

ANNUAL

REPORT 2017 - 2018

Authored by
The Home Modification Information Clearinghouse

for

Built Environment
University of New South Wales

December 2018

DOI: 10.26288/5c5a1ab3401c4

ISSN: 1835-548X (Print)

ISSN: 1835-5498 (Online)



ACKNOWLEDGEMENTS

This material has been published by the Home Modification Information Clearinghouse situated within the Faculty of Built Environment, University of New South Wales, Sydney, Australia.

This material was produced with funding from the Australian Government Department of Health and the NSW Department of Family and Community Services - Ageing, Disability & Home Care.

We would also like to thank the University of New South Wales Grants Management Office and the University of New South Wales Grants Management Office for their support in managing our funding contracts.

DISCLAIMER

The opinions in this publication reflect the views of the Home Modification Information Clearinghouse team and do not necessarily reflect those of the University of New South Wales. Although funding for the Home Modification Information Clearinghouse has been provided by the Australian Government Department of Health and the NSW Department of Family and Community Services - Ageing, Disability & Home Care, the material contained herein does not necessarily represent the views or policies of the Australian Government Department of Health or the NSW Department of Family and Community Services, Ageing, Disability & Home Care. No responsibility is accepted by the University of New South Wales or our funders for the accuracy or omission of any statement, opinion, advice or information in this publication. The Home Modification Information Clearinghouse team gives no warranty that the information or data supplied contain no errors. However, all care and diligence has been used in processing, analysing and extracting the information. The Home Modification Information Clearinghouse will not be liable for any loss or damage suffered upon the use, directly or indirectly, of the information supplied in this document.

REPRODUCTION OF MATERIAL

Any table or material published in this document may be reproduced and published without further license, provided that it does not purport to be published under the authority of the Australian Government Department of Health, the NSW Department of Family and Community Services, Ageing, Disability & Home Care or the University of New South Wales. Acknowledgment must be made of this source. The preferred acknowledgment style is:

Home Modification Information Clearinghouse (2017). Annual report for the period 2017-2018. Sydney: Home Modification Information Clearinghouse, UNSW, Sydney, February 2019 [online]. Available from www.homemods.info

DOI - 10.26288/5c5a1ab3401c4

ISSN: 1835-548X (Print)

ISSN: 1835-5498 (Online)

CONTENTS

1	INTRODUCTION	2
1.1	Enabling Built Environments Program (EBEP).....	3
1.1.1	EBEP Objectives.....	5
1.1.2	EBEP Special Research Projects	6
1.2	Home Modification Information Clearinghouse (HMinfo)	9
1.2.1	HMinfo Key Tasks.....	9
1.2.2	HMinfo Home Modification Research Publications	9
1.2.3	HMinfo Home Modification Resources	11
1.2.4	HMinfo Research Projects	13
1.2.5	HMinfo Website Upgrades	15
2	OUR PEOPLE	18
2.1	HMinfo Team.....	18
2.1.1	Director	18
2.1.2	Research and Website Team.....	19
2.2	HMinfo Advisory Committee	21
2.2.1	Advisory Committee Members - Industry	21
2.2.2	Advisory Committee Members – Aged & Disability Peaks	25
2.2.3	Advisory Committee Members – Government	27
2.3	HMinfo Specialist Review Panels.....	28
2.3.1	Research Panel Members.....	28
2.3.2	Industry Panel Members	28
2.3.3	Consumer Panel Members	28
3	DIRECTOR’S REPORT.....	30
4	HMINFO WORKPLAN 2017-2018	32
5	HMINFO ACTIVITIES 2017/2018.....	42
5.1	Research & Publications	42
5.2	Reviewer & Assessor Roles	43
5.3	Teaching - Convened Courses.....	44
5.4	Research Student Supervision	44
5.5	FBE & UNSW Committees & Roles.....	44
5.6	External Committees & Roles	45
5.7	In the Media.....	45
6	WEBSITE STATISTICS	48

6.1	Website Overview 2017-2018	48
6.2	Website and Google Analytics Reports	48
6.2.1	Visitors by month - 2017-2018 (graphical)	48
6.2.2	Visitors by month - 2017-2018 (table).....	49
6.2.3	Visitors returning by month - 2017-2018 (graphical).....	50
6.2.4	Visitors returning by month - 2017-2018 (table).....	51
6.2.5	Visitors by country - 2017-2018 (graphical)	52
6.2.6	Visitors by country - 2017-2018 (top 10).....	52
6.2.7	Visitors by region - 2017-2018 (graphical).....	53
6.2.8	Visitors by region - 2017-2018 (top 10)	53
6.2.9	Visitors by city 2017-2018 (graphical).....	54
6.2.10	Visitors by city - 2017-2018 (top 10)	54
6.2.11	Browsers used - 2017-2018 (graphical).....	55
6.2.12	Browsers used - 2016-2017 (top 10)	55
6.2.13	Google Analytics visits by country - 2016-2017	56
6.2.14	Google Analytics visits by city - 2016-2017	57
6.2.15	Top 10 HMinfo Publication Reads - 2017-2018	58
6.2.16	Top 10 Publication Downloads - 2017-2018.....	59
7	FINANCE REPORT	62
7.1	DSS-DoH Financial Acquittal for the 2017-2018 period	62
7.2	ADHC Financial Acquittal for the 2017-2018 period.....	63
8	LOOKING AHEAD INTO THE FUTURE.....	66
9	GLOSSARY	72

introduction

SECTION 1

1 INTRODUCTION

Welcome to the 2017/2018 Annual Report for the Home Modification Information Clearinghouse (HMinfo). Established in 2002, HMinfo is an information service tasked with collating, reviewing, developing and disseminating evidence-based home modification knowledge, in order to enhance the independence and wellbeing of older people and younger people with disability; provide safe working environments for their carers and caseworker's; and promote evidence-based best practice among home modification practitioners and prescribers.

In this report you will find:

- An explanation of the work we do and the online information that we provide;
- Our goals and objectives;
- An introduction to our people;
- A statement from our Director summarising the team's key achievements from the last financial year, including research output, keynote presentations, international collaborations and media involvement;
- Website Statistics: these are compiled from Google Analytics and our website's inbuilt reporting capabilities. The data is analysed to identify areas which need optimisation or changes in order to adapt to user trends, and to measure the effectiveness of our online strategy;
- A look into what the next year holds for us and what we plan to achieve.

For further information, visit the HMinfo website: www.homemods.info. It is free to register as a user and you may choose to receive regular updates from us.

To get more information, discuss issues or ask for assistance from our team, please email us at: hminfo@unsw.edu.au or call us directly on 1800 305 486 (free call).

For quick updates, join us on [Twitter@HM_Info](#), 'like' us on [Facebook](#) by entering "Home Modification Information Clearinghouse (UNSW)" into the search engine, connect with us on [LinkedIn](#), or follow us on [Pinterest](#).



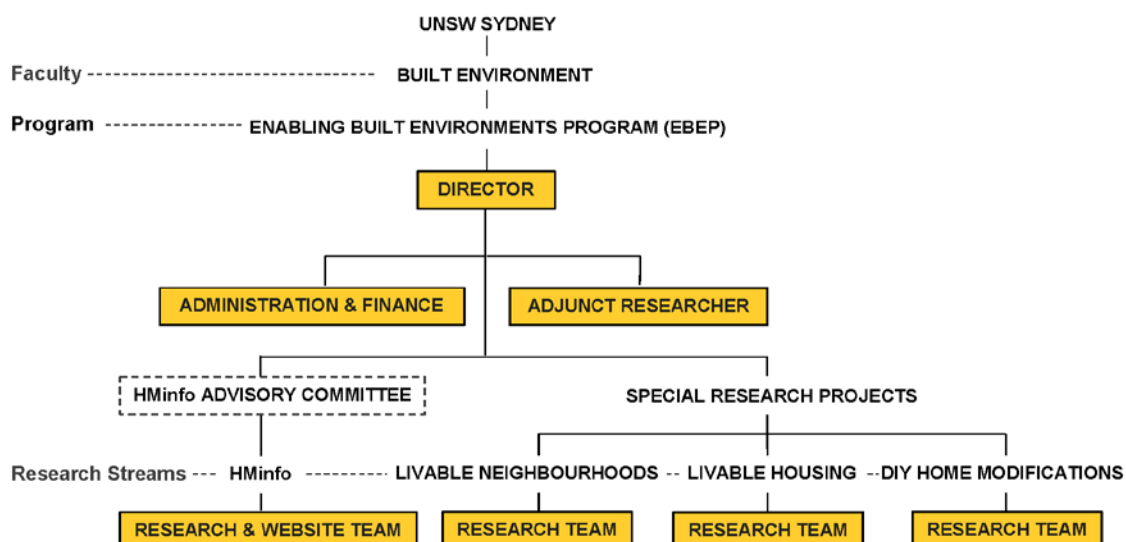
1.1 Enabling Built Environments Program (EBEP)



The Enabling Built Environments Program (EBEP) is an initiative of the Built Environment faculty at UNSW. EBEP's research is concerned with how the built environment, from home to town centre design level, impacts human function, quality of life and health / care costs for older people, young people with disability, and carers. Funded projects range from the macro level e.g. the performance of town centres and housing supply, to the micro level e.g. temperature regulation valves, smoke detectors, etc.

