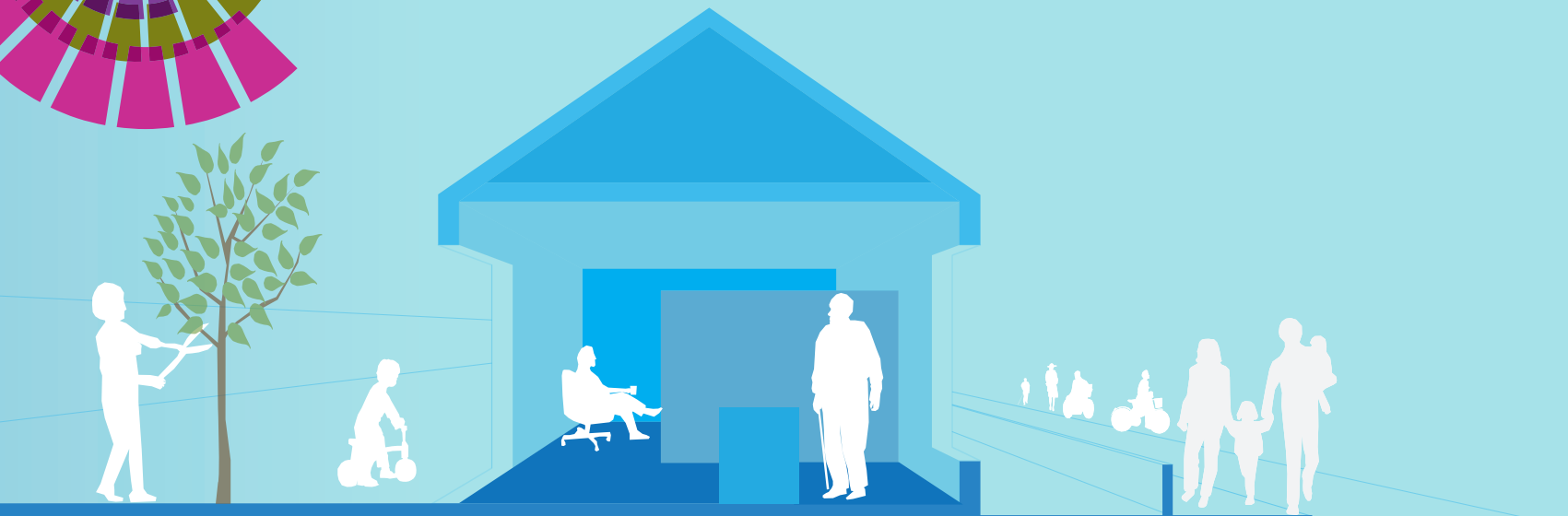




**NDA**

National Disability Authority  
Údarás Náisiúnta Míchumais



# **Universal Design Guidelines**

## **Dementia Friendly Dwellings**

### **for People with Dementia,**

### **their Families and Carers**

**Centre for Excellence in Universal Design**



**2015**

**nDA**

**National Disability Authority**  
Údarás Náisiúnta Míchumais



Lárionad Foirfeachta  
i nDearadh Uilíoch

**Centre for Excellence  
in Universal Design**

# **Universal Design Guidelines Dementia Friendly Dwellings for People with Dementia, their Families and Carers**

**Centre for Excellence in Universal Design**

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2015

## **Centre for Excellence in Universal Design**

Creating an environment that can be used by all people, regardless of their age, size, disability or ability.

The National Disability Authority's Centre for Excellence in Universal Design has a statutory role to promote the achievement of excellence in universal design in:

- the design of the built and external environment
- product/service design
- information and communications technologies (ICT)
- the development and promotion of standards
- education and professional development
- raising awareness of universal design

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# **Universal Design Homes Principles**

- 1. Integrated into the neighbourhood;**
- 2. Easy to approach, enter and move about in;**
- 3. Easy to understand, safe to use and manage;**
- 4. Flexible, cost effective and adaptable over time.**


# Helen Guinan - Foreword

**The Centre for Excellence in Universal Design (CEUD) which is part of the National Disability Authority has produced these guidelines to inform policy and practice in relation to the design of dementia friendly dwellings.**

Ireland is unique in having a statutory Centre for Excellence in Universal Design. Our work in raising awareness and informing policy is to enable people in Ireland to participate in a society that takes account of human difference and to interact with their environment to the best of their ability.

It is our aim that these guidelines will support the Universal Design Homes for Ireland Guidelines and will inform national policy and be used in practice by all stakeholders – those who commission, design, build, provide and occupy dwellings. If new dwellings or alterations to existing dwellings are built in line with a Universal Design dementia friendly approach, then they will help people to remain living at home and in their community independently and safely for as long as possible. This approach will also support family members and carers to sustain the caring relationship, particularly if these carers are older people or a person with a disability.

I would like to thank all the stakeholders for their engagement in this process and I would like to also thank the authors from TrinityHaus and the Living with Dementia (LiD) Programme, Trinity College Dublin for their work on this publication.

A rectangular box containing a handwritten signature in blue ink. The signature is written in a cursive style and reads "Helen Guinan".

Ms Helen Guinan

Chairperson

National Disability Authority

# Executive Summary

## The purpose of these Guidelines

These **Guidelines for the Universal Design of Dementia Friendly Dwellings for People with Dementia, their Families and Carers** have been created to supplement the existing **Universal Design Homes for Ireland (UDHI) Guidelines**. They can be used for the design of new build and the retrofit of existing dwellings to ensure:

- That people living with dementia have the choice to live as long as possible in their own homes and in their own communities by creating dementia friendly dwellings that support the individual with dementia and also his or her family and carers.
- That practical guidelines are available for the design and delivery of Universally Designed Dementia Friendly Dwellings.

