., IFF Research, Department of Health England, DH Improving the environment of care for people with dementia - Internal Project Report, 2014)

DH Dementia Capital Investment Programme: Delivery Plan



DH Dementia Capital Programme - Key deliverables

- 115 innovative pilot projects.
- New knowledge and improved understanding of how environments can impact on patients' and residents' QoL.
- Extensive roll-out of acquired knowledge and best practice onto projects not funded by this programme.
- Encouraged and demonstrated benefits of:
  - collaborative health and social care working; and
  - integration throughout the dementia care pathway.
- Supported culture change and transformed care delivery.
- Calmer environments.
- Capital gearing.

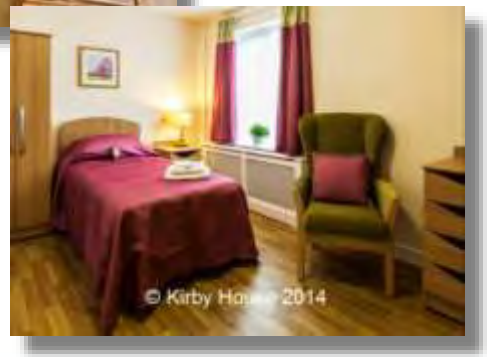
Programme impact monitoring - DH 14 core outcomes

1. Improving quality of life
2. Promoting dignity
3. Enabling improved privacy
4. Encouraging independence
5. Increasing the therapeutic value of garden areas
6. Enabling dementia care providers to be more responsive to the needs of all people using their services
7. Enhancing the physical environment to allow better nutrition
8. Supporting cultural diversity
9. Improving the dementia care provider's ability to meet multiple complex needs
10. Enabling people to be cared for in a comfortable and safe environment of their choosing
11. Reducing stress and anxiety
12. Reducing aggressive and disturbed behaviour
13. Reducing slips trips and falls
14. Reduce inequalities

DH Dementia Capital Programme - Types of settings

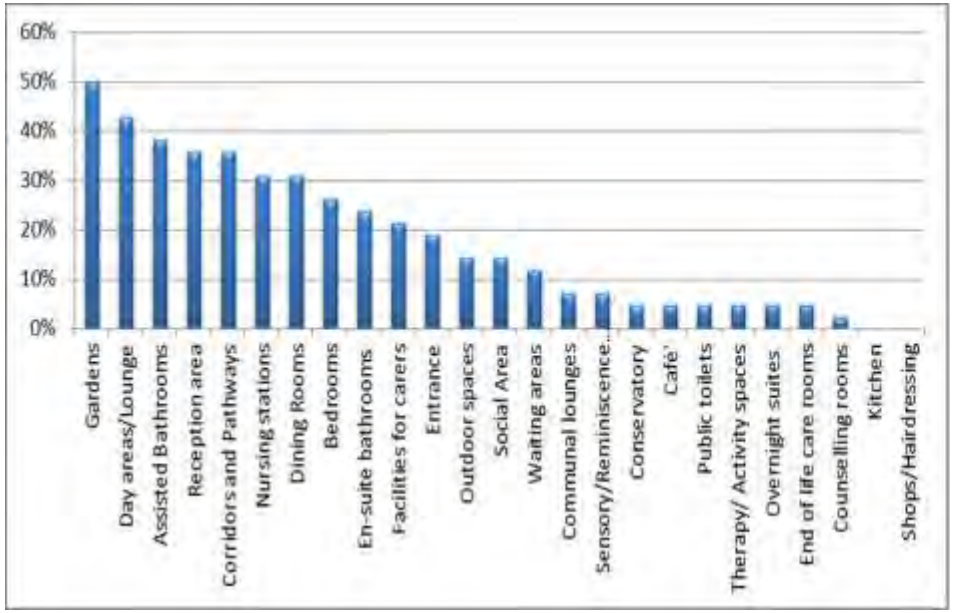
Distribution of NHS settings	%
Hospital wards	64
Whole hospital approach	12
Other hospital areas	17
Integration with the community	7

Distribution of SC settings	%
Care homes	73
General community day centres, respite centres or hubs	10
Sheltered & extra-care houses	3
Specialist dementia care facilities	1
Integrated projects	11
Nursing homes	3