As shown in the chart below, EBEP currently comprises the Home Modification Information Clearinghouse (HMinfo), and associated Special Research Projects which currently have three research streams:

1. Liveable Neighbourhoods
2. Liveable Housing
3. DIY Home Modifications



The Special Research Projects complement and inform the work undertaken by HMinfo. The broad scope of EBEP research projects ensures that HMinfo's home modification research is suitably placed within the scope of current research and practice in the built environment for carers, older people and people with disability.

For the financial year 2017-2018, HMinfo is funded by both the Australian Government Department of Health, under their Commonwealth Home Support Program (CHSP), and from the NSW Department of Family and Community Services (FACS), Ageing, Disability and Home Care (ADHC), under their Community Care Support Program (CCSP).

The EBEP Special Research Projects' three streams of research are funded by a range of government and non-government organisations. In 2017-2018, these included: the NSW Department of Family and Community Services (FaCS); the Australian Research Council (ARC); the Australian Building Codes Board (ABCB); and industry partners Caroma and the Association of Consultants in Access Australia (ACAA).

With the global advent of population ageing and the ongoing transition of young people with disability to living in the community, understanding the complex transactions between the built environment and humans, has become an increasingly critical factor in creating and maintaining sustainable informal and self-care systems for all nations.

EBEP benefits from its contract and casual research staff having a diverse skill set that includes: Industrial Design, Architecture, Engineering, Occupational Therapy, Health Sciences, Social Sciences, Biomechanics and Architecture.



Photograph taken after the 9th Cambridge Workshop on Universal Design and Assistive Technology Conference, April 7th at the *Without Walls: Disability and Innovation in Building Design* Exhibition held at the **Victoria and Albert Museum in London**. Presented by the V&A+RIBA Architecture Partnership in collaboration with Accentuate. Produced for History of Place, supported by the Heritage Lottery Fund
Photo is of the poster for The Spastics Society, Benton and Bowles, about 1979 – 82. Museum no. E.976-2002. © Victoria and Albert Museum, London.

1.1.1 EBEP Objectives

Our objectives continue to be:

- to build information and knowledge capacity within the residential and public construction sectors in order to improve design standards and to provide evidence for the effectiveness of special features to better the living environments of older and/or people with disabilities, and their carers;
- integrate diverse knowledge and cross-disciplinary research;
- develop a leading-edge enabling environments research cluster that will be accessible to the full range of industry and consumer target groups;
- facilitate home and community care outcomes, focusing on residential and town center design strategies;
- promote innovative residential models for older people and people with disabilities within the building and development industry;
- develop Factsheets detailing best practice principles for assessment and the setting of priorities for planning and intervention services;
- promote the benefits and products of more enabling design to the broader community through mainstream media;
- share information at international, national, state and regional industry forums and liaise with peak regional providers and consumers;
- ensure that there are effective links between built environment service providers and their end users.

1.1.2 EBEP Special Research Projects

EBEP Special Research Projects undertaken alongside the Home Modification Information Clearinghouse (HMinfo) during 2017-2018, spanned the three research streams. An overview of the projects in each research stream are provided below.

LIVABLE NEIGHBOURHOODS

Response as part of Public Comments on ABCB NCC 2019 Projects Apr 2018.

EBEP prepared comprehensive and evidence-based responses to the Australian Building Codes Board on NCC 2019 Research Projects and Proposed Revisions on the following;

1. Accessible adult change facilities in public buildings
We agreed with the need but showed that incontinence was not just confined to wheelchair users but was also directly associated with ageing. This needed to be reflected in the proposed solution.
2. Fire Safety in Class 2 and Class 3 residential buildings
The ABCB Report strongly recommended sprinklers and provided two alternative systems. We supported the cost-effective option because of its superior performance, reduction of life risk and simplicity. We presented an argument for its consideration for homes together with an option to reduce the ineffective additional cost associated with water supply authority requirements.
3. Fire Safety Verification Method
We commented mainly on the direct link between the proposed method and occupant wayfinding capability. No integration was proposed between egress and access. Our submission included a direct comparison between the two and included a table showing the comparison for each aspect of egress and access for each performance clause. We suggested a common approach for performance-based egress and access design.
4. Access and Ramp Verification Methods (VM)
 - *Ramps – the initial project brief did not reflect our overall Access Mobility Model so that we proposed an amendment to the VM that did. The amendment was accepted by ABCB.*
 - *Access / Wayfinding Handbook – we commented on our concerns with the development of the Handbook, the associated Wayfinding/Access Model and additional research required to provide basic evidential support.*

Verification Method for Stairs (DV4 – NCC)

Users need to feel confident in going up and down stairs. The outcome of performance-based design of stairs reflected in the Stage 1 ABCB Project confirmed this and highlighted the basic components of a stair verification method. Stage 2 has now been completed and submitted with a verification process being proposed comprising two “steps”. The first step is to test the stair design for dynamic stability centered on foot placement. If the hypothetical user or “phantom” fails the first step then the design is altered with the addition of a handrail to intercept the “fall”. If step two is successful, then the design can be fully documented. Stair ascent is also extremely important and the stairs tested via a recently developed fatigue model. Foot clearance is also extremely important. The ascent assessment defines the placement of landings or rest points and also the maximum number of steps in each flight.

Verification Method for Traversability of Ramps (DV3 – NCC)

Stage 2 of the Ramp Performance Design Project was submitted on the 12th December 2017. This report outlines the proposed VM Method for Ramps. The Quantification of the performance requirements of DP2 (NCC Volume 1) and P2.5.1 (NCC Volume 2) are required to include steeper ramps (up to 1:6) as the Brief instructed that the fundamental principle of these performance requirements is that ramps should provide a tolerable increase in individual risk (from a health and safety perspective). The submission included a detailed verification model where the gradient was limited to a maximum of 1:8 based on isokinetic strength and the fear of falling. Other additional minimal requirements relating to cross-fall, slip resistance and surface “evenness” were added and the metrics simplified via liaison between ABCB and EBEP. The VM is to be included in NCC 2019.

Access / Wayfinding Verification Handbook (DV2 – NCC) – STAGE 1

The Brief for this project was issued in the form of a template for a proposed handbook outlining a comprehensive framework, model and process for an Access Verification Method to be inserted into NCC 2019 as DV2. EBEP assembled an expert research team drawn from the EBEP Wayfinding research programme. This team developed a comprehensive VM Access/Wayfinding Model comprising the following:

Stage 1 was sent out for public comment so that EBEP had the opportunity to comment on the ABCB presentation. Other public comments will be available as a basis for Stage 2;

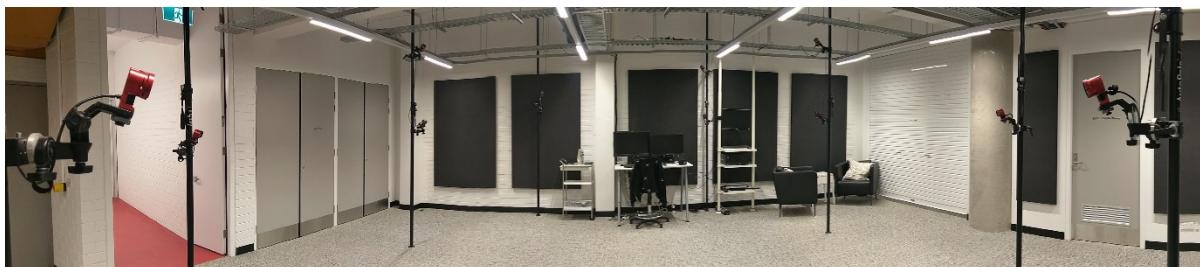
Stage 2 is about to be awarded and EBEP will most likely be able to continue their work. The benefit of Stage 2 is described in a separate section of this annual report.

LIVABLE HOUSING

Washbasin Project

UNSW has financed a new world class Livability Lab in the basement of the Built Environment Faculty's home building. This new and enhanced facility established in early 2018, replaced the much smaller and older existing lab. This larger facility has enabled us to continue to explore and to better understand, movement in three-dimensional space and the forces related to movement, such as balance and stability for people with disabilities. The new space is fully wheelchair accessible, located near accessible toilets, and has separate changeroom and storage spaces.

A new project on washbasin clearances funded by Caroma (GWA International – Bathrooms and Kitchen) was commissioned in early 2018, with testing to commence in the second half of 2018. GWA International is Australia's leading bathroom manufacturer. The aim of the project is to evaluate the toe and knee clearance required by wheelchair users to access a public washbasin. An adjustable washbasin rig had been designed and built for use in the project by the GWA engineers. Ethics approval had been submitted for project commencement. The next stage of the project is to pilot test the washbasin rig in the new space in preparation for participant recruitment and data collection.



Livability Lab

Livable Bathrooms for Older People

The Livable Bathrooms for Older People project commenced in 2012, with the aim of future-proofing bathrooms for older people, enabling them to live comfortably at home for as long as possible. Following a nationwide survey and in-depth interviews, we explored the effect of different toilet seat heights and its interaction with the use of a grab rail. We employed the principles of user-centred design and combined the users' feedback with our lab testing results to provide descriptive data for designers to make reference.

The Livable Bathrooms for Older People project is supported by the Australian Research Council (ARC) Linkage Programme, GWA Group Limited and UNSW Research Grants. This project is now completed, with a potential of an extension to future project. The results will contribute to the knowledge to aid designers and builders to better understand geriatric users, alongside the basic guidelines of the Australian Standards.