## About the Guidelines

These Guidelines draw upon an in-depth literature review of national and international best practice in relation to dementia friendly design and Universal Design. This review was supported by an extensive consultation process with key stakeholders, and the examination of a number of national and international case studies.

To download the Research & Recommendations Report which contains this information please go to: [www.universaldesign.ie/housing/](http://www.universaldesign.ie/housing/)



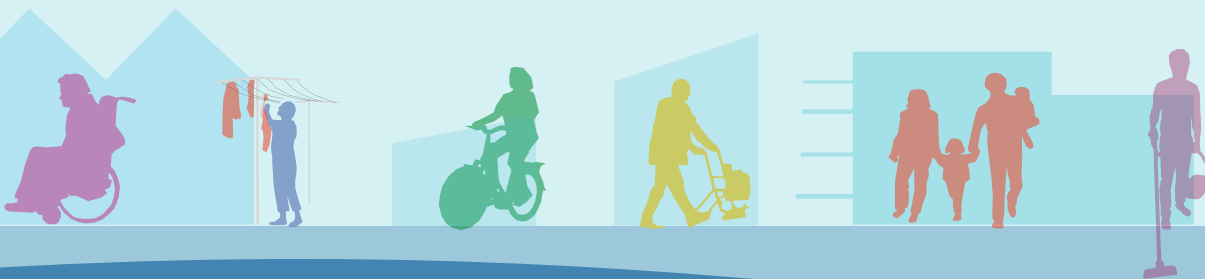
**Across the world, it is estimated there are about 44 million people with dementia and this number is set to triple by 2050 to reach 135 million. (Alzheimer's Disease International, 2013)**



## Overview of the Guidelines

The **UDHI Guidelines** provide overall Universal Design Homes guidelines while these current **Guidelines for the Universal Design of Dementia Friendly Dwellings for People with Dementia, their Families and Carers** outline dementia specific design considerations as part of the Universal Design (UD) approach. These guidelines follow the same format as the **UDHI Guidelines** to facilitate easy cross referencing between the two documents. When using these guidelines the reader should consider the following:

- The introduction section briefly describes the concept of UD Homes, the challenges of dementia, and its implications for the design of dwellings for people with dementia, their families and carers.
- These guidelines are applicable to both new build and existing dwellings, and refer to different scales of intervention; from low cost, low impact changes to major structural works.
- The UD process, including meaningful stakeholder engagement, is critical to a successful UD Dementia Friendly Dwelling. Pages 6 to 17 outline some key issues to be considered when designing dwellings for people with dementia, their families and carers.
- Specific design quality guidelines are provided in Sections 1-4. These move from location and public approach spaces, to circulation and internal living spaces, and finish with guidance relating to detailed issues such as finishes or technology.



**It is projected that in Ireland the number of people living with dementia residing in the community is likely to double between 2011 and 2031, to reach approximately 60,000 by 2031. (Pierce, Cahill and O'Shea, 2014)**

# Introduction

These guidelines are informed by a complimentary research report and build upon the Universal Design Homes for Ireland (UDHI) Guidelines. These guidelines provide detailed guidance in relation to dementia specific design issues and the Universal Design of dementia friendly dwellings.

It is hoped that this guidance will raise awareness about designing for dementia and highlight the benefits of adopting a Universal Design (UD) approach to allow people to continue living at home and in their community for as long as possible.

This Introduction Section briefly outlines the concept of UD homes (for more detailed information refer back to the UDHI Guidelines) and the main issues around designing dwellings for people with dementia, their families and carers. Understanding the symptoms of dementia and age related difficulties is critical to the successful design of UD dementia friendly dwellings.

In this context, these design guidelines can be used for the design of new build and the retrofit of existing dwellings to ensure that:

- Many people living with dementia can live as long as possible in their own home and in their own community by creating dementia friendly dwellings.
- Good home design supports families and carers as well as the person with dementia.
- Cost effective practical solutions will promote independence and address safety concerns.
- The well-being of the person with dementia and their families and carers will be enhanced.

These guidelines can be used to inform design at various scales, whether this is a low cost, low impact intervention such as signage, major structural works, or a new build. Five scales of intervention have been identified to help in this regard and these design scales are detailed later in this section.

As stated in the UDHI Guidelines, Universal Design is simply good design.

## Benefits of Universally Designed Homes for All

We all have changing needs at different stages in our life cycles – changes in family life, lifestyle, finances, or health circumstances. A UD Home can adapt and change with us by factoring in at the outset key design features that enhance quality of life for everyone at home. The application of UD thinking to these homes recognises our differences and accommodates them through the integration at the outset of the design and construction stages of a Universally Designed home with the following:

- Flexibility and ease of adaptability to meet peoples' changing needs over time in a cost effective way;
- Sustainable design to improve comfort and energy efficiency; and,
- Smart technologies to support independent living.

Living in a UD Home helps to avoid the need for re-location or costly building works as individual or family needs change over time. Integration of smart infrastructure and energy efficient systems at the outset of home design avoids costly re-fits and also benefits everyone in terms of comfort, efficiency and quality of services.

It is not about a 'one-size-fits-all' model – the UD Home environment enables the widest possible number of people to participate at home, in society, and to live independently. For a housing provider, builder or developer, a UD Home provides a competitive advantage as the home offers a more attractive market proposition for the widest range of potential residents.

UD Homes work well for everyone and look good. They are mainstream in aesthetics, not separate or distinct for those with special needs, and are designed according to 4 key Principles:

- 1. Integrated into the neighbourhood;**
- 2. Easy to approach, enter and move about in;**
- 3. Easy to understand, safe to use and manage;**
- 4. Flexible, cost effective and adaptable over time.**

## Dementia and Age Related Difficulties

### Understanding the issues to inform design

Designing or retrofitting for dementia friendly dwellings requires a good understanding of the symptoms and challenges dementia usually presents and an appreciation of the 'lived experiences' at home, of people with dementia, their families and carers.