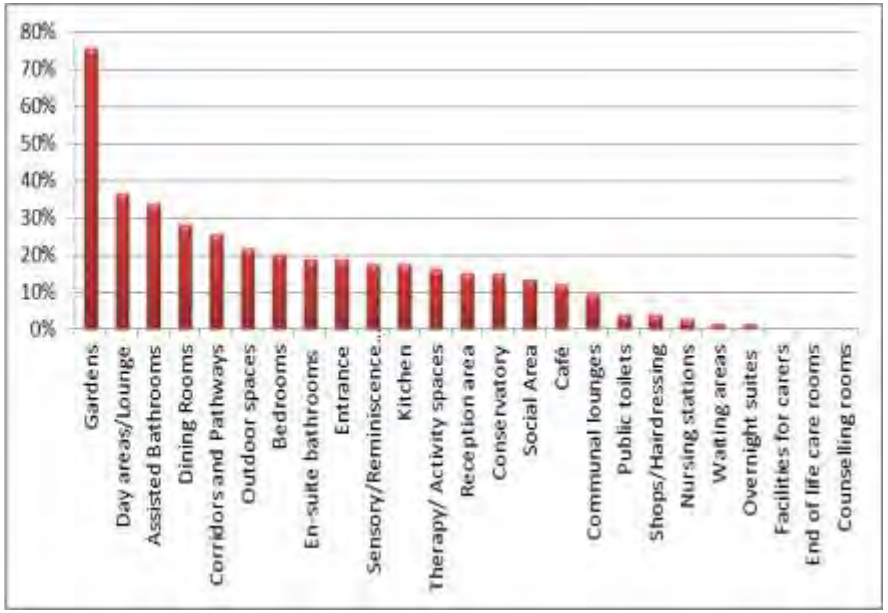
DH Dementia Capital Programme - Types of spaces

NHS - Spaces in the built environment



- Gardens
- Day areas
- Assisted & en-suite bathrooms
- Reception areas
- Circulation spaces
- Nursing stations

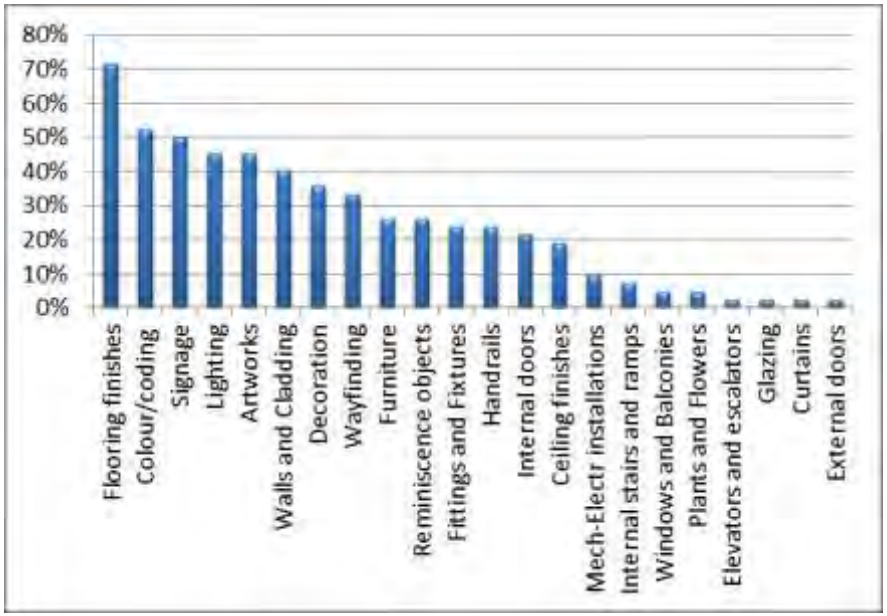
SC - Spaces in the built environment



- Gardens
- Day areas
- Assisted & en-suite bathrooms
- Dining rooms
- Circulation spaces
- Bedrooms

