

Housing challenges for an ageing population

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Dr David Kelly, BRE Group Director

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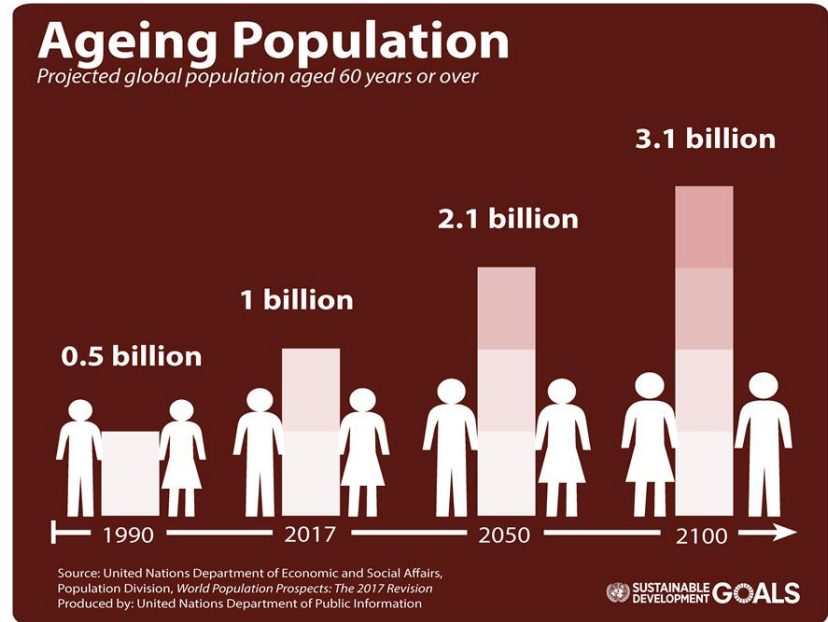


Themed approach

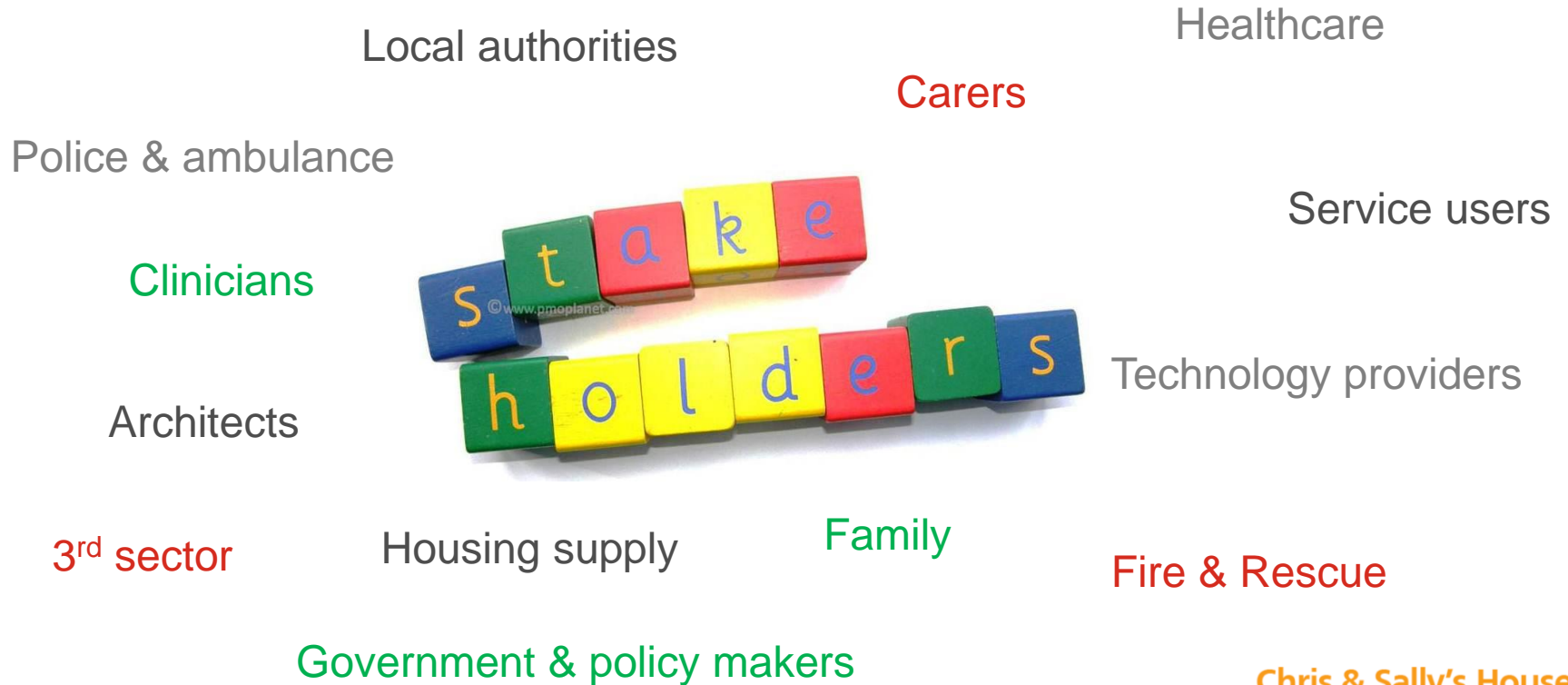
- Resilience
- Housing for an ageing population
- Smart connected homes
- Offsite