Dementia is a syndrome caused by many different diseases, of which the most common are (i) Alzheimer's disease (ii) Mixed Dementia and (iii) Vascular Dementia. Dementia can affect a variety of cognitive abilities and different types of dementia can affect different parts of the brain. While no two people with dementia will have the same symptoms and experiences, the symptoms common to all types of dementia broadly include:

- **Impaired rational thinking, judgement, and problem-solving.**
- **Difficulty with memory (initially short-term but progressing over time to long-term memory difficulties).**
- **Problems learning new things.**
- **Increasing dependence on the senses.**
- **Fear anxiety and increased sensitivity to the built and psycho-social environment.**



While the difficulties experienced by people with dementia vary considerably, people with dementia will often have retained abilities and insight, which need to be supported to help the person maintain their selfhood and valued social persona.

In the early stages, difficulties experienced by people with dementia may be slight and go unnoticed but as the illness progresses they usually become more pronounced. For example, **activities of daily living** (ADLs), e.g. dressing, showering, eating, toileting, and **instrumental activities of daily living** (IADLs), e.g. food preparation, laundry, taking medication, using the telephone or shopping, may pose a real challenge to the individual. Damage to the parietal lobes may result in apraxia or the inability to organize in the correct sequence a variety of actions, such as setting the table, dressing oneself correctly, using money appropriately including checking change.

Many people with dementia will have other age-related health problems such as cardiovascular disease, Parkinson's disease and diabetes. They are also more likely to experience other age-related difficulties such as:

- **Mobility difficulties.**
- **Visual difficulties.**
- **Hearing difficulties.**

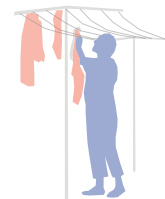


These health conditions and difficulties, which can significantly impact on the subjective experience of dementia, can be aggravated or improved by the built and psycho-social environment. Some health problems and diseases can lead to additional complications, such as vision and hearing loss, stroke and associated paralysis, incontinence, problems with drinking and eating, malnutrition, difficulty walking, falls, and injuries.

The interaction with dementia of these other diseases, health problems and sensory difficulties can lead to further complications if the person living with dementia can no longer communicate, or is unable to comprehend the value of using devices such as hearing aids or glasses. For people living with dementia, sensitivity to lighting and noise levels may be exacerbated by hearing and visual difficulties associated with ageing. It is therefore a real challenge to design the built environment to meet the complex, diverse and often varying needs and preferences of the individual with dementia and their families and carers. Built environment professionals need to keep in mind the health conditions and sensory difficulties people with dementia are likely to have and weigh up the benefits and drawbacks of introducing various design features for people with multiple health problems.

Designing for people with dementia, their family members and carers should always build on UD principles, which are beneficial for all. The physical environment has a salient role in promoting quality of life of people with dementia and quality of care delivered. The environment can influence and reduce the behavioural and affective symptoms associated with dementia and a person-centred approach should always be adopted. Due consideration should be afforded to the complex and unique needs of the individual with dementia and to families and carers. In line with this approach, and in the context of UD Dementia Friendly Dwellings the following goals should be kept in mind:

- **Recognise the important role played by formal carers visiting the home.**
- **Encourage social connections and meaningful engagement with family, friends and members of the local community.**
- **Reinforce familiarity and personal identity.**
- **Support meaningful activity.**
- **Promote positive risk taking.**
- **Promote autonomy and choice.**
- **Enhance self esteem and confidence.**
- **Ensure the ethical use of assistive technology, where relevant.**



## Dementia Friendly Design Issues

The design of a dwelling that supports and enables all people regardless of age size, ability or disability and at the same time is accessible, usable and easily understood by people with dementia is a complex task.

Consider the following eight **design issues** as part of a UD approach for dementia friendly dwellings:



**Encourage a participatory design approach where people with dementia, their family and carers can take part in the design process.**



**Use familiar design with the use of recognisable features consistent with user expectations.**



**Support personalisation of the environment to enhance continuity of self.**



**Provide an environment that is easy to interpret and calm, paying close attention to the reduction of acoustic and visual disturbances.**



**Provide good visual access to key areas of the dwelling or to important objects to remind and prompt the occupant when required.**



**Provide unobtrusive safety measures and appropriate technology such as Assistive Technology (AT), Ambient Assisted Living (AAL), Telecare or Telehealth to provide a safe and secure environment.**