1.2 Home Modification Information Clearinghouse (HMinfo)

The Home Modification Information Clearinghouse (HMinfo) was established in 2002. Its mission is:

- To collate, review, develop and disseminate evidence-based home modification knowledge in order to enhance the independence and wellbeing of older people and younger people with disability, provide a safe working environment for their carers and careworkers, and promote evidence-based best practice among home modification practitioners and prescribers.

1.2.1 HMinfo Key Tasks


HMinfo's key tasks are:

- The collection and critical review of relevant national and international literature;
- The dissemination of findings in accessible and multiple formats, including knowledge translation, to the community, industry and other key stakeholders, to enable consumers and their carers to make informed choices and access evidence-based interventions.

1.2.2 HMinfo Home Modification Research Publications

HMinfo produce academically rigorous research-based documents on Home Modification policy and practice. Prior to publication, these documents are reviewed by Specialist Review Panels, comprising academic peer reviewers; expert practitioners in the fields of design, architecture, building, and occupational therapy; and consumer representatives for older people, people with disability, and carers.

Translating high quality research specific to better design and building practice



Annotated Web Links

[Annotated Web Links](#) are an edited collection of international and national websites containing information relevant to home modifications, ageing and disability.

ANNOTATED WEB LINK SEARCH

Title:	<input type="text"/>	Abstract:	<input type="text"/>
Minimum Publication Year:	<input type="text"/>	Maximum Publication Year:	<input type="text"/>
Sort By:		<input type="text"/>	<input type="text"/>

The list of available online publications produced by our team includes the following:

Home Modification Evidence Based Practice Reviews

HMinfo [Evidence Based Practice Reviews](#) investigate the existing research evidence for the effectiveness of particular home modification design and building practices. Following a systematic review methodology, published literature on the design or building practice is examined. The literature search includes: databases of research studies in books and academic journals; legislation, Building Codes and Standards; Government, industry and consumer group websites; the HMinfo library collection of home modification publications and materials; grey literature documents, including industry guides and manufacturers' specifications; and anecdotal evidence from listservs, online forums, consumer peak bodies, and service providers.

Through evaluation of this published evidence, strategies most likely to achieve best practice home modification outcomes can be identified.

Home Modification Consumer Factsheets

HMinfo [Consumer Factsheets](#) translate research evidence for home modification design and building practices into concise information for consumers. This information is designed to assist older people, people with disability, and carers, when planning and undertaking home modifications.

Most Consumer Factsheets are derived from Home Modification Evidence Based Practice Reviews, Occasional Papers or Summary Bulletins. Other Consumer Factsheets are developed in direct response to the need for a concise guide to arranging home modifications, or undertaking a particular type of modification.



Home Modification Industry Factsheets and Checklists

HMinfo [Industry Factsheets and Checklists](#) translate research evidence for home modification design and building practices into information that will assist home modification prescribers and practitioners.

Industry Factsheets and Checklists are derived from Home Modification Evidence Based Practice Reviews, Occasional Papers and Summary Bulletins, or developed when concise guidance on a particular type of home modification is needed by industry.



Home Modification Occasional Research Papers

HMinfo [Occasional Research Papers](#) are individually commissioned research papers on existing or emerging issues in home design and home modifications for older people, for people with disability, or for carers. These policy and practice issues are identified by Government, Industry and Consumer stakeholders.

Occasional Research Papers include a systematic review of literature on the issues, and examine the policy impact and practice concerns. Many papers also report an original research study that is undertaken in response to the issue. Common types of study are design analyses, cost-benefit analyses, and consumer and industry surveys.

Home Modification Summary Bulletins

HMinfo [Summary Bulletins](#) provide a concise overview of the important issues relating to a particular home modification topic. These home modification topics are selected in response to an industry-identified concern or risk in home modification practices.

Summary Bulletins identify the applicable regulations, standards, industry and fair trading specifications and guidelines, for the home modification topic. A range of home modification approaches are then reviewed, with a comparison of their advantages and disadvantages for various housing and personal circumstances.

Summary Bulletins are intended to guide older people, people with disability, carers, and home modification prescribers and practitioners, in making home modification decisions. The information assists in determining the most appropriate home modification approach for each person, in the context of their home environment and care service mix.

1.2.3 HMinfo Home Modification Resources

HMinfo provides resources to support aged care and disability providers, and consumers. These include:

Home Modification Research Library

HMinfo edits and maintains an electronic [Research Library](#) database with over 3,500 online and hardcopy materials relevant to the home modification sector. The collection can be searched using our indexed lists, or by an open search using our tailored [search engine](#).

Home Modification Subject Bibliographies

As a by-product of our research, HMinfo produces [Subject Bibliographies](#) of the best references for particular topics of interest to industry and other researchers.

Annotated Web Links

HMinfo [Annotated Web Links](#) are an edited collection of international and national websites containing information relevant to home modification decisions.

Block Library

The HMinfo [Block Library](#) is a collection of Computer Aided Drafting (CAD) assets developed specifically to provide freely available Universal Design tools for both commercial and non-commercial stakeholders so that all can create spaces which take into account the size and movement restrictions of accessible mobility products. The Block Library is an essential step to facilitating the participation and social inclusion of the aged and people with disabilities in both private and public space design and redesign. These simple but significant downloadable drawings and models will provide all with the knowledge of space and other environmental requirements for the safe and effective access of a range of mobility products.

Case Study Library

The HMinfo [Case Study Library](#) showcases actual home modification cases submitted by website users so they can be reused for problem sensing and problem solving. The aim of sharing home modification problems and solutions, is to better assist in more effective practical outcomes.

Forums

HMinfo hosts three [Forums](#): the Home Modifications Discussion Group, Home Modifications Professionals Forum, and Occupational Therapists Forum. The forums provide an opportunity for subscribers to exchange ideas and information relating to home modification for older people and people with disability, and are a useful and dynamic method for keeping up-to-date with developments in the field.

Events Calendar

HMinfo maintains an [Events Calendar](#) with Training and Events related to Home Modifications.

Newsletter

HMinfo produces a quarterly [Newsletter](#) containing information relating to home modification and maintenance issues and disability. Each publication contains an article, book review, and a website review, as well as upcoming publications, training and events.

1.2.4 HMinfo Research Projects

Four key Home Modification issues were addressed in HMinfo research Projects. These were Hot Water Safety in Bathrooms, Slip Resistant Floor Surfaces, Ramps and finally Lighting for People with Reduced Vision. In addition, the HMinfo website was improved with several upgrades to the appearance, interface, and usability. An overview of these projects is provided below.

Hot Water Safety in Bathrooms

This research focused on the safe provision of heated water in people's bathrooms for washing and bathing, through the installation of temperature limiting devices. In the twelve years following HMinfo's prior research on Thermostatic Mixing Valves, and publication of the Summary Bulletin of the same name, there has been considerable changes and additions to the regulations and requirements around the storage and delivery of heated water in a residential setting. The two public health concerns are: the risk of scald burns in water delivered too hot and the risk of microbial presence (particularly legionella) in heated water stored at temperatures too low. An analysis of Australian Standards and regulations addressed temperature limiting device options for use in people's homes: thermo-static mixing valve, tempering valve, or a hot water system compliant with AS 3498. The HMinfo Consumer Factsheet: Controlling water temperature in bathrooms was published in January.

Slip Resistant Floor Surfaces

Slipping on a floor and falling is a major cause of injury in the home. Older people are amongst the most susceptible to slip and fall injuries, and risk a greater degree of injury when falls occur. For the residential stairs and ramps that are required to be slip resistant, the Australian Building Code provides an acceptable minimum slip resistance classification for the floor surface. However, there is limited guidance available on achieving slip resistant floor surfaces in other areas of the home. Australian Standards handbooks' recommended slip resistance classification for floor surfaces are focused on public environments, are quite different to the residential environment. Slip resistance classifications and their corresponding test methods need to be understood when selecting a floor product, to ensure that the classification of a particular floor product is applicable to residential environments. Many floor products do not come with a slip resistance classification rating at all.

The Summary Bulletin that was published by HMinfo in early 2018 responds to recent Australian regulatory changes for slip resistance of floor surfaces within dwellings and on accessways in common areas of dwelling buildings. The current regulations and Australian Standards for slip resistance classification and testing are detailed, and their applicability to residential dwellings discussed. Methods for selecting appropriate slip resistant floor surfaces in new homes, and methods of modifying existing floor surfaces to make them more slip resistant, are then examined. The HMinfo Summary Bulletin: Slip Resistant Floor Surfaces was published in February 2018.

Ramps

Accessibility problems have a serious impact on the quality of life of people with reduced mobility or those dependent on mobility aids. One of the most crucial problems is the difficulty to make even small vertical level changes, such as traveling up and down stairs in their home. Ramps are the most common solution for joining different levels and their characteristics for safe use are prescribed in the National Construction Code (NCC) and in the Australian Standards. The requirements described in NCC and the Australian Standards though (mainly AS 1428.1 2009), are not mandatory for all types of residential environments, where more choices are available, and the ramp design is more flexible.