- Number of people in the UK with dementia to reach 1M in 2025
- Current housing shortage
- Pressure on public sector health and social care services
- ‘Bed blocking’
- Cost of care
- Supported living solutions.....
- What does good look like?



Why housing and dementia?





**Loughborough
University**



**LIVERPOOL
JOHN MOORES
UNIVERSITY**



**Halsall Lloyd
Partnership**
ARCHITECTS & DESIGNERS

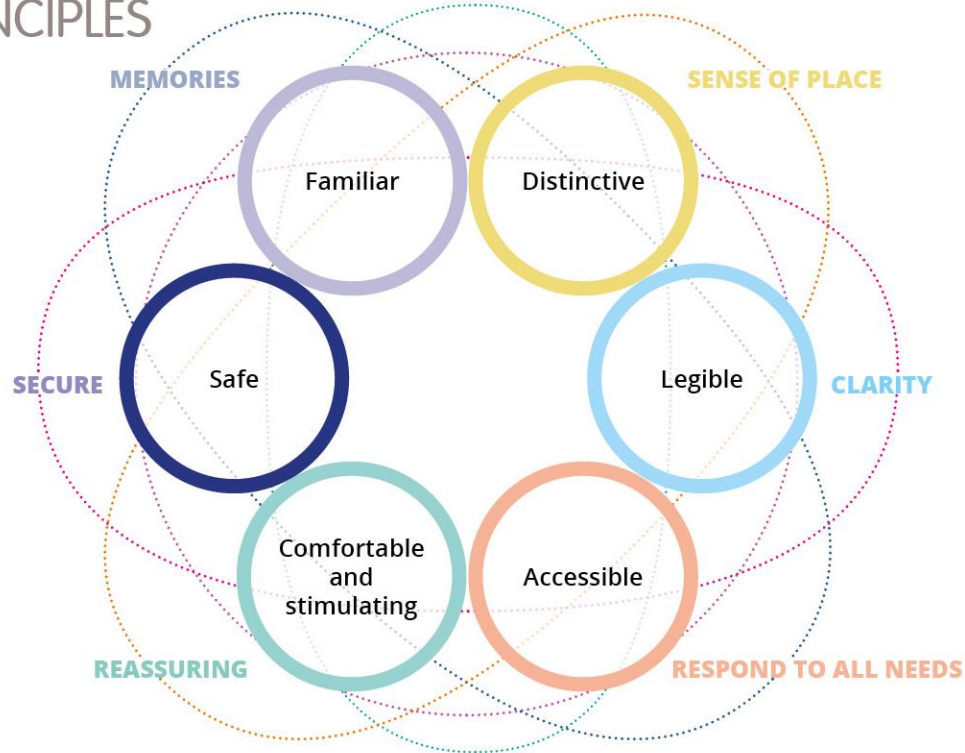
- Personas and Human Factors and Ergonomics (HFE) approach to the design of housing for people with dementia
- Home based activities to maintain independence and improve well being
- Building performance to promote health & wellbeing
- 'Living Lab' and user group to inform design & adaptation
- User feedback initiatives
- Community, town and city adaptation for an ageing population
- Architectural design – new build and adaptation
- Landscape architecture for community development and dementia friendly environments
- R & D