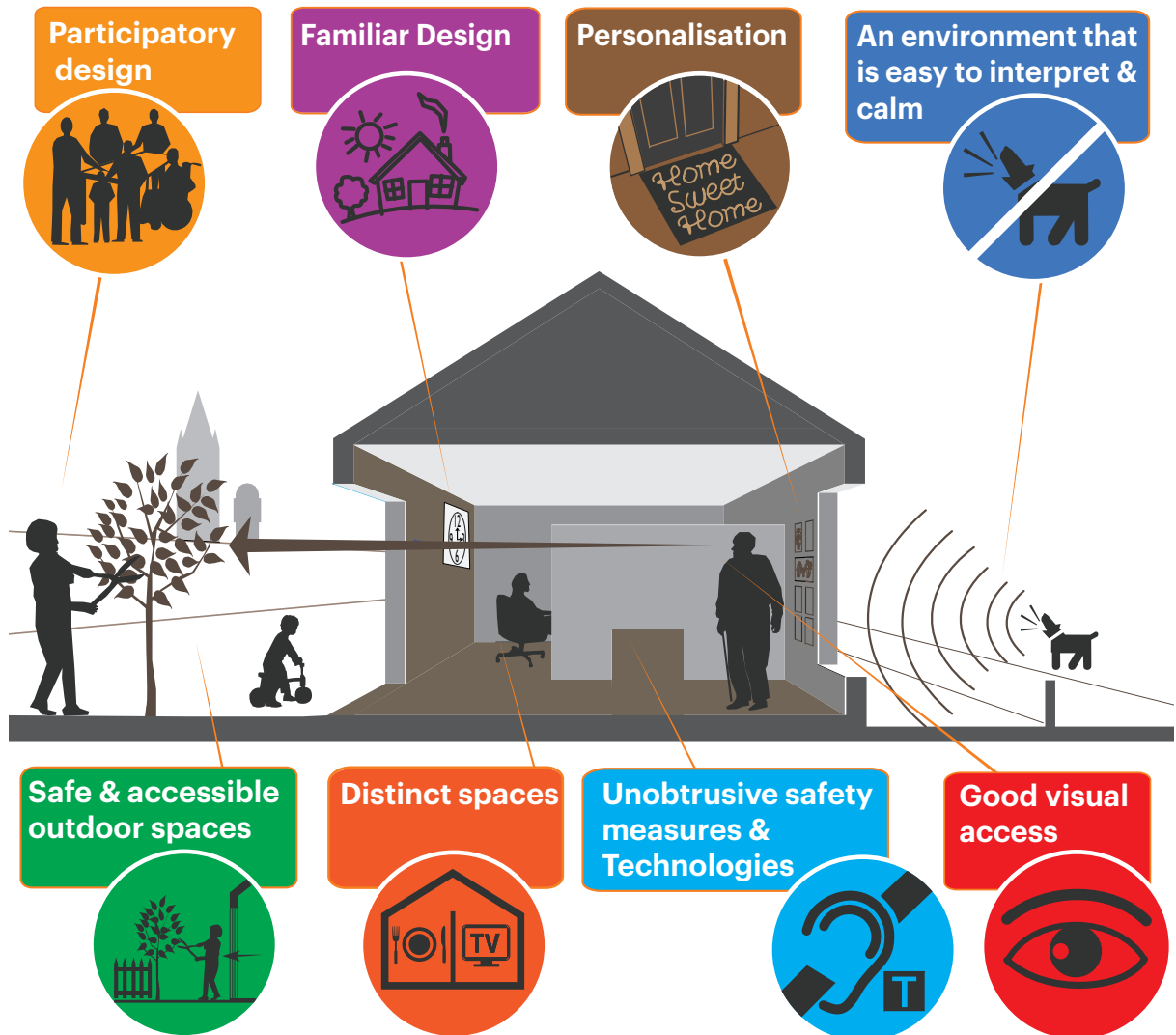


**Create distinct spaces for different domestic activities so that the meaning and function of these spaces is legible and more memorable.**



**Provide safe and accessible outdoor spaces which are perceptible from the interior to encourage occupant use of these spaces.**

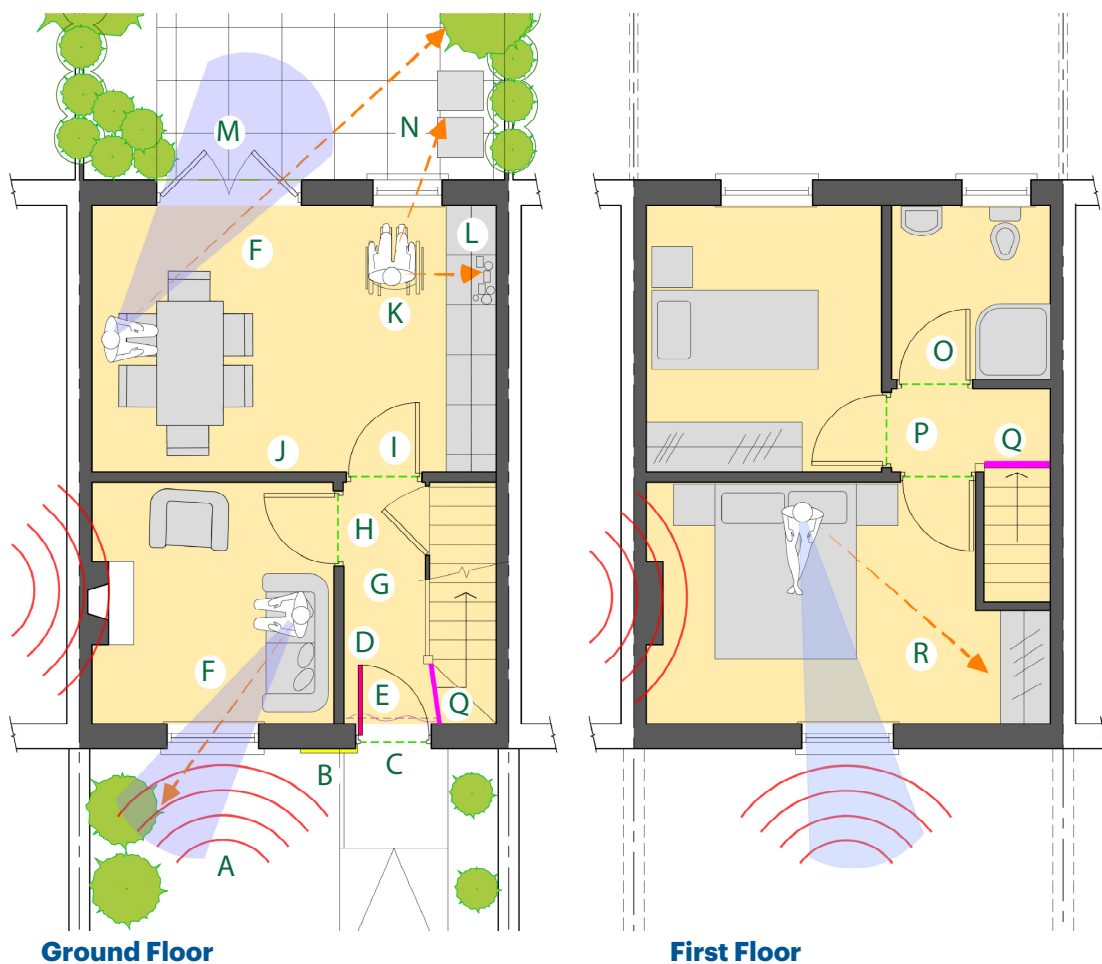
These issues must be carefully managed to ensure a balanced design approach for UD dementia friendly dwellings. Considering these issues within the framework of UD will ensure that the dwelling meets the specific needs of people with dementia while also supporting other occupants, family members, or carers.