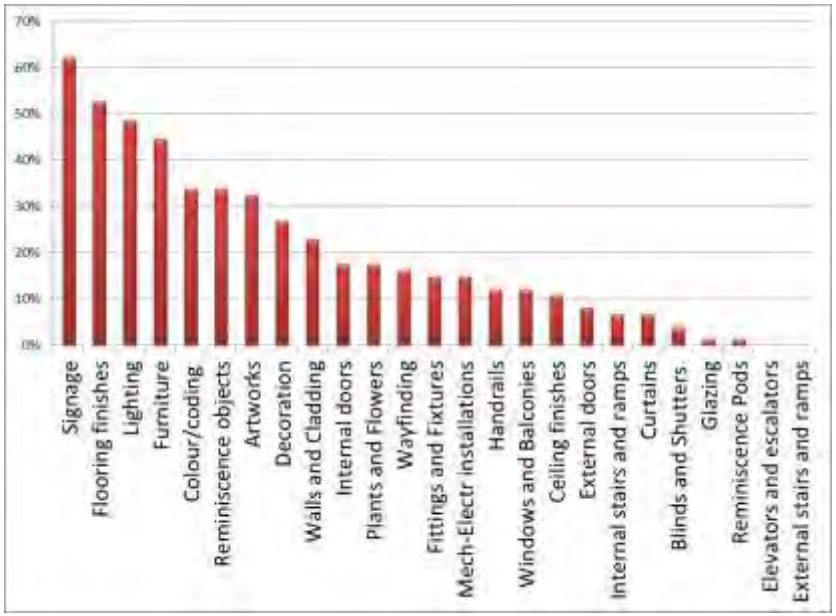
DH Dementia Capital Programme - Types of components

NHS - Components of the built environment



- Flooring finishes
- Colour coding
- Signage
- Lighting
- Artwork
- Walls & cladding

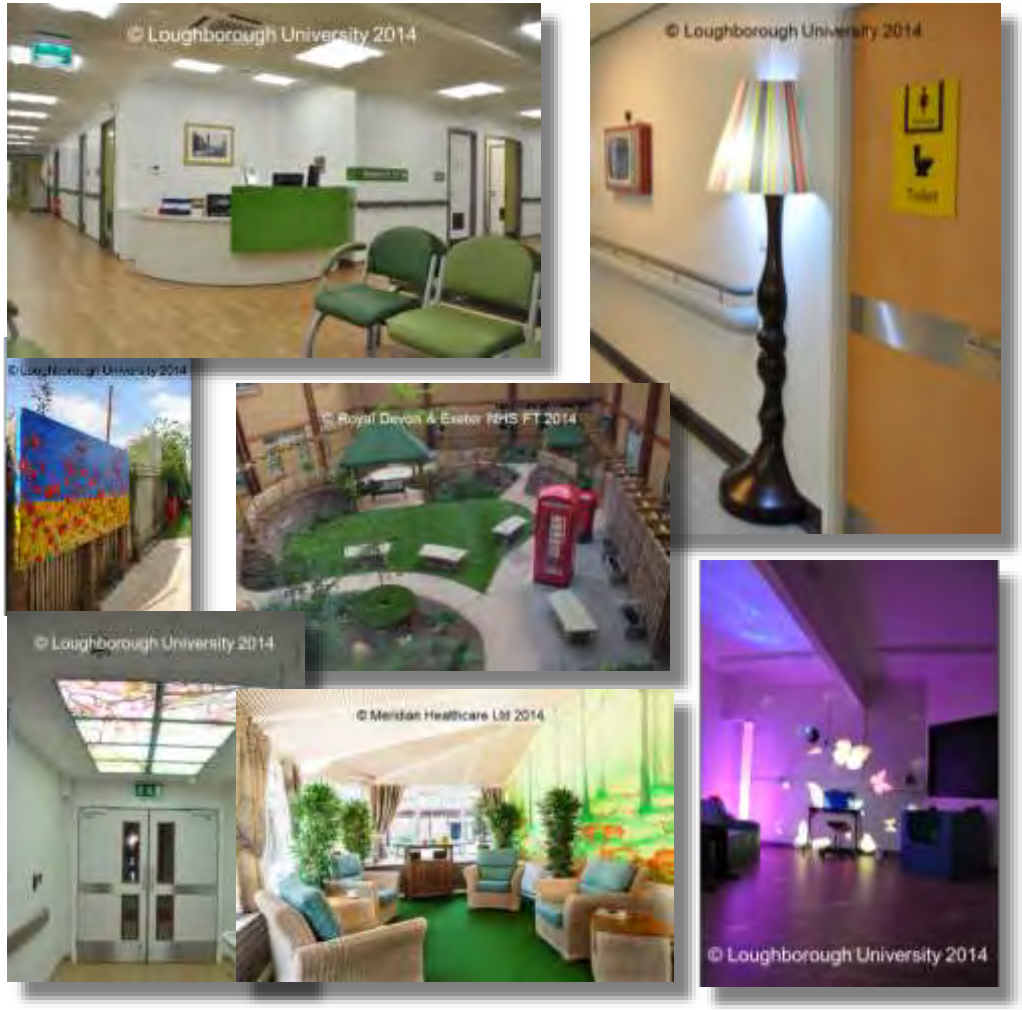
SC - Components of the built environment