Chris & Sally's House

Living with dementia

Chris & Sally's House LIVING WITH DEMENTIA

Key Design PRINCIPLES



Chris & Sally's House LIVING WITH DEMENTIA

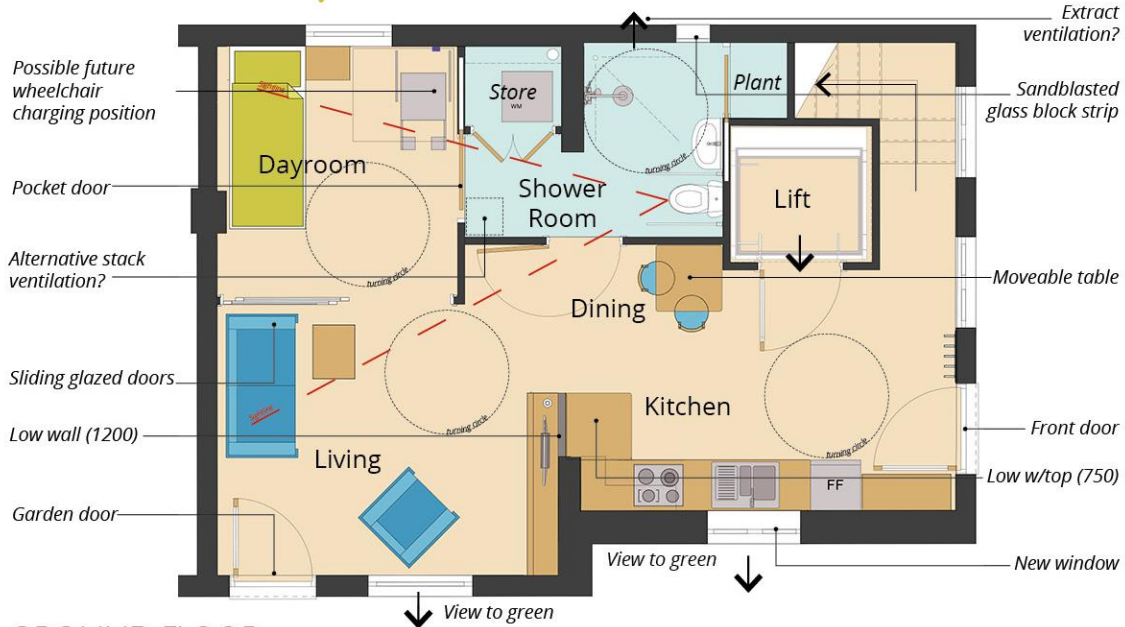


Chris & Sally's Existing Home - IMMEDIATE ISSUES

- The only bathroom is upstairs. Getting there quickly
- The upstairs bathroom is inadequate for incontinence issues.
- Bath is hard to get in and out
- Stairs are a struggle
- In future they will need better provision for wheelchair use
- Views of the garden are poor
- Access to the garden is difficult
- Thresholds are not navigable in a wheelchair
- Lighting is not adequate for the ageing eye, lighting levels need to be raised
- More natural light is needed
- Ventilation is poor - windows are hard to open and to clean
- On a sunny day there is glare and potential overheating
- The house is a small 'cottage' with restricted headroom at first floor.