## At a Glance - Universal Design Dementia Friendly Dwellings

In following pages, floor plans are represented for three typical dwellings to illustrate some key design features in line with UD dementia friendly dwellings.

### Two Storey Mid-Terrace Three Bedroom Townhouse



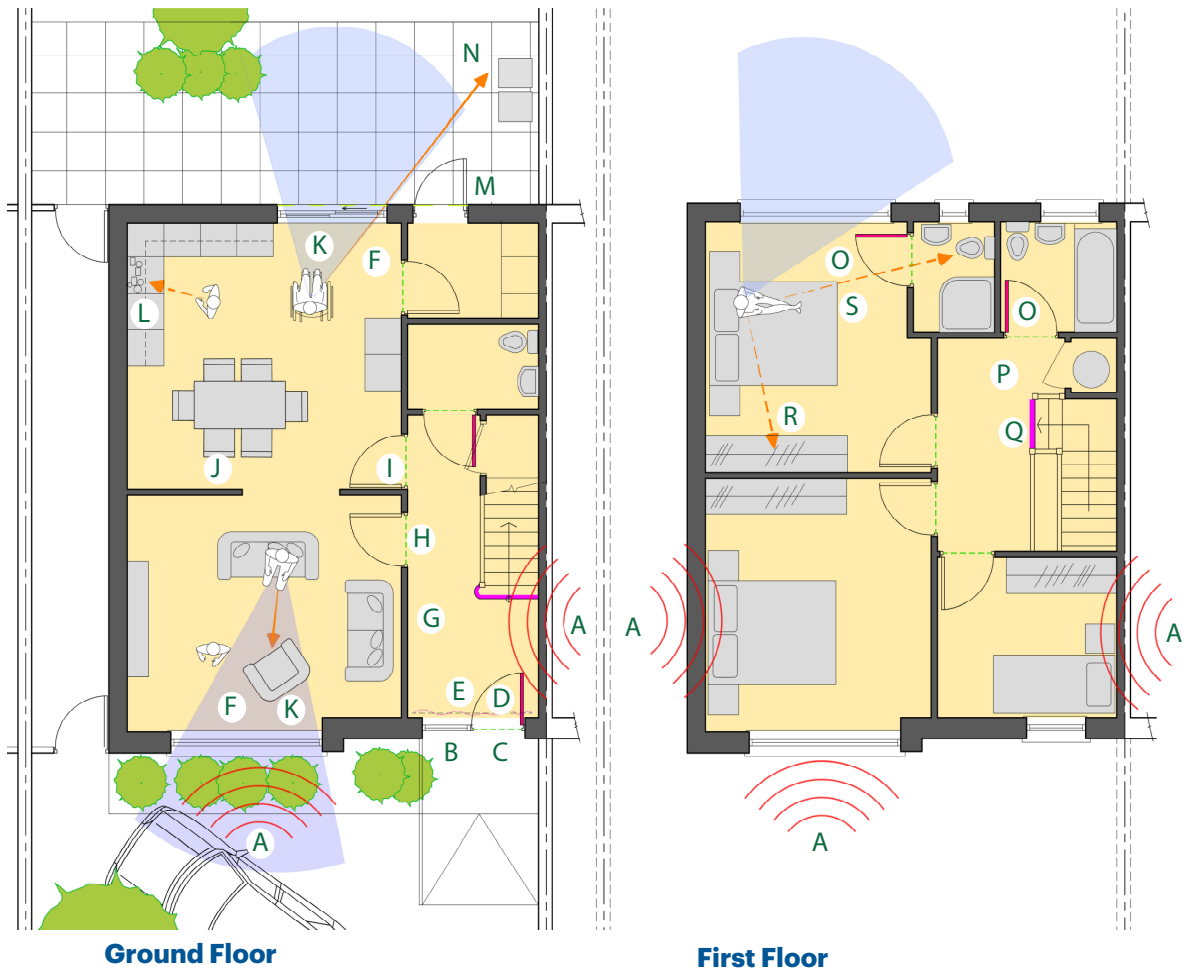
#### Some typical UD Dementia Friendly features:

- A. Ensure good acoustic conditions by orientating spaces away from sources of noise or by providing high levels of acoustic insulation such as triple glazing.
- B. Create a distinct entrance by planting particular shrubs or by providing distinct colours to the entrance area or front gate.
- C. Provide level entry front and back doors.