This publication uses information from the NCC, a number of Australian Standards, handbooks, guidelines and other valid scientific and technical sources to provide a summary of the facts and issues related to the main design and construction parameters of ramps. It also attempts to identify the major hazards that this intervention type presents to the users, by focusing on the following aspects:

- Gradient and Length
- Width
- Ramp Geometry
- Materials
- Ramp Surface
- Turns / switchbacks
- Landings
- Handrails
- Environmental, aesthetic and/or social parameters.

The aim of the document is to provide information to the end users and the industry about the result of their choices for each of the main ramp aspects on the safety and general acceptance of the ramp.

Lighting for People with Reduced Vision

This study is a review of publications relevant to the appropriate use of wayfinding lighting for people with visual impairments to enable safe, independent mobility in residential corridors. More specifically the research questions are about the amount of lighting that should be achieved as well as which lighting layout (general or task lighting) should be preferred for achieving a safe and comfortable environment. The research paper is the second edition of the 2006 publication *Lighting Your Way into Home Modifications* by Pitch, M. and Bridge, C. and is expected to be published by December 2018.

1.2.5 HMinfo Website Upgrades

During the last financial year, the HMinfo website was upgraded with the aim to increase the academic visibility of HMinfo publications.

The upgrade was conducted in two phases:

1. Integration with ANDS (Australian National Data Service) DOI minting machine-to-machine interface.
2. Integration with Altmetric.

The objective of the first phase of the upgrade was to enable HMinfo publications to be identified, cited and accessed with certainty on online platforms such as Altmetric.

A Digital Object Identifier (DOIs) is an ISO standard (ISO 26324-2012) method to identify content and assign a unique permanent ID. It is coupled with metadata, it can be modified over time to keep track of the locations and characteristics of the publications. This kind of capability is essential for accurately collecting and reporting bibliometrics.

A DOI is minted through a DOI Registration Agency or one of its member service providers.

HMinfo selected ANDS as its DOI minting service provider as it is funded by the Australian Government and provides free minting services for research data to Australian publicly funded research institutions and government agencies.

Website development during the first phase was focused on integration with ANDS DOI minting machine-to-machine interface, complying with DOI requirements and providing website functionality to support the management of DOIs minted via ANDS.

Key outcomes achieved:

- Ability to mint a DOI when uploading a new publication on the website and mint DOIs for existing publications.
- Greater control of contributor information, including relating contributors to publications via unique identifiers such as ORCID.
- Functionality to relate publications to superseded publications.
- Automatic synchronisation between publication data and DOI citation data.
- Protection of publications that are required to be persistent in order to comply with DOI requirements.
- Administrative tools such as an interface to view the status of minted DOIs.

The objective of the second phase of the upgrade was to increase the visibility and ranking of HMinfo publications on Altmetric.

Altmetric collects alternative scholarly impact metrics that are complementary to traditional, citation-based metrics. Data is sourced from various websites and online systems, including

UNSW's system for capturing and reporting research publications and outputs - ROS (Research Outputs System).

Website development during the second phase was focused on displaying statistics collected by Altmetric on HMinfo publication web pages.

HMinfo publication web pages that are linked to DOIs display an Altmetric Attention Score and pie chart representing sources of attention (known as the Altmetric “donut”). The Altmetric “donut” offers rapid access to in-depth statistics by linking to the Altmetric page.

These features are useful for academics seeking to identify how much and what type of attention a publication has received.

Liveability App

The Liveability App was designed at UNSW as a collaborative project between the Built Environment Faculty's Enabling Built Environments Program (EBEP) and the Engineering Faculty's School of Electrical Engineering and Telecommunications (EE&T) in 2012.

The original development team from the EE&T setup the app's hosting on a server under their faculty's management.

The Liveability App and its hosting environment were operational over a period of approximately three and half years without undergoing any further app or web development.

App and web development tasks became necessary in 2017 due to two incidents:

- EE&T staff were planning to decommission the server hosting the Liveability app
- Apple removed the Liveability App from the App Store due to changes in their policy

HMinfo responded to these challenges by:

- Migrating the app's hosting and data to the same server hosting the HMinfo website
- Upgrading the iOS version of the Liveability App to comply with Apple's current App Store policy

our people

SECTION 2

2 OUR PEOPLE

2.1 HMinfo Team

The HMinfo team is led by Director, Professor Catherine Bridge. HMinfo team members combine experience from a range of design and health disciplines, including architecture, industrial design, occupational therapy, and health science.

2.1.1 Director



Professor Catherine Bridge has an international reputation in the area of research concerning housing, disability, ageing and care. Catherine directs the Enabling Built Environments Program (EBEP) within UNSW Built Environment, which comprises the Home Modification Information Clearinghouse (HMinfo). As the Founder and Director of the Home Modification Information Clearinghouse, running continuously since 2002, her research has helped improve the quality of life of many thousands of people with disability in 190 countries around the world. Catherine works for improved processes and outcomes for society bringing an evidence-based perspective. Her research passion concerns enabling design. She investigates how our assumptions and knowledge about built environments impact disabled people. Whether they enable movement and independence or disable people further.

Catherine has led innovative research projects that have provided the evidence needed to directly influence national policy and standards, including the National Construction Code. Recently she has been instrumental in assisting in the establishment of a cross-faculty Disability Institute in due for commencement in late 2017 and in co-chairing the Assistive Technology and Environment group a part of the Clinical Academic Group on Ageing a collaboration of the Sydney Partnership for Health, Education, Research and Enterprise (SPHERE).

BAppSc(OT) Cumb, MCogSc UNSW, Phd (Architecture) USyd

2.1.2 Research and Website Team



Konstantina Vasilakopoulou is an Architect with a Master's in Light and Lighting and is in the process of finalising her PhD at the Environmental Engineering Department of the Technical University of Crete in Greece. Her PhD Thesis subject: "Smart natural lighting systems. Development/optimization of light pipes with integrated low energy consumption artificial lighting, managed by smart controls". Konstantina's research interests focus on lighting, inclusive design, sustainable and energy efficient building design.



Joanne Quinn has worked as a Research Associate at HMinfo since 2012. Joanne is an Industrial Designer, experienced in product design and management in Australian manufacturing, design education and research. She has a Bachelor of Industrial Design, Master of Science (Research) and PhD from UNSW, Sydney. Her doctoral research on 'A home for all ages' focused on flexible and universal housing design for the ageing population. Joanne's research interest is in inclusive design for all ages and abilities, and innovation in home and product design.



Kim Andersen started as a research officer at HMinfo in 2018, managing the Liveability Lab and conducting user-based research. Kim is an engineer, experienced in biomechanics and human movement analysis techniques. She has a Bachelor of Engineering (Mechanical and Sports) and is undergoing a PhD in Mechanical Engineering, both through the University of Adelaide. Her PhD thesis concerns the mechanical testing of combat boots and their applicability to real-world use. Kim's research interests are in inclusive and universal design, and in disability care.



Kirri Weller EBEP and HMinfo Research Officer, has a background in the social sciences with experience in the fields of education, aged care and disability business services, as well as statistics. She assisted the Director and whole EBEP team to achieve the aims and objectives of the unit, including conducting research, analysis.



Helmut Hoss has been assisting HMinfo with website development and maintenance, since 2011. Helmut is a website and software developer with system administration, computer hardware, security and networking skills. An autodidact in electronics and programming since childhood, Helmut began developing corporate IT systems during high school and training computer science interns from the University of Technology, Sydney while completing his HSC. He currently develops antivirus utilities, computer vision applications and automated financial instrument trading robots.



Judy Lim is the Administration Officer in the EBEP, managing finance, administration and reporting requirements for HMinfo and EBEP special research projects. Judy has a Bachelor of Social Science and a wide knowledge of financial administrative systems, including finance and budget planning. She has worked in a variety of financial and administration roles in Schools and Research Centres at UNSW Sydney. Judy departed from the team in February 2018.



Vincent D'cruz joined the EBEP team in May 2018 as the Research Program Administrator, to oversee the administration support for the Enabling Built Environments Program. Vincent has ten years working experience in the tertiary education sector in the areas of research support, finance, human resources, operations, projects and workplace health safety. Vincent has attained an MBA (General) from the University of Birmingham and a B Sc (Hons) in Building and Estate Management from the National University of Singapore.

2.2 HMinfo Advisory Committee

The HMinfo Advisory Committee represents a wide cross-section of stakeholders, including industry, aged and disability peaks, and government. Our Advisory Committee meetings are held at the Faculty of Built Environment at the University of NSW Sydney.

2.2.1 Advisory Committee Members - Industry

ASSISTIVE TECHNOLOGY AUSTRALIA



Robyn Chapman is the CEO, Assistive Technology Australia and President-Elect Coalition for Rehabilitation Engineering and Assistive Technology, Asia. Assistive Technology Australia (AT Aust) is a leading information and advisory service on assistive technologies and the built environment. AT Aust operates an access consultancy and is a Registered Training Organisation. AT Aust is the only training provider delivering the two nationally recognised competencies in complex Home Modifications.

DEPARTMENT OF VETERANS AFFAIRS NSW STATE OFFICE



Susan Dinley, Occupational Therapist, has had extensive clinical experience in many clinical areas since 1984. Within the occupational therapy profession, she has received recognition for her contribution on present and future issues pertinent to the profession. Susan is an honorary committee member on many government and private enterprise working parties, providing feedback on proposed policy initiatives and the impact on occupational therapy services.

iCare



Lyndal Millikan currently holds the position of Senior Home Modifications Advisor at icare NSW (Lifetime Care and Workers Care) with the NSW State Government. Lyndal teaches the Home Modifications and Community Access subject at Southern Cross University and is a member of the Southern Cross University Occupational Therapy Course Advisory Committee. Lyndal has held a number of senior clinical and management positions across both the public and private sector, and also been a past researcher at the Home Modification Information Clearinghouse.