Imagined as a 2 room cottage

Chris & Sally's House LIVING WITH DEMENTIA



ADAPTATIONS - 'DESIGN FOR DEMENTIA'

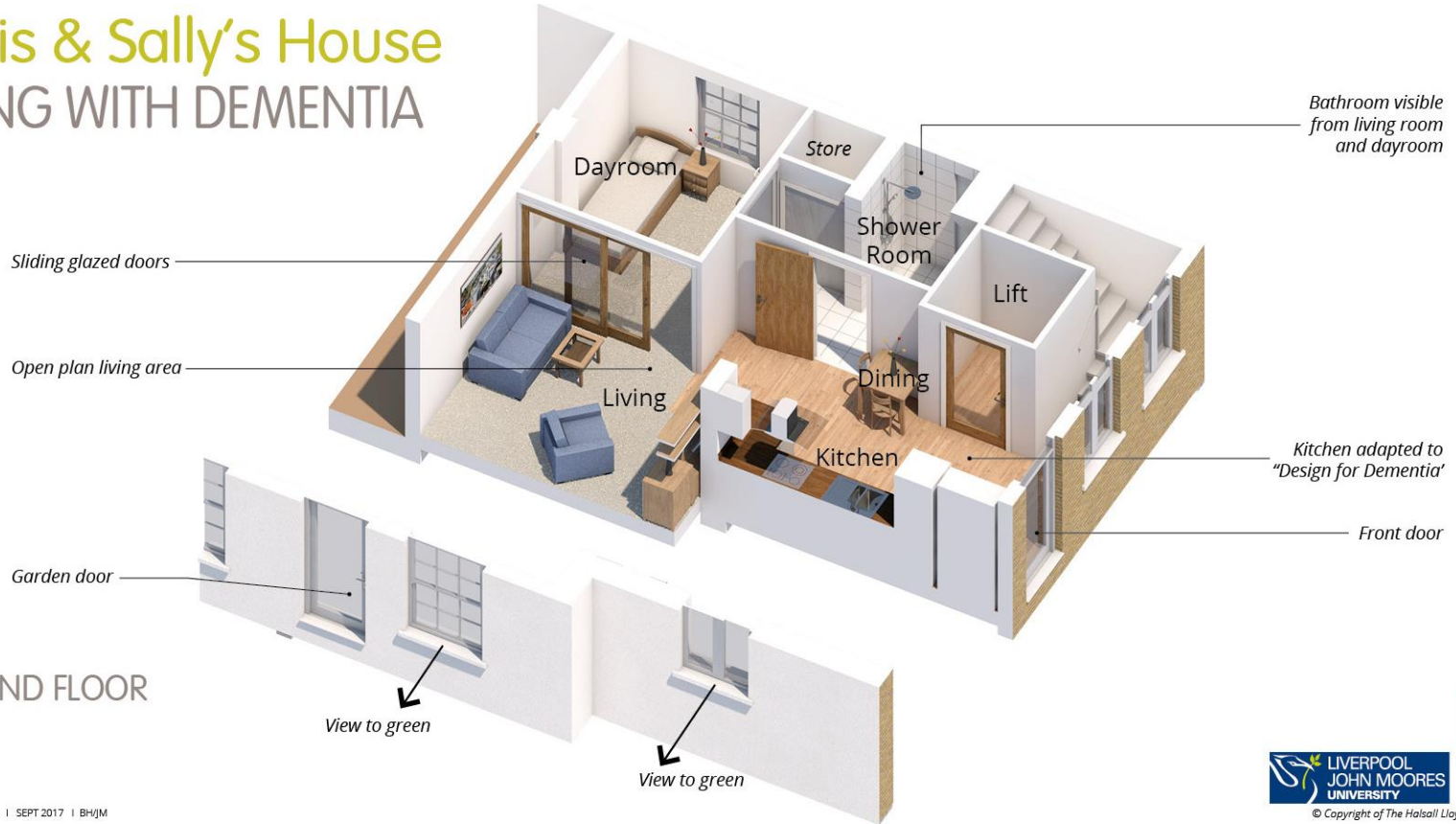
- Improve artificial lighting
- 'Walkability' as well as wheelchair access
- Safe furniture - stable, rounded corners etc.
- Install lift - wheelchair plus 1 person
- Dementia friendly w/c and wetroom downstairs and upstairs (M4.3 standard)
- New windows in Bedroom 2 and kitchen
- Isolate washing machine
- Wheelchair charging points upstairs and downstairs
- Thresholds level
- Hoist provision - Bedroom 1 and ground floor Dayroom
- Sight-lines to w/c.