- D. Provide a brightly painted front door to make it distinct and recognisable.
- E. Consider fitting a curtain to disguise the inside of the door to discourage a person with dementia from leaving the house at unsuitable times if necessary.
- F. Ensure window dressing, such as curtains or blinds, do not obscure natural light and that it provides maximum views to the outside, or key external features.
- G. Avoid strong patterns for floor finishes and provide plain coloured, matt finishes which reduce glare or shine in brightly lit conditions.
- H. Provide a continuous floor finish with as little change in material as possible. Where a change in material must occur, ensure there is minimum colour contrast, particularly at door thresholds.
- I. Use a contrasting door colour to ensure that the door is easily distinguished from the surrounding walls.
- J. Use contrasting colours on the skirting boards to provide a visual break between the walls and the floors to ensure greater visual contrast.
- K. Ensure window location, window sill height and window dressing facilitate visual access to safe external areas or objects, such as a dustbin area or clothes line.
- L. Consider using glazed kitchen units or cupboards to provide visual access to the contents.
- M. Ensure easy, and where possible, level access to safe and accessible outdoor space to encourage a person to spend time outside or engage with outdoor activities.
- N. Provide key objects such as recycling bins or clothes lines within view and easy reach to maximise independence and encourage typical daily household activities.
- O. Provide a distinctive colour to the entry doors of key rooms such as the bathroom.
- P. Ensure proper artificial lighting is provided in circulation areas, especially those leading to toilets and bathrooms that may be used at night.
- Q. Provide colour contrast between the floor and the steps to highlight the presence of the stairs. Ensure that the handrail clearly stands out from the wall, for example by painting it a different colour.
- R. Provide visual access to the wardrobe, and where appropriate consider a glazed section to the wardrobe to enable a person to see their clothes hanging inside to facilitate with dressing.

## Two Storey Semi-detached Three Bedroom House



### Some typical UD Dementia Friendly features:

- A. Ensure good acoustic conditions by orientating spaces away from sources of noise or by providing high levels of acoustic insulation such as triple glazing.
- B. Create a contrasting entrance by planting particular shrubs or by providing distinct colours to the entrance area or front gate.
- C. Provide a level entry at front and back doors.
- D. Provide a brightly painted front door to make it distinct and recognisable.
- E. Consider fitting a curtain to disguise the inside of the door to discourage a person with dementia from leaving the house at unsuitable times, if necessary.

- F. Ensure window dressing, such as curtains or blinds, do not obscure natural light and that it provides maximum views to the outside, or key external features.
- G. Avoid strong patterns for floor finishes and provide plain coloured, matt finishes which reduce glare or shine in brightly lit conditions.
- H. Provide a continuous floor finish with as little change in material as possible. Where a change in material must occur, ensure there is minimum colour contrast, particularly at door thresholds.
- I. Use a contrasting door colour to ensure that the door is easily distinguished from the surrounding walls.
- J. Use contrasting colours on the skirting boards to provide a visual break between the walls and the floors to ensure greater visual contrast.
- K. Ensure window location, window sill height and window dressing facilitate visual access to safe external areas or objects, such as a dustbin area or clothes line.
- L. Consider using glazed kitchen units or cupboards to provide visual access to the contents.
- M. Ensure easy, and where possible, level access to safe and accessible outdoor space to encourage a person to spend time outside or engage with outdoor activities.
- N. Provide key objects such as recycling bins or clothes lines within view and easy reach to maximise independence and encourage typical daily household activities.
- O. Provide a distinctive colour to the entry doors of key rooms such as the bathroom.
- P. Ensure proper artificial lighting is provided in circulation areas, especially those leading to toilets and bathrooms that may be used at night.
- Q. Provide colour contrast between the floor and the steps to highlight the presence of the stairs. Ensure that the handrail clearly stands out from the wall, for example by painting it a different colour.
- R. Provide visual access to the wardrobe, and where appropriate consider a glazed section to the wardrobe to enable a person to see their clothes hanging inside to facilitate with dressing.
- S. Similar to the above, provide a direct view to the WC from the bed to help provide a visual cue to prompt a person to use the toilet when required.



- F. Provide a layout that gives good visual access throughout the dwelling.
- G. Provide 'Cat and Kitten' doors for easy circulation and better visual access.
- H. Provide a direct view to the WC from the bed to help provide a visual cue to prompt a person to use the toilet when required.
- I. Ensure window dressing does not obscure natural light and that it provides maximum views to the outside, or key external features.
- J. Ensure easy, and where possible, level access to safe and accessible outdoor space to encourage a person to go outdoors. In the case of many apartments this may include a balcony or a terrace area and in this situation, these spaces will need to be designed with due consideration for safety.
- K. Consider using glazed kitchen units or cupboards to provide visual access to the contents.

**It is estimated that there are approximately 48,000 people living with dementia in Ireland (Pierce et al., 2014).**

**Almost two-thirds of people with dementia in Ireland live at home in the community (Connolly et al., 2014).**



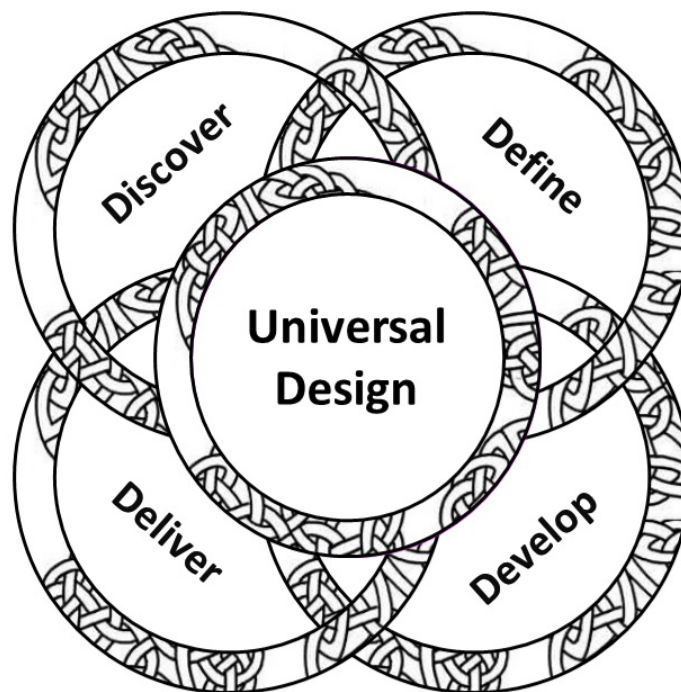
## UD Approach for Dementia Friendly Dwellings Informing practice

### Universal Design Process

These design guidelines are not meant to be overly prescriptive, but are intended to inform designers about some key dementia friendly design considerations and provide an overall guiding framework for the creative design process.