- Signage
- Flooring finishes
- Lighting
- Furniture
- Colour coding
- Reminiscence objects

Health Building Note 08-02

- The **"HBN 08-02: Dementia-friendly Health and Social Care Environments"** is the first HBN intended to provide guidance for the design of dementia-friendly environments in all health and social care settings where people with dementia need to access, navigate and stay.
- Design principles and design features are interconnected and can allow an easy navigation of the document.



(Loughborough University Enterprise Ltd., Department of Health England, HBN 08-02: Dementia-friendly Health and Social Care Environments, 2015)

DH Dementia Capital Programme & HBN 08-02: Delivery Plan

Literature review

Systematic literature review

Programme impact monitoring

Detailed case studies Activities

2 Quarterly data collections

Pilot Project self-assessment report

4 Workshops

30 Focus groups

30 Site Visits

Project progress monitoring

Monthly data collection

Knowledge sharing activities

4 Webinars

2 Tele-workshops

Analyse data - Develop evidence from case studies

Analyse data - Develop evidence

Analyse data - Develop evidence

Final project recommendations report

HBN 08-02 First Draft

Consultation 1: Experts - Stakeholder Panel HBN Reference Guidance Group

HBN 08-02 Second Draft

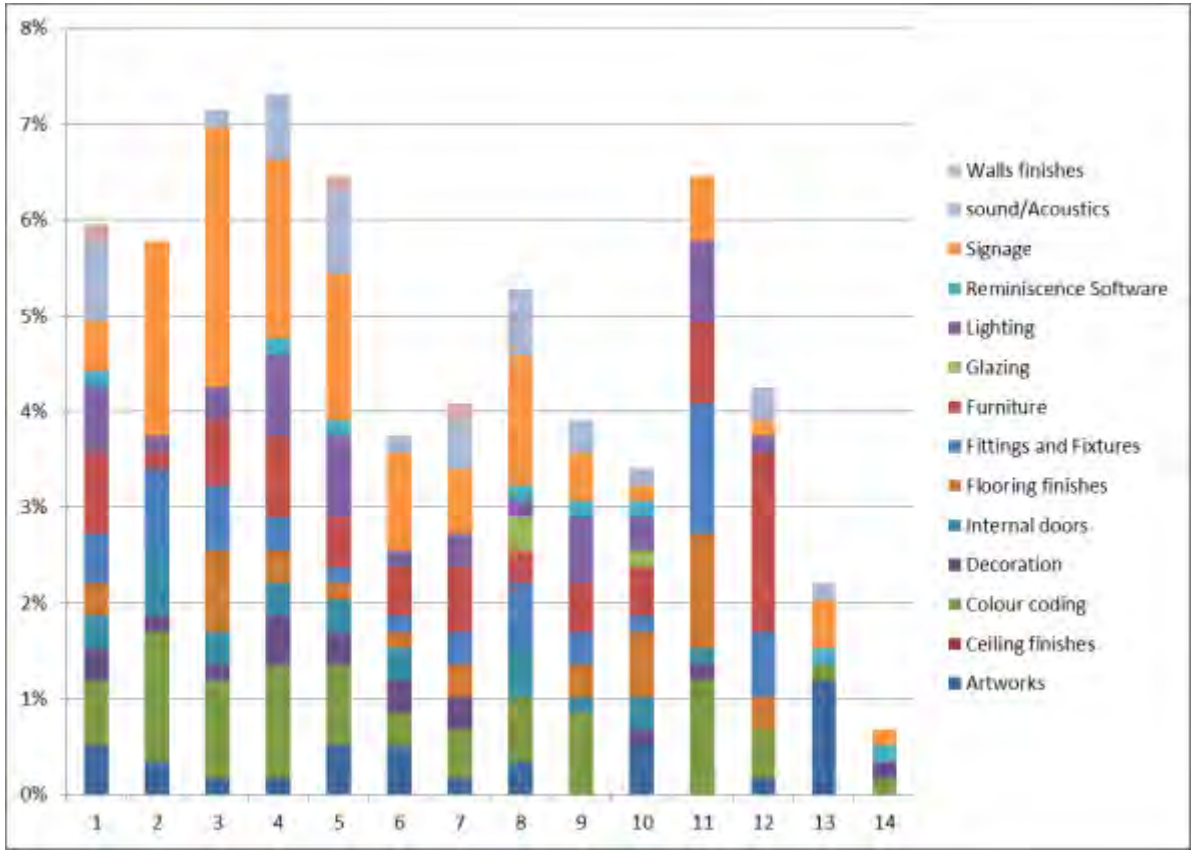
Consultation 2: Experts - Stakeholder Panel