GROUND FLOOR

The brief and the design has evolved through participation with Loughborough University and Liverpool John Moores University team. HLP have developed the concept and design.

Chris & Sally's House

LIVING WITH DEMENTIA



GROUND FLOOR

Chris & Sally's House LIVING WITH DEMENTIA



FIRST FLOOR

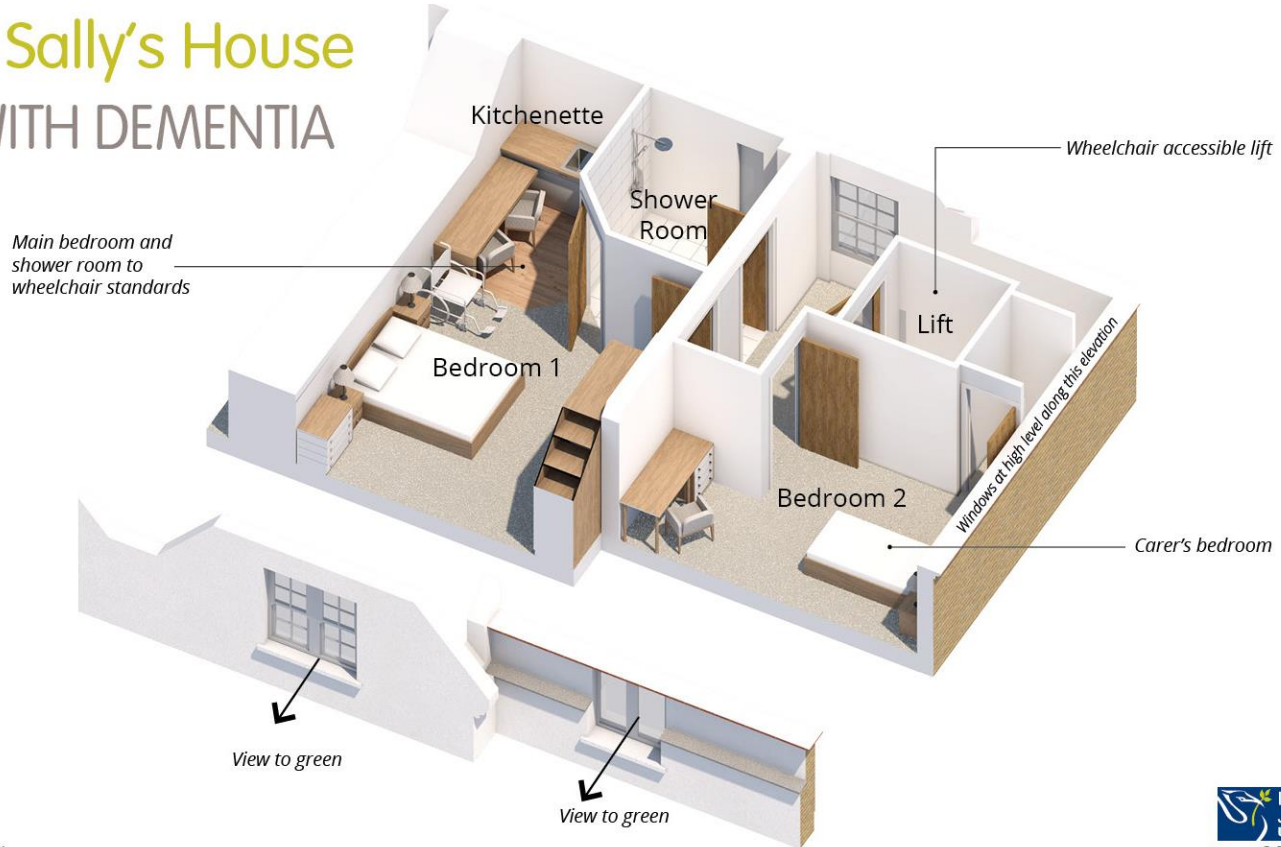
The design has developed to respond to 'personas' derived from Loughborough University research to respond to a range of impairments associated with ageing - physical and cognitive.