One of the key design considerations for a UD dementia friendly dwelling involves a participatory design approach. Other key design considerations include familiar design and personalisation, both of which will be greatly enhanced by direct engagement with the current or future residents of the dwelling. This will engender a more inclusive process where, depending on the stage of dementia, the voice of the individual with dementia can be heard and their needs and preferences understood.

It is in this context that the UD process, as illustrated below, of **'Discover, Define, Develop and Deliver'** and the inclusion of key stakeholders in the design process will help in the successful delivery of UD dementia friendly dwellings.



**01** *The Universal Design process as applied by the Centre for Excellence in Universal Design.*

## Suggested Key Stakeholders to be Consulted

It is very important to engage with key people during the design process to ensure that the design is in line with the client's or resident's requirements. Depending on the circumstances of each project, the designer should consider how they might engage with the following key stakeholders:

- **The person with dementia, if this is appropriate, and all other occupants of the dwelling such as a partner or spouse.**
- **Other family members who provide care or who are involved with the person with dementia on a regular basis.**
- **Relevant health professionals.**
- **Formal carers**

Where appropriate the designer may also consider speaking to the following individuals if they are involved with the person with dementia on a regular basis:

- **Neighbours.**
- **Friends.**

## Things to Consider for the Construction Phase

Retrofitting of existing dwellings has the potential to cause confusion and anxiety for a person with dementia as they may not recognise the dwelling as their own if the changes are significant. Also, if the works are carried out while the person with dementia remains living in the house, the noise and disturbance may be stressful. With this in mind it is important to consider the following:

- **Is it appropriate for a person with dementia to remain at home while the building works are being carried out in order to experience the changes more gradually?**
- **Where the works are extensive and make it impossible to remain in place during the construction phase, should the person with dementia be brought back periodically to see the building work as it progresses?**
- **In either case, the building contractor and the tradespeople who will be on site must be aware of the circumstances and be sensitive to the needs of a person with dementia if this person is onsite.**

These issues are part of the design process and onsite implementation phases and should be considered as an integral part of the UD dementia friendly approach.

## **Design for New Build and Existing Dwellings: Five scales of interventions, adaptations or design**

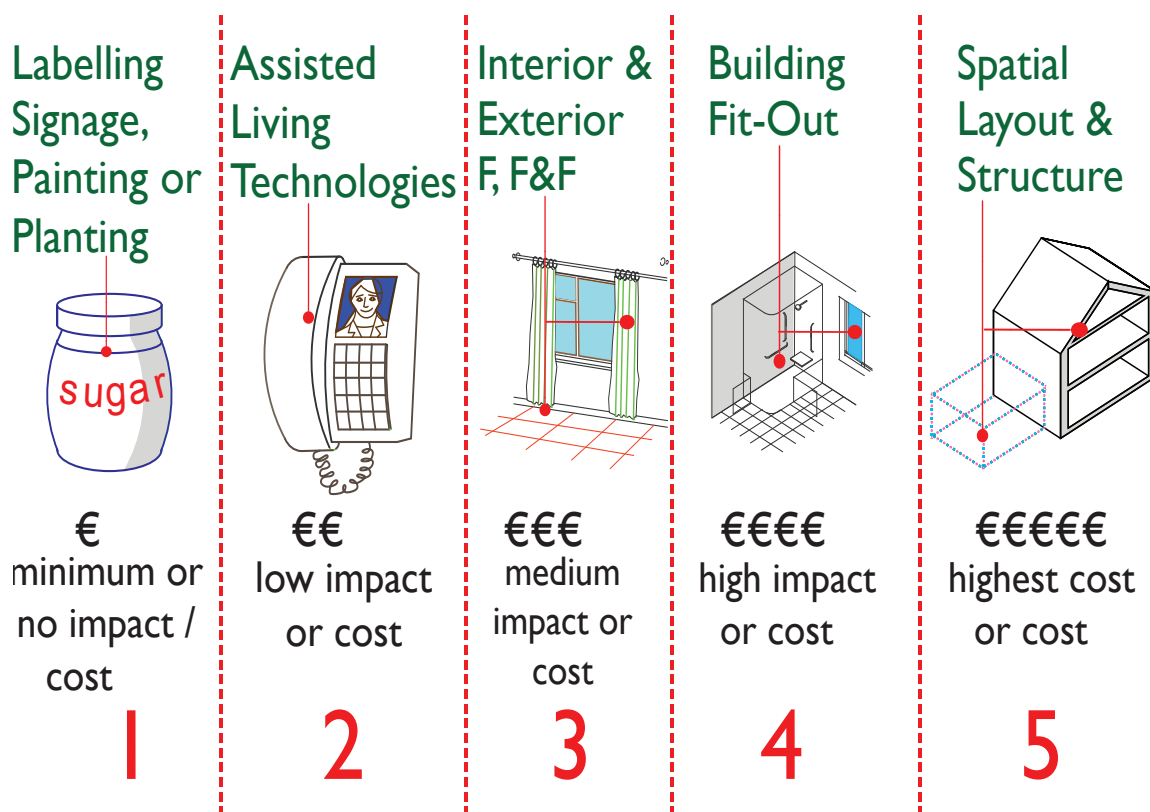
These guidelines are applicable to both new build and existing dwellings. We have identified five different levels of intervention or design scales that can be applied as part of a Universal Design approach. These different design scales allow the user of these Design Guidelines to choose one or all of the design scales depending on the needs and constraints of the project; whether it is a new build or an existing dwelling, available budget, planning requirements, or other such determining factors.