Programme data analysis - 115 pilot projects

1. The **literature review** established how built environment design features can impact on the quality of care and the experience of people living with dementia.
2. The **115 pilot projects** explored how spaces, environmental interventions and core design features can impact on Quality of Life (QoL) of people living with dementia and support integrated health and social care delivery.
3. The **gathered evidence** was analysed and rationalised towards a systematic (i.e. DH 14 core outcomes) set of core design features which can be purposefully designed for people living with dementia.

Types of interventions
Artwork
Blinds and Shutters
Ceiling finishes
Colour coding
Curtains
Decoration
Elevators and escalators
External doors
External stairs and ramps
Fittings and Fixtures
Flooring finishes
Furniture
Glazing
Handrails
Internal doors
Internal stairs and ramps
Lighting
MEP systems
Plants and Flowers
Reminiscence objects
Reminiscence Pods
Signage
Walls and Cladding
Way-finding
Windows and Balconies

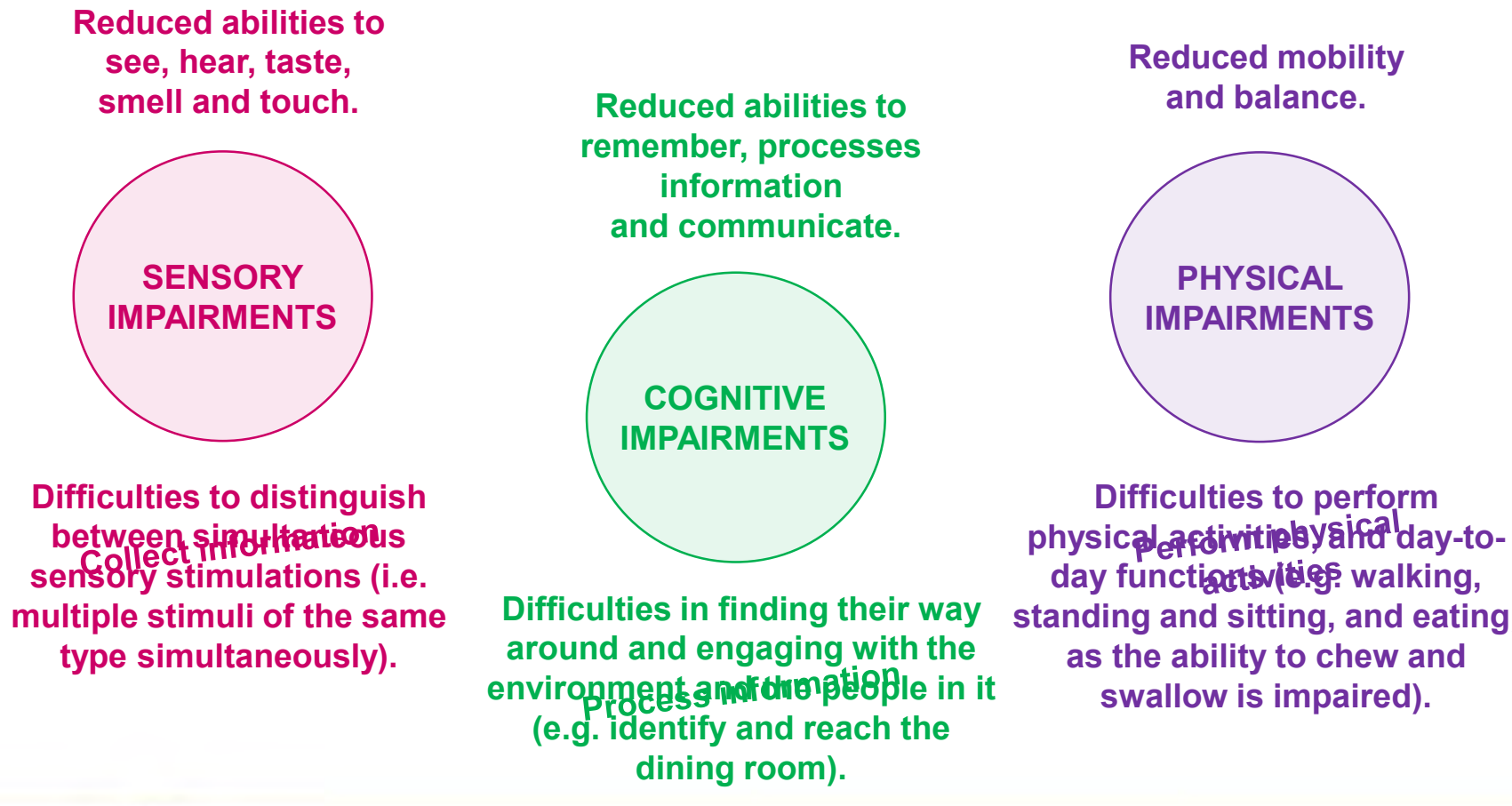
Programme data analysis - 115 pilot projects