ADAPTATIONS 'DESIGN FOR DEMENTIA'

- Dementia friendly w/c and wetroom downstairs and upstairs (M4.3 standard)
- New windows in Bedroom 2 and kitchen
- Wheelchair charging points upstairs and downstairs
- Thresholds level
- Add kitchenette upstairs adjacent to Bedroom 1
- 2 bedrooms upstairs (1 to M4.3 standard)
- Building regulations M4.2 standard apart from Bed 1, Bathrooms - M4.3
- Upstairs store
- Hoist provision - Bedroom 1 and ground floor Dayroom
- Sight-lines to w/c.

Chris & Sally's House

LIVING WITH DEMENTIA



FIRST FLOOR

Chris & Sally's House

View of the Kitchen with Lounge Beyond

Illustrates the following features:

- Open plan arrangement
- Legibility between rooms
- Easy access to wc and shower room with good visibility for orientation
- Lift access to first floor, to accommodate wheelchair plus carer
- Minimising doors
- 'Walkability' as well as wheelchair access
- Kitchen with glass doors and drawers for visibility of kitchen equipment
- High and low level work surfaces
- Rounded corners to minimise risks from falls
- 'View to Green' – good aspect
- Good natural and artificial light
- Tonal contrast between floor, walls, door, kitchen unit fronts and worktops based on approximately 30% difference in light reflectance values
- 'Personalisation' and 'memories' to make it feel like a home.