HOME MODIFICATIONS AUSTRALIA and NSW HOME MODIFICATION & MAINTENANCE SERVICE 3 BRIDGES COMMUNITY



Bryan Molan is Home Modification and Maintenance Manager at 3Bridges Community, which holds the CHSP funding for the South East Sydney region and a registered provider of Home Modifications with NDIA. Bryan is a licensed builder with over thirty years' experience in the building industry, nine of which have been in the home modification sector. He is also serving on the Home Modifications Australia (MOD.A) board and holds the position of Chairperson.

NSW HOME MODIFICATION & MAINTENANCE SERVICE SCOPE HOME ACCESS



Annette Hanly is a practicing Occupational Therapist (OT) and Divisional Manager for OT services within the South Coast Home Modification and Maintenance Service, trading as Scope Home Access. She has worked extensively in the field of Home Modifications, both in the UK and Australia. Annette is committed to developing services that promote choice and safety for people within their preferred home environment and has a keen interest in the use of technology to streamline and customise all consultation and prescription practices.

NSW LAND & HOUSING CORPORATION



Nicholas Loder, Architect, is Senior Project Officer, NSW Land and Housing Corporation, Family and Community Services. Since 2003 he has provided design policy advice for multi-unit medium density residential and major refurbishments projects for LAHC, especially on access standards, Liveable Housing/Universal Design features and the NDIS. Prior to this, Nicholas spent nearly twenty years in various small to medium sized architectural firms designing and documenting medium density housing, commercial, heritage, correctional and industrial projects. Nicholas sits on various committees including the NSW Chapter Australasian Housing Institute, and is a Director of the Centre for Universal Design Australia.

OCCUPATIONAL THERAPY AUSTRALIA (OTA)



Deborah Hammond is an occupational therapist with extensive experience in home modifications, disability access and safety in design. She has worked with home modification services and private builders on minor and major building modifications. She provides design advice on disability accommodation and design reviews on health facilities including hospitals, cancer centres, rehabilitation facilities and residential aged care. Deborah lectures on safety and design for Consult Australia, and guest lectures at Sydney University School of Architecture and Australian Institute of Architects. She has also delivered environmental modifications training to occupational therapists in NSW.

HOME MODIFICATION AND MAINTENANCE SERVICES (HMMS) WESLEY MISSION



Angela Peri is a Senior Occupational Therapist with 15 years clinical experience in a variety of rehabilitation and community settings for both the public and private sectors in Australia and overseas, including six years working in Dublin. Angela specialises in complex home modification assessments at Wesley Home Modifications and Maintenance Service (WHMMS) and is leading an interest project with Occupational Therapy Australia on enhancing the relationships between OT's and Building Professionals. Angela lectures on 'Professional Practice' at The School of Occupational Therapy in the University of Sydney) and also works as a clinical educator facilitating student placement experiences in a simulated environment.

TECHNOLOGY ASSISTING DISABILITY WESTERN AUSTRALIA (TADWA)



Steve Pretzel is CEO of Technology for Ageing & Disability WA (TADWA). He entered the home modifications industry in 2017, bringing nearly forty years of high level commercial and leadership experience in marketing, technology and recreational policy and advocacy. Steve is now applying that experience and his passion for technology in his role at TADWA to further the recognition and opportunities for home modifications to contribute to positive ageing.

DOMICILIARY EQUIPMENT SERVICE SOUTH AUSTRALIA



Agnieszka Kuna is the Manager, Specialist Equipment Services at Domiciliary Equipment Service (DES), Department of Human Services in South Australia. As an occupational therapist since 1999, Agnieszka developed an avid interest in assistive technology and its use in people's daily lives. Her interest and experience has expanded into the area of service delivery, policy and program management, and currently oversees the major home modification service at DES.

2.2.2 Advisory Committee Members – Aged & Disability Peaks

COUNCIL ON THE AGEING NSW



Lisa Langley is Policy Manager, Council on the Ageing NSW. Lisa has worked for over a decade in social policy and research and held senior policy and management positions at major NGOs, including the Asthma Foundation and Alzheimer's Australia NSW. Lisa is also an expert in consumer engagement methodologies and is an experienced facilitator. She has a Master's degree in Policy Studies from the University of New South Wales.

NATIONAL SENIORS AUSTRALIA



Irene Stein is the National Seniors Australia NSW Policy Advisory Group Chair and National Policy Congress member.

PHYSICAL DISABILITY COUNCIL OF NSW



Serena Ovens is the current CEO of the Physical Disability Council of NSW (PDCN) the peak systemic advocacy body for people with a physical disability in NSW, a position she has held for the past 4 years. In this role she liaises with government and many other stakeholders to advocate, inform and educate on the needs of people with a physical disability in NSW, ensuring the continued progress towards full inclusion in the NSW community. In addition, she represents PDCN on 23 advisory councils/groups from transport, to health, access and the NSW Minister for Innovation's, Social Innovation Council.

SPINAL CORD INJURIES AUSTRALIA (SCIA)



Greg Killeen has been working at Spinal Cord Injuries Australia (SCIA), since July 1991. Greg was an SCIA Information Officer providing information and referral to people with disability, their families, friends, carers, professionals and the general community, including people working in related disciplines who required information on home modifications and maintenance, access to buildings and the built environment, travel, transport, holidays and travel, health and medical support services, as well as assistive technology etc. Greg was recruited to work as the SCIA Senior Policy and Advocacy Officer and predominantly works on systemic advocacy as well as individual advocacy when required.

PARAQUAD



Max Bosotti is the CEO of the Paraplegic and Quadriplegic Association of NSW (ParaQuad NSW), a community organisation that supports people with a spinal cord injury (SCI) across NSW. Prior to joining ParaQuad in 2006 Max has 36 years' experience in senior line positions in the petroleum, investment banking and high technology industries. Max is passionate about helping people with SCI live as valued and respected members of their communities. A major focus has been the provision of suitable accommodation for people with SCI and the deployment of the specialist Clinical Programs team enabling people to live better lives at home.

YOUNGCARE



Anthony Ryan is the CEO of Youngcare and is highly regarded in the Not for Profit and Business sector of Australia. Anthony has received recognition for his innovative approaches to uniting the business sector with worthy community causes. Anthony is leading change in the sector particularly in engaging with Developers and Investors in building Platinum accommodation for Young People with High Care Needs. Anthony believes strongly in advocating for the thousands of Young People across Australia with High Care Needs who are trying to navigate through the NDIS and live with dignity and choice. Anthony has attained a Bachelor of Arts / Economics qualification.

2.2.3 Advisory Committee Members – Government



NSW DEPARTMENT OF FAMILY & COMMUNITY SERVICES

Teresa Petric is the Manager Policy and Projects in Ageing, Disability and Home Care, NSW Department of Family and Community Services. In this role, Teresa manages operational policy and program requirements for the NSW Community Care Support Program (CCSP). The CCSP provides funding for the provision of community care services to younger people with disability (people under 65 years of age or under 50 years of age for Aboriginal and Torres Strait Islander People).



AUSTRALIAN GOVERNMENT DEPARTMENT OF HEALTH

Megan Roach is the Executive Officer for Aged Care Programs in the Australian Government Department of Health



NATIONAL DISABILITY INSURANCE SCHEME

Lee Davids is the Special Advisor to the CEO for the National Disability Insurance Scheme.



NATIONAL DISABILITY INSURANCE AGENCY

Mary Hawkins is the Director of stakeholder engagement for the NSW Central Region of the National Disability Insurance Agency (NDIA). Mary is a qualified rehabilitation counsellor who has occupied senior management positions in Workcover NSW, the Motor Accident Authority of NSW and with CRS, a large national provider of vocational rehabilitation services. Mary previously worked with the national market team of the NDIA and assisted with the roll out of the early transition of the NDIS in Nepean/Blue Mountains in NSW and with start-up of full scheme in NSW.

2.3 HMinfo Specialist Review Panels

The Specialist Review Panels provide HMinfo with the expertise for a comprehensive review process for their published documents. The review aims to fulfil the function of a traditional academic peer review of HMinfo documents by researchers in the same field. However, the review also contributes the valuable knowledge of experts in other fields, including design, building and healthcare, as well as the experiences of people with a wide range of disabilities.

The Specialist Review Panels are comprised of three regular panels of four to seven members: the Research Panel, Industry Panel, and Consumer Panel. These panels provide specialist advice and represent the viewpoint of a wide range of stakeholders. Accordingly, panel membership aims to include members with various backgrounds and experiences. At times, publications may require the co-opting of people with a specific specialty or expertise, as guest expert reviewers.

HMinfo would like to acknowledge and thank all the participants listed below for their involvement during 2017-2018.