14 Core Outcomes	Rank
Improved quality of life (QoL)	1
Promoting dignity	2
Encouraging independence	3
Reducing stress and anxiety	4
Reducing aggressive and disturbed behaviour	5
Enabling dementia care providers to be more responsive to the needs of all people using their services	6
Enabling people to be cared for in a comfortable and safe environment of their choosing	7
Enabling improved privacy	8
Improving the dementia care provider's ability to meet multiple complex needs	9
Increasing the therapeutic value of gardens	10
Reducing slips, trips and falls	11
Enhancing the physical environment to allow better nutrition	12
Supporting cultural diversity	13
Reducing inequalities	14

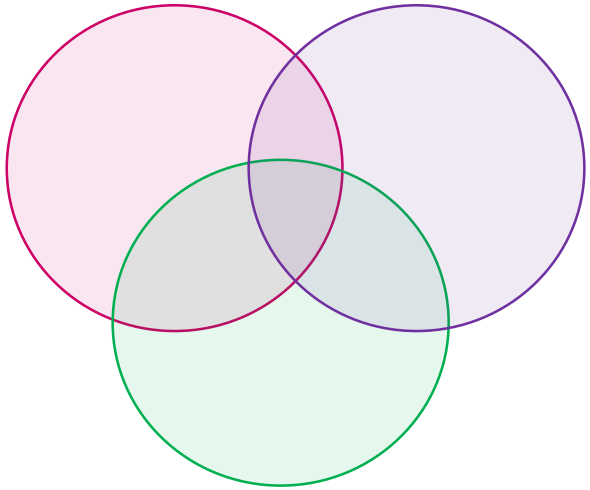
Key principles of dementia-friendly design

This evidence has led to the identification of key dementia-friendly design principles valid across different settings.



Key principles of dementia-friendly design

1. Promote a safe environment;



2. Provide optimum levels of stimulation;
3. Provide optimum lighting and contrast;

9. Provide good visibility and visual access;
10. Promote privacy, dignity and independence;
11. Promote physical and meaningful activities;
12. Support diet, nutrition and hydration.

4. Provide non-institutional scale and environments;
5. Support orientation;
6. Support way-finding and navigation;
7. Provide access to nature and the outdoors;
8. Promote engagement with friends, relatives and staff;

Core dementia-friendly design features

This evidence has led to the identification of a set of core dementia-friendly design features valid across different settings and spaces.

CONSTRUCTION ELEMENTS

- **Ceilings;**
- **Doors;**
- **Fixtures;**
- **Flooring;**
- **Walls;**
- **Windows & transparent panels.**

ELEMENTS THAT CAN ENRICH THE BUILT ENVIRONMENT

- **Artwork;**
- **Decoration;**
- **Furniture & fittings;**
- **Reminiscence hardware & software;**
- **Signage.**