The design scales are based primarily on the level of impact to the structure of the dwelling that would result from a design intervention at that scale. For instance, the introduction of labelling or signage may have no impact on the structure, while the addition of assistive technology, particularly if it is wireless, will have be a low impact intervention. Moving up the intervention scales involves greater impact on the building, culminating in Design Scale Number 5, which involves spatial layout changes, structural modifications, or new build.

**The five design scales which are shown in Image 2 are as follows:**

- 1 Labelling, signage, painting or planting:** This is a low impact, low cost solution and can be considered in all scenarios, whether this involves a retrofit, or a new build project.
- 2 Assisted living technologies such as Assistive Technology, Ambient Assisted Living, Telecare, or Telehealth:** Given the wide variety of technology available, including wireless technology, this could also represent a low impact option.
- 3 Interior and exterior furniture, fixtures and fittings (F,F&F):** This could involve replacing internal floor finishes or replacing window dressing.
- 4 Building fit-out including external windows and doors:** This scale of intervention may involve fitting new windows to increase thermal or acoustic performance, or the fitting or a level access shower. It may also involve minor internal works such as fitting new doors or widening door openings.
- 5 Spatial layout and structure including new build:** This applies to all new build or projects with major renovations. It involves spatial considerations such as room location, orientation or size, along with all associated structure and design elements such as windows, doors, etc.





02 The five scales of design

These five scales of design have been identified to outline how these Design Guidelines are applicable to both new and existing dwellings. They also illustrate that these guidelines can be used across a wide spectrum of issues; from minor low cost adaptations, to major works involving structural adaptations or new-build.

The reader should consider these design scales as part of the design process to help inform the decision making process in line with resident's needs, construction budget or the constraints of the project.

## This Guidance document follows the same format as the UDHI Guidance and comprises the following:

- Four sections of design guidelines that flow from the outside of the dwelling, to the inside of different rooms within a dwelling, to specific elements and systems.
- Each section describes design considerations with photographs of existing buildings to communicate UD and dementia friendly features.
- Design quality guidelines with indicative floor plans and sketches of technical details are provided and can be applied to any new or existing dwelling type.
- The Design Guidelines apply to all five scales of design to ensure that the guidelines are applicable to both new and existing dwellings, and that they can be used for minor or major works. The design scales are identified as: **1. Labelling, Signage, Painting and Planting; 2. Assisted Living Technologies; 3. Interior and Exterior Furniture, Fixtures and Fittings; 4. Building Fit-out**, including external windows and doors; and, **5. Layout and structural changes including new-build.**
- **UD Dementia Friendly Dwellings** guidance and design tips are also provided to raise awareness and assist in person-centred design.
- Appendices include a glossary of key terms and list of key acronyms.



**“If buildings and their carers relate to people living with dementia as individuals, reinforce their sense of well-being and provide opportunities for them to practise their remaining skills, then people living with dementia are helped to function at their greatest potential”.**  
**(Marshall, 1998)**



## At A Glance — Universal Design Dementia Friendly Dwellings Quality Features

### Section 1 – Home Location and Approach



- Dwellings integrated into the neighbourhood, with clear, safe routes from bike, car or public transport to the entrance of the home.
  - Careful design of external lighting, street furniture, ramps and stairs, and access gates or similar, to make circulation safe and accessible to all people.
  - Approach routes and entrances that are clearly visible and easily identifiable through the use of distinct colours, planting or personalised spaces.
- 

### Section 2 – Entering and Moving About the Home



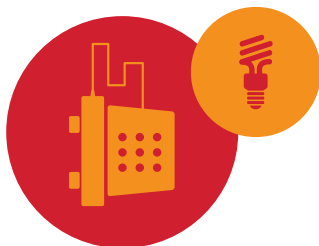
- Clearly visible entrance doors painted distinct colours to make them more recognisable.
  - Clear and legible internal circulation routes that are well lit and use colour and tonal contrast to help with orientation, way-finding and safe circulation.
  - Good visual access to key internal spaces to help with navigation and provide visual cues.
  - Careful use of floor finishes to minimise glare or shine which are also designed to avoid sudden changes in colour which may be perceived as a step.
-

## Section 3 – Spaces for Living



- A balance between open plan layouts which enhance visual access and the creation of calm and distinct spaces which can help with legibility.
- Careful acoustic design to reduce noise and create calm and peaceful spaces.
- Reinforced walls and ceilings as ‘hard-spots’ around the toilet, shower, bath and stairs to support the easy installation of handrail and drop down supports as required.
- Flexible and adaptable space to cater to the changing needs of the residents.
- Bedroom layouts that provide direct access to ensuite bathrooms, and provide good visual access to bathrooms, wardrobes and exterior spaces such as gardens
- Safe, accessible and attractive outdoor space that is visible and easily accessed from the interior to promote outdoor activities.

## Section 4 – Elements and Systems



- The use of safe and unobtrusive safety measures to support independent living.
- Details like lever door handles and taps that are familiar, easily understood and easily used by everyone.
- Easy control and use of heating or ventilation systems and the capability to integrate technologies such as Assistive Technology, Ambient Assisted Living or Telecare where appropriate.
- Choice of materials and colour, with fittings and finishes that are easy to use, maintain and create a calm and legible environment.
- Optimised use of natural light, ventilation and energy efficiency.