2.3.1 Research Panel Members

Dr Satoshi Kose	Professor Emeritus, Shizuoka University of Art and Culture
Karen Roberts	Caulfield General Medical Centre
Lindy Clemson	University of Sydney
Stephen Harfield	Centre for Contemporary Design Practice UTS Sydney
Jordana Maisel	Centre for Inclusive Design & Environmental Access, Buffalo Uni
Kay Saville-Smith	Centre for Research, Evaluation and Assessment

2.3.2 Industry Panel Members

Beverley Garlick	Royal Australian Institute of Architects NSW
Nicholas Loder	NSW Land & Housing Corporation (guest expert)
Mark Relf	Association of Consultants in Access (guest expert)
Vanessa Richards	Upper Hunter HMMS
Francis Lenny	Association of Consultants in Access Australia
Con Livanos	Association of Consultants in Access Australia
John Templeman	MOD.A
Lyndal Millikan	iCare

2.3.3 Consumer Panel Members

Dr Janice Herbert	National Seniors
Jane Bryce	Access Consultant (guest expert)
Glenn Redmayne	Marrickville Council
Greg Killeen	Spinal Cord Injuries Australia
Keith Shinn	Deafness Forum of Australia

director's report

SECTION 3



3 DIRECTOR'S REPORT

I am proud to report on a very productive and busy financial year July 2017 till June 2018, in which we have achieved quite a fair bit of progress. HMinfo continues to provide a service that enables choice and control in decision making and facilitates social and economic participation for the elderly people and people with disability in our community. In 2017, the Australian Building Code Board contracted the Enabling Built Environment Program (EBEP) unit to undertake two pieces of work in the disability performance area. The first project was on Ramps and the other on Stairs. The objective of the work was to ensure that people with functional limitations are appropriately considered via the development of customised innovative performance solutions and aligning the methodologies with evidence based best practice.

The tasks undertaken involved testing alternative solutions that satisfy requirements that were innovative and creative. The work undertaken relied on active participation from people with disabilities and older people. HMinfo focused on research of three distinct areas: 'Hot water safety in bathrooms', 'Slip resistance of floor surfaces' and 'Ramps'. It was designed to inform consumers about the regulatory requirements for controlling water temperature in bathrooms, provide information on the safe temperature in which water needs to be stored and delivered in order to avoid burns. A Summary Bulletin about 'Slip Resistant Floor Surfaces' was also published, providing information on the parameters affecting slip resistance surfaces, the regulatory requirements and guidelines on slip resistance, overview of the materials that can be used in residential floor surfaces to reduce the risk of slipping. Finally, a research on ramps was carried out and a summary bulletin was published.

HMinfo was also involved in the open consultation for the National Construction Code (NCC) for 2019. The Verification Methods for the Access to and within a building (DV2), as well as for the Ramps, have been based on the HMinfo research. During the consultation period, HMinfo submitted suggestions and improvements based on the documents produced by EBEP as well as to the other NCC documents.

Finally, I would like to thank the Advisory Committee, service team and volunteers, all of whom provided and continue to produce evidence-based materials, field the myriad of inquiries from professionals and consumers alike and work to maintain the forums.



Professor Catherine Bridge,
Director, Home Modification Information Clearinghouse

workplan

SECTION 4

4 HMINFO WORKPLAN 2017-2018

The HMinfo Strategic Planning meeting for 2015-2017 was held on August 6, 2015. At the meeting, the HMinfo Advisory Committee, and the HMinfo Director and team members, reflected on the HMinfo website and activities, and discussed the impact of environmental changes and challenges on HMinfo. Through identification of HMinfo strategic priorities and performance indicators for the following two years, the HMinfo 2015-2017 Strategic Plan was developed.

From the HMinfo 2015-2017 Strategic Plan, HMinfo developed Activity Work Plans for 2015-2016 and 2016-2017. The *Activity Work Plan Commonwealth Home Support Program (CHSP) Workplan 1 July 2016 to 30 June 2017* is shown on the following pages, with the reported measures of success for the year.

Historically HMinfo received 77% of funding from the Australian Government Department of Health through the Commonwealth Home Support Programme (CHSP) and 23% from the New South Wales Government Department of Family and Community Services (FaCS), through the Community Care Support Program (CCSP). However, with the rollout of the National Disability Insurance Scheme (NDIS) the division of FaCS was subject to Administrative restructures as a result of Administrative Arrangements Orders and other government orders. Consequently, implementation of the National Disability Insurance Scheme (NDIS) has had a material impact on the operations and organisational structure of FaCS and disability services and the 23% of funding previously received ceased on June 30th 2018 so this program no longer requires any ongoing annual Activity Work Plans.

Activity Work Plan Commonwealth Home Support Program (CHSP) Work Plan 1 July 2017 to 30 June 2018

AUSTRALIAN GOVERNMENT DEPARTMENT OF HEALTH, COMMONWEALTH HOME SUPPORT PROGRAMME (77% HMinfo funding)

ACTIVITY DETAILS

Activity Requirement:	<p>The objectives of the Home Modification Information Clearinghouse Activity include:</p> <ol style="list-style-type: none">1 - Build the capacity of Commonwealth Home Support Program providers to deliver entry-level community aged care services.2 - Promote collaboration and partnerships that support the development of the community aged care services system in a way that meets the aims of the program and broader aged care system.3 - Support Commonwealth Home Support Program stakeholders to have a greater focus on pathways and activities that promote independence and wellness.4 - Demonstrate leadership and provide advice on relevant sector management and service delivery issues.
------------------------------	---

Activity Work Plan period:	Activity Work Plan Start Date: 01/07/2017	Activity Work Plan End Date: 30/06/2018
-----------------------------------	---	---

ACTIVITY DELIVERABLES

Objective:

1. Build the capacity of Commonwealth Home Support Program providers to deliver entry-level community aged care services

Deliverable	Timeframes	Measures of success
DoH endorses CHSP Activity Workplan 2017-2018	8 months	CHSP Activity Workplan 2017-18 submitted to DOH on 15 June 2017 and was approved on 3 April 2018.
Publish new and updated research relevant to home modification and enabling environments for older people	12 months	HMinfo Publication Plan for 2017-18, was reviewed and approved by Advisory Committee at the October 2017 Advisory Committee meeting

ACTIVITY DELIVERABLES

Objectives:

1. Build the capacity of Commonwealth Home Support Program providers to deliver entry-level community aged care services
3. Support Commonwealth Home Support Program stakeholders to have a greater focus on pathways and activities that promote independence and wellness.

Deliverable	Timeframes	Measures of success
Review and update evidence published on HMinfo website which reflects current good practices and the developing home modifications evidence based so as to support older people and their carers	12 months	Active research projects during 2017-18: <ul style="list-style-type: none">• Slip Resistance• Temperature Control of Hot Water in Bathrooms• Ramps• Lighting for People with Reduced Vision

ACTIVITY DELIVERABLES

Objectives:

1. Build the capacity of Commonwealth Home Support Program providers to deliver entry-level community aged care services
3. Support Commonwealth Home Support Program stakeholders to have a greater focus on pathways and activities that promote independence wellness.
4. Demonstrate leadership and provide advice on relevant sector management and service delivery issues

Deliverable	Timeframes	Measures of success
Maintain HMinfo website to current standards	Ongoing	<p>HMinfo website available 24/7</p> <ul style="list-style-type: none">• Number of visitors for 2017-18: 19,621• Number of page views 2017-18: 60,823• Returning visitors 2017-18: 2,525• Increase in contacts from social by type:<ul style="list-style-type: none">○ Facebook: 65 friends○ LinkedIn: 910 connections○ Twitter: 1,242 tweets, 212 followers○ Pinterest: 8 boards, 45 pins○ YouTube: 6 videos

ACTIVITY DELIVERABLES

Objectives:

1. Build the capacity of Commonwealth Home Support Program providers to deliver entry-level community aged care services
2. Promote collaboration and partnerships that support the development of the community aged care services system in a way that meets the aims of the program and broader aged care system.
3. Support Commonwealth Home Support Program stakeholders to have a greater focus on pathways and activities that promote independence wellness.
4. Demonstrate leadership and provide advice on relevant sector management and service delivery issues

Deliverable	Timeframes	Measures of success
HMinfo is listed on MyAgedCare to facilitate access to evidence-based information on home modifications for RAS assessors and CHSP Service Providers.	Ongoing	HMinfo had requested to be listed on MyAgedCare but there has been no response to date

ACTIVITY DELIVERABLES

Objectives:

2. Promote collaboration and partnerships that support the development of the community aged care services system in a way that meets the aims of the program and broader aged care system
4. Demonstrate leadership and provide advice on relevant sector management and service delivery issues

Deliverable	Timeframes	Measures of success
Published HMinfo Quarterly Newsletters	Ongoing	Quarterly Newsletters published on time: 4 Number of downloads of Newsletter from website: 163
Maintain existing links with research stakeholders and develop new ones as appropriate	Ongoing	<p>5 papers / seminars / posters etc delivered at 4 conferences / seminars / forums</p> <ul style="list-style-type: none"> • 2 presentations at the Symposium "From room to region: Age-friendly environmental design and planning in the Western Asia Pacific". 13th-15th March 2018. Fukuoka, Japan. • 1 presentation at Breaking Down Barriers: "Usability, Accessibility and Inclusive Design" 9th Cambridge Workshop on Universal Access and Assistive technology (CWUAAT). 9 - 11 April 2018. Fitzwilliam College, University of Cambridge, UK. • 1 presentation at Universal Design and Higher Education in Transformation Congress (UDHEIT2018). 30 October to 2 November 2018. Dublin Castle, Ireland. • 1 presentation at Australia-China Workshop on Corporate Social Innovation in the Context of New Technology Revolution: Opportunities and Challenges. Hosted by the China Centre for International Knowledge on Development (CIKD) Beijing.