TECHNICAL ELEMENTS

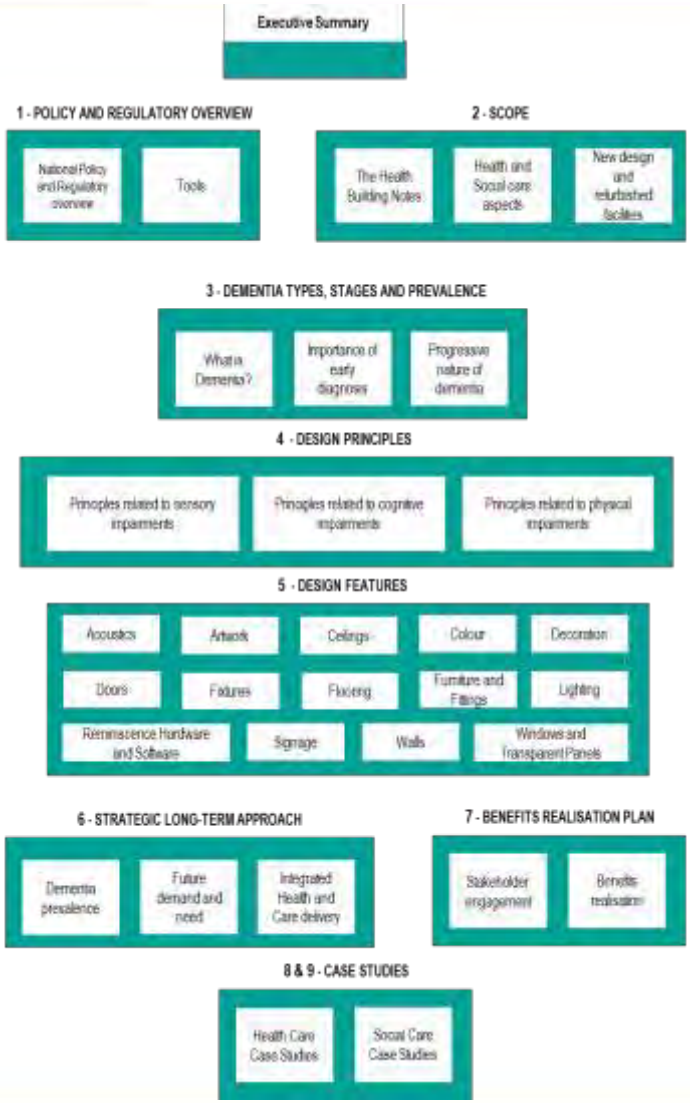
- **Acoustics;**
- **Colour;**
- **Lighting.**