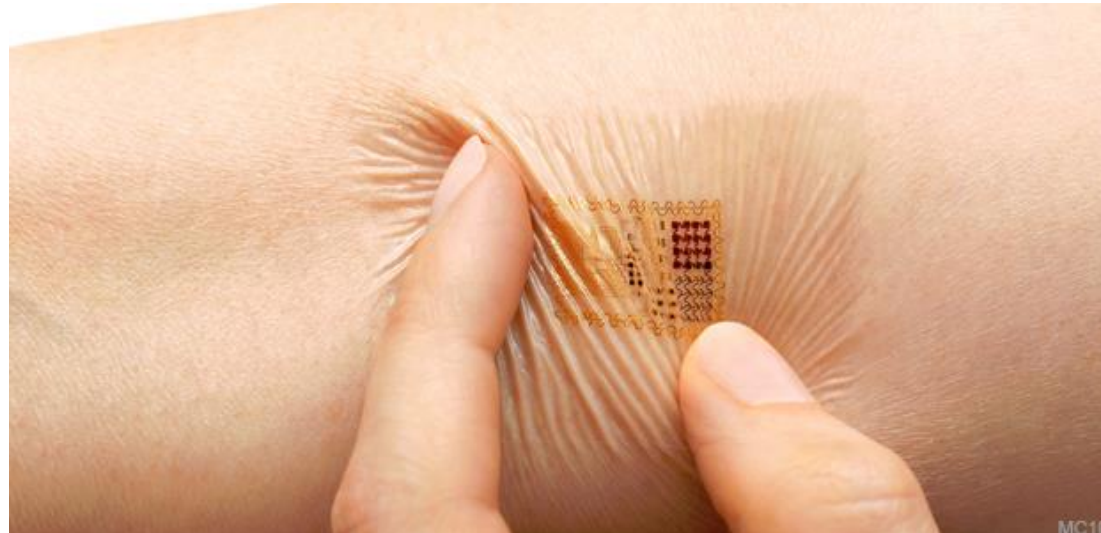




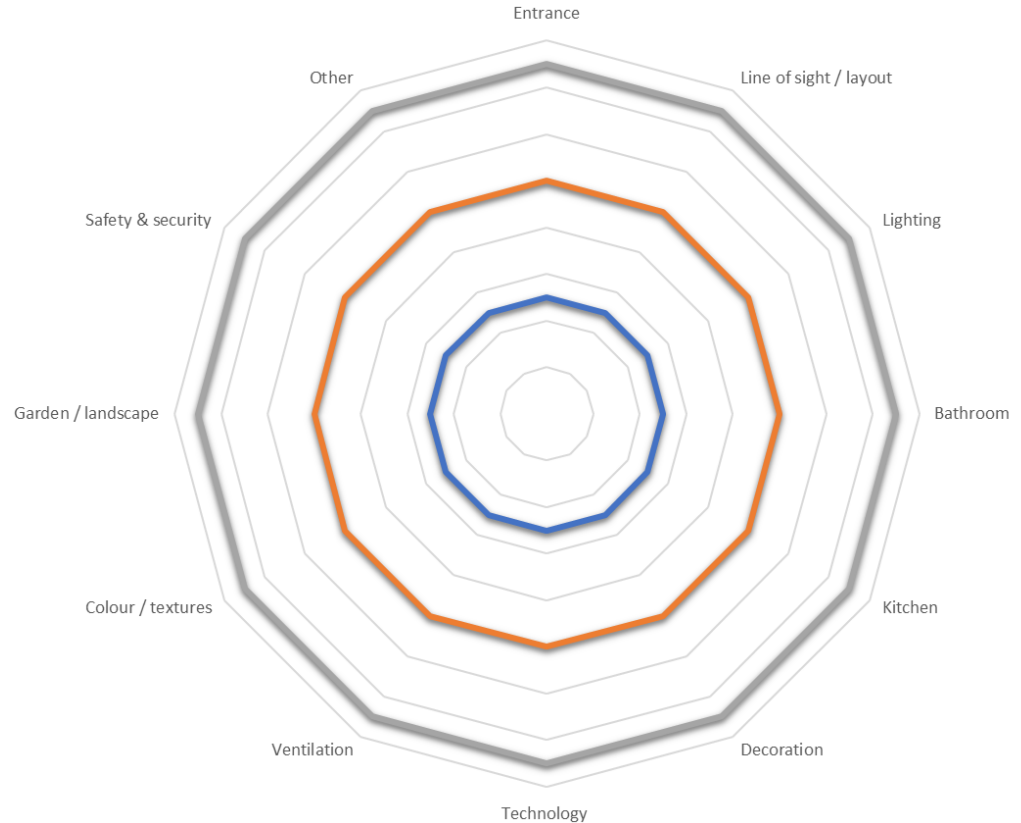


Role of technology

- Behavioural patterns
- Biometric sensors
- Gait analysis
- Supportive environments
- Fire safety and security
- Health and wellbeing
- R & D



- Multi-parameter building assessment
- Supplemented with best practice guidance
- Consistent measure of buildings design & performance
- Benchmarking dementia friendly buildings and communities



- Need for greater adaptation capacity in new build
- Consistent and informed process for evaluating adaptation needs
- What does good look like?
- Collaborative approach across all stakeholder groups.

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Thank you

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