ACTIVITY DELIVERABLES

Objectives:

2. Promote collaboration and partnerships that support the development of the community aged care services system in a way that meets the aims of the program and broader aged care system
3. Support Commonwealth Home Support Program stakeholders to have a greater focus on pathways and activities that promote independence and wellness

Deliverable	Timeframes	Measures of success
Work with MOD.A, OT Australia and ILCA to promote crosslinks between websites and facilitate access to home modifications evidence-base	Ongoing	MOU with MOD.A to be confirmed by new MOD.A Director ATA and OTA are represented in the Advisory Committee
Enhance knowledge of home modifications for Home Modification Group Forums for allied health and building practitioners.	12 months	<ul style="list-style-type: none"> • Maintain Forums: 3 Total Traffic: 11,287 Total Threads Generated: 91 Total Threads Maintained: 91 • New Website Registrations: 122 • Total Website Registrations: 1,925 • Total Content Downloads: 67,400 • Total Content Reads: 232,430 • Number of registered individual OTs (listserv): 674

ACTIVITY DELIVERABLES

Objectives:

2. Promote collaboration and partnerships that support the development of the community aged care services system in a way that meets the aims of the program and broader aged care system
3. Support Commonwealth Home Support Program stakeholders to have a greater focus on pathways and activities that promote independence and wellness
4. Demonstrate leadership and provide advice on relevant sector management and service delivery issues

Deliverable	Timeframes	Measures of success
Ensure government, industry and consumer stakeholders on HMinfo, Advisory Committee, reflect a national focus	Ongoing	HMinfo Advisory Committee is broadly representative of government, industry and consumer stakeholders

STAKEHOLDERS

Stakeholder	Interest or Impact	Engagement Strategy
RAS Assessors	RAS Assessors require access to evidence-based home modification information to support clients to make informed decisions about home modifications to maintain or restore independence and self-care.	Continued to ask DoH for access to the contact list for RAS Assessors, so that HMinfo can work with them to identify their information needs and ensure that HMinfo is responding to them. RAS Assessors unaware of the information that is available to support informed decision making around home modification.
MyAgedCare	HMinfo Needs to be relisted on the MyAgedCare database so that RAS assessors, OTs, home modification providers and other relevant parties can access information about HMinfo and the information and support it can provide	Continued to ask DoH for HMinfo to be reposted on MyAgedCare so that service providers and others can find HMinfo and use its services.
Home modification providers	Home modification providers require access to evidence-based home modification information in order to support clients to make informed decisions about home modifications to maintain or restore independence and self-care.	Continued working with MOD.A, the industry body for home modification providers. Maintained reciprocal weblinks with MOD.A Maintained building practitioners Forum on HMinfo website
Occupational therapists	Home modification providers require access to evidence-based home modification information in order to support clients to make informed decisions about home modifications to maintain or restore independence and self-care.	Unable to establish reciprocal weblinks with OTA: Link from HMinfo to OTA, but no link from OTA to HMinfo. Maintained OT Forum on HMinfo website
Other researchers in how home environments impact independence, self-care and ongoing care costs of older people	Work with other researchers in the area of home modifications and how they support older people to maintain/restore independence and self-care and reduce ongoing care costs	Maintained links with relevant researchers national and internationally: See research panel list at http://www.homemods.info/about-us/specialist-review-panels Present HMinfo and related research at relevant conferences and seminars: 5

activities

SECTION 5



5 HMINFO ACTIVITIES 2017/2018

5.1 Research & Publications

HMinfo Publications

Bridge, C. (2018) Participatory Design resulting in a 'Do It Yourself' Home Modification Smartphone App. In Langdon, Lazar, Heylighen, & Dong (Eds), *Breaking Down Barriers: Usability, Accessibility and Inclusive Design*. Springer, pp101-111.

Carnemolla, P., & Bridge, C. (2018). A scoping review of home modification interventions—Mapping the evidence base. *Indoor and Built Environment*, doi:1420326X18761112

Quinn, J. & Bridge, C. (2018). Consumer Factsheet: Hot water safety in bathrooms. Sydney, Australia: Home Modification Information Clearinghouse, UNSW Sydney.

Quinn, J. & Bridge, C. (2018) Summary Bulletin: Slip Resistant Floor Surfaces. Sydney: Home Modification Information Clearinghouse, UNSW Sydney.

Vasilakopoulou, K., Bridge, C. (2018). Summary Bulletin: Ramps. Sydney: Home Modification Information Clearinghouse, UNSW Sydney.

Book Chapters

Bridge C. (2018) Participatory Design Resulting in a 'Do-It-Yourself Home Modification' Smartphone App. In: Langdon P., Lazar J., Heylighen A., Dong H. (eds) *Breaking Down Barriers*. CWUAAT 2018. Springer, Cham

Journal Articles

Carnemolla, P. K., & Bridge, C. (2016). Accessible Housing and Health-Related Quality of Life. *International Journal of Architectural Research*, 10(2). 38-50.
<http://www.archnet-ijar.net/index.php/IJAR/article/view/977/pdf>

Carnemolla, P., Bridge, C. (2018). A scoping review of home modification interventions – Mapping the evidence base. *Indoor and Built environment*. 0(0) 1–12

Conference Papers and Presentations

Bridge C. (February 2018) Technology in Urban Planning: Inclusion of ageing and disability. Presentation at Australia-China Council Grant Event: Technological Innovation and Social Policy workshop, hosted by the Social Policy Research Centre at UNSW, Kensington Campus, Sydney.

Bridge C. (March, 2018). Assisting consumers to make their homes more functional: the 'DIYmodify' case study. Presentation at the Symposium "From room to region:

Age-friendly environmental design and planning in the Western Asia Pacific".
13th-15th March 2018. Kyushu University Fukuoka, Japan.

Bridge C. (March, 2018). Understanding how space design, access point provision, and services enable or disable from a frail user perspective. Presentation at the Symposium "From room to region: Age-friendly environmental design and planning in the Western Asia Pacific". 13th-15th March 2018. Kyushu University Fukuoka, Japan.

Bridge C. (April, 2018) Participatory Design Resulting in a 'Do-It-Yourself Home Modification' Smartphone App. Presentation at Breaking Down Barriers: "Usability, Accessibility and Inclusive Design" 9th Cambridge Workshop on Universal Access and Assistive technology (CWUAAT). 9 - 11 April 2018. Fitzwilliam College, University of Cambridge, UK.

Bridge C. (June, 2018). Disability and Ageing in Australia opportunities to share and learn. Australia-China Workshop on Corporate Social Innovation in the Context of New Technology Revolution: Opportunities and Challenges. Hosted by the China Centre for International Knowledge on Development (CIKD) with the SPRC at UNSW in Beijing.

Bridge C. (September 2018). Addressing vulnerable peoples in urban policy and practice. Invited Presentation given at the Greater China-Australia Dialogue on Public Administration 2018 Workshop. Shanghai Jiao Tong University, Shanghai, China.

Whitby, M. & Bridge C. (November 2018). Cardsort a technique for understanding the complexity of lived experience when designing for neurodiversity. Workshop at Universal Design and Higher Education in Transformation Congress (UDHEIT2018). 30 October to 2 November 2018. Dublin Castle, Ireland.

5.2 Reviewer & Assessor Roles

Prof. Catherine Bridge

- Invitation to review for the *Journal of Indoor and Built Environment*
- Invitation to review for the *Journal of Housing, Care and Support*
- Invitation to be a Scientific reviewer for the *CWUAAT 2018 conference Breaking Down Barriers: Usability, Accessibility and Inclusive Design*, Cambridge University Cambridge, UK.

5.3 Teaching - Convened Courses

Prof. Catherine Bridge

- 2017
 - BENV7020 Block A: Introduction to Postgraduate Research - all newly enrolling postgraduate students
 - BENV7020 Block B: Research Seminar - Higher Degree Research Students only
 - CODE 3201 Research Project: Invited lecture on Design Research Methods
- 2018
 - SUSD0004 (April) Sustainability and Habitability: Lecture on Enabling built environments/accessibility/universal design
 - IDES2201 (May) Ergonomics lecture on Inclusive Design – Designing for Everyone

5.4 Research Student Supervision

Prof. Catherine Bridge

Primary Supervisor:

- 2013-2017: Aldyfra Lukman, PhD candidate (UNSW) Built Environment
- 2012-2018: Peter Sweatman, PhD candidate(UNSW) Built Environment
- 2017-present: Maximilienne Whitby, PhD candidate (UNSW) Built Environ

5.5 FBE & UNSW Committees & Roles

Prof. Catherine Bridge

- Appointed to *UNSW Built Environment Faculty Leadership* - Associate Dean of Research
- BE Faculty representative for the *UNSW 2017 Associate Professor Promotion Round*.
- Invited Member of the *UNSW Disability Advisory Champions Group*
- Foundational Member of the *UNSW Strategic Initiative for a Disability Studies Institute (DSI)*.