Core dementia-friendly design features

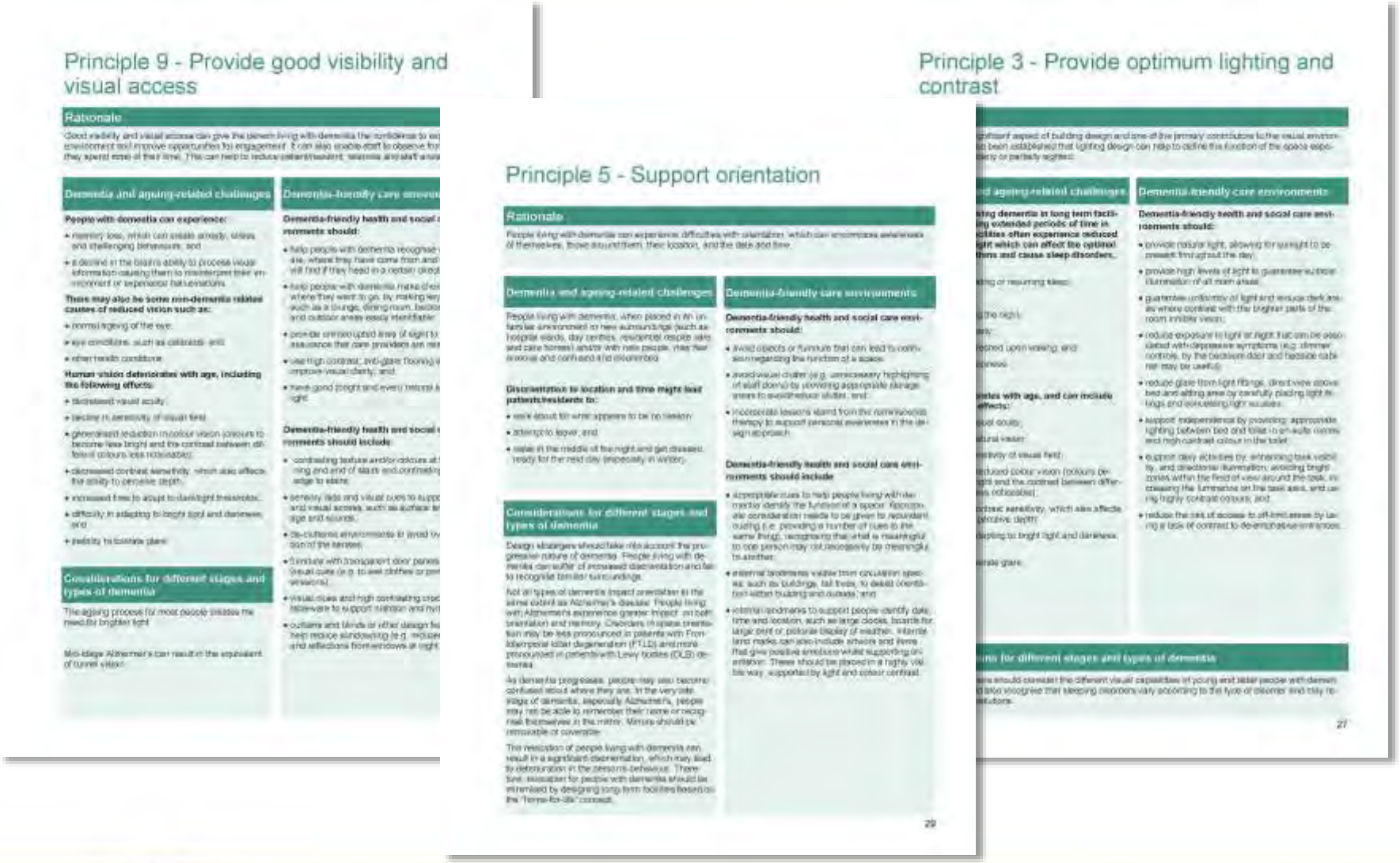
			DEMENTIA FRIENDLY DESIGN FEATURES												
			A	B	C	D	F	G	H	I	J	K	L	M	N	O
			Acoustics	Artwork	Ceilings	Colour	Decoration	Doors	Fixtures	Flooring	Furiture and fittings	Lighting	Reminiscence hardware and software	Signage	Walls	Windows and transparent panels
DEMENTIA FRIENDLY DESIGN PRINCIPLES	1	Promote a safe environment				x		x	x	x	x	x		x	x	x
	2	Provide optimum levels of stimulation	x	x	x		x			x		x	x		x	
	3	Provide optimum lighting and contrast			x	x		x		x		x		x	x	x
	4	Provide a non-institutional scale and environment	x	x	x	x	x		x	x	x				x	
	5	Support orientation	x		x		x					x	x	x	x	x
	6	Support way-finding and navigation		x		x	x	x	x	x				x	x	x
	7	Provide access to nature and the outdoors						x								x
	8	Promote engagement with friends, relatives and staff	x	x			x		x		x		x			
	9	Provide good visibility and visual access				x		x			x			x		x
	10	Promote privacy, dignity and independence	x		x	x	x	x	x		x	x	x	x		x
	11	Promote physical and meaningful activities	x	x					x	x	x		x			
	12	Support diet, nutrition and hydration	x	x		x					x		x			

Health Building Note 08-02: structure

1. Policy and Regulatory overview;
2. Scope;
3. Dementia types, stages and prevalence;
4. Design principles;
5. Core Design features;
6. Strategic long-term approach;
7. Benefits realisation plan;
8. Health care settings case studies;
9. Social care settings case studies.



Health Building Note 08-02: principles



Principle 9 - Provide good visibility and visual access

Rationale

Principle 5 - Support orientation

Rationale

Principle 3 - Provide optimum lighting and contrast

Health Building Note 08-02: design features

Health Building Note 08-02: case studies

Conclusions

This research has:

- identified 12 **principles** that support the design of dementia-friendly health and social care **environments;**
- gathered **evidence** towards a systematic set of core **design features** which can be purposefully designed for people living with dementia and categorised;
- delivered an **evidence-based design guidance** widely accessible through the Gov.UK website.

  https://www.gov.uk/government/publications/dementia-friendly-health-and-social-care-environments-hbn-08-02

Recommendations

- **Person-centric** care delivery can contribute to QoL of a person living with dementia.
- A set of principles and core design features can be applied **cross-settings, cross-spaces** and also **cross-countries**.
- The gap between health and social care is reducing and the design process can lead to **optimum integration**.
- Core features can support **effective and efficient design solutions**.

(Loughborough University Enterprise Ltd., Department of Health England, HBN 08-02: Dementia-friendly Health and Social Care Environments, 2015)

Thank you

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