5.6 External Committees & Roles

Prof. Catherine Bridge

- Invited Expert Advisory Group member for the *Life When Renting Project*, one of seven projects funded under New Zealand's Ageing Well National Science Challenge.
- Invited to participate in VIVID 2018 Ideation Workshop on inclusive play at Vivid Sydney. Cushman & Wakefield, along with Destination NSW.
- Invited Chair of the Age and Ageing CAG - Assistive Technology & Environment group for The Sydney Partnership for Health Education, Research and Enterprise (SPHERE), Clinical Academic Age and Ageing Stream - Environment and Assistive Technology Committee. Commenced May 2017.

5.7 In the Media

- 2017

Anonymous. (28 June 2017) *Modify your home: get the app*. Great Lakes Advocate. Retrieved from Fairfax Media Publications Pty Limited. www.greatlakesadvocate.com.au.

Sapna Srivastava (November 2017) *Cities for Inclusive Living* Retrieved from Realty Plus Magazine, in Interview Old (<http://realtyplusmag.com/category/interview-old/>)
- 2018

Lucy Carroll (July 2018) Designing enabling environments: Professor Catherine Bridge Interview for Disability Innovation Institute <https://www.be.unsw.edu.au/news/designing-enabling-environments-professor-catherine-bridge>

website

SECTION 6

6 WEBSITE STATISTICS

6.1 Website Overview 2017-2018

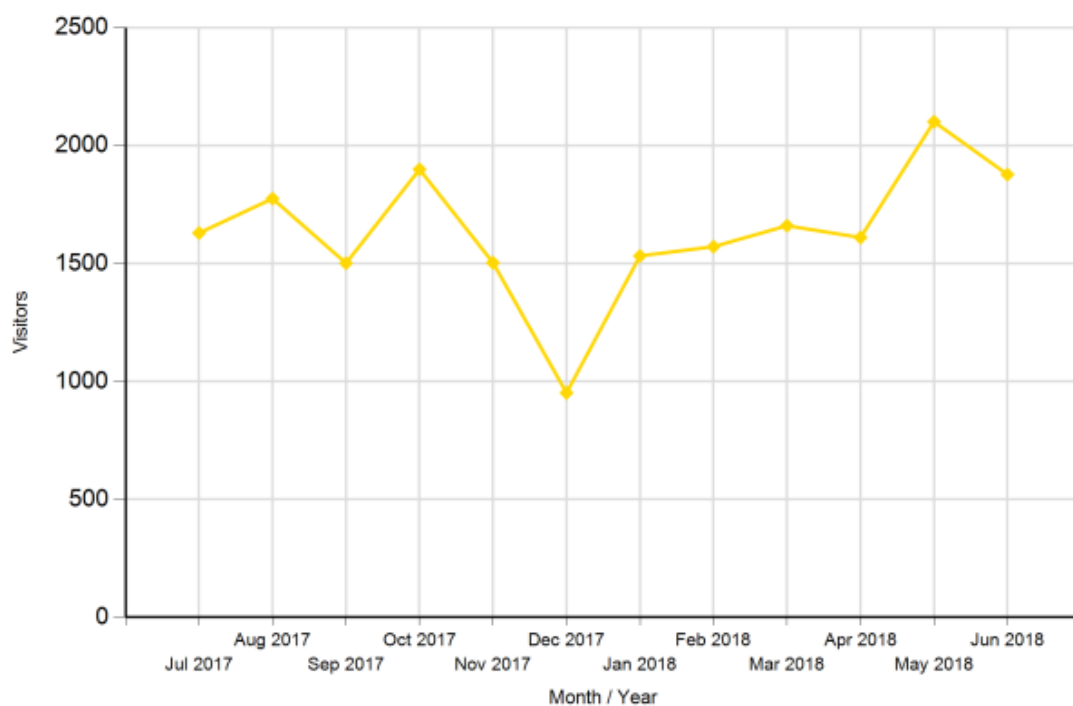
Total Page Views: 60,823

Total Visitors: 19,621

Total New Website Registrations: 122

6.2 Website and Google Analytics Reports

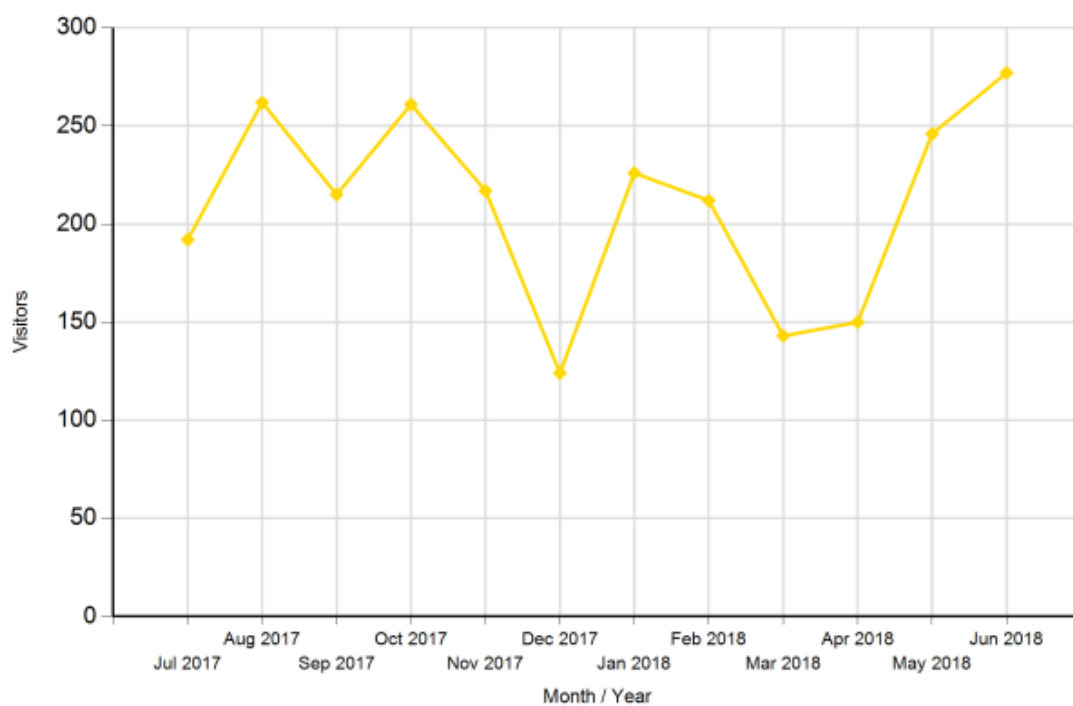
6.2.1 Visitors by month - 2017-2018 (graphical)



6.2.2 Visitors by month - 2017-2018 (table)

Month (year)	Visitors	Page views
July 2017	1,630	5,384
August 2017	1,776	5,725
September 2017	1,502	4,822
October 2017	1,900	5,961
November 2017	1,504	5,050
December 2017	952	3,399
January 2018	1,533	4,527
February 2018	1,572	5,064
March 2018	1,661	4,867
April 2018	1,611	4,523
May 2018	2,102	6,287
June 2018	1,878	5,214
Total	19,621	60,823

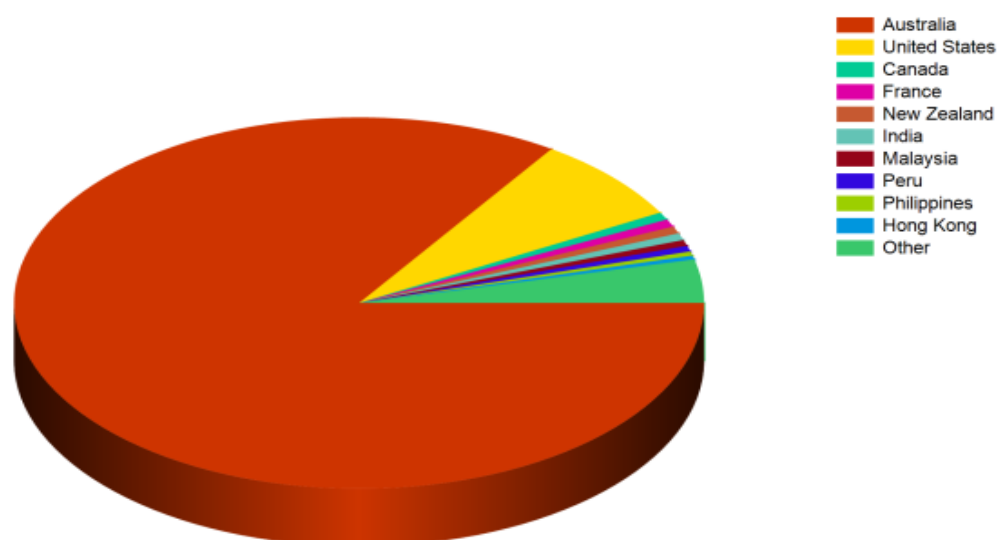
6.2.3 Visitors returning by month - 2017-2018 (graphical)



6.2.4 Visitors returning by month - 2017-2018 (table)

Month (year)	Number of returning visitors	% of Total returning visitors
July 2017	192	7.60
August 2017	262	10.38
September 2017	215	8.51
October 2017	261	10.34
November 2017	217	8.59
December 2017	124	4.91
January 2018	226	8.95
February 2018	212	8.40
March 2018	143	5.66
April 2018	150	5.94
May 2018	246	9.74
June 2018	277	10.97
Total	2,525	99.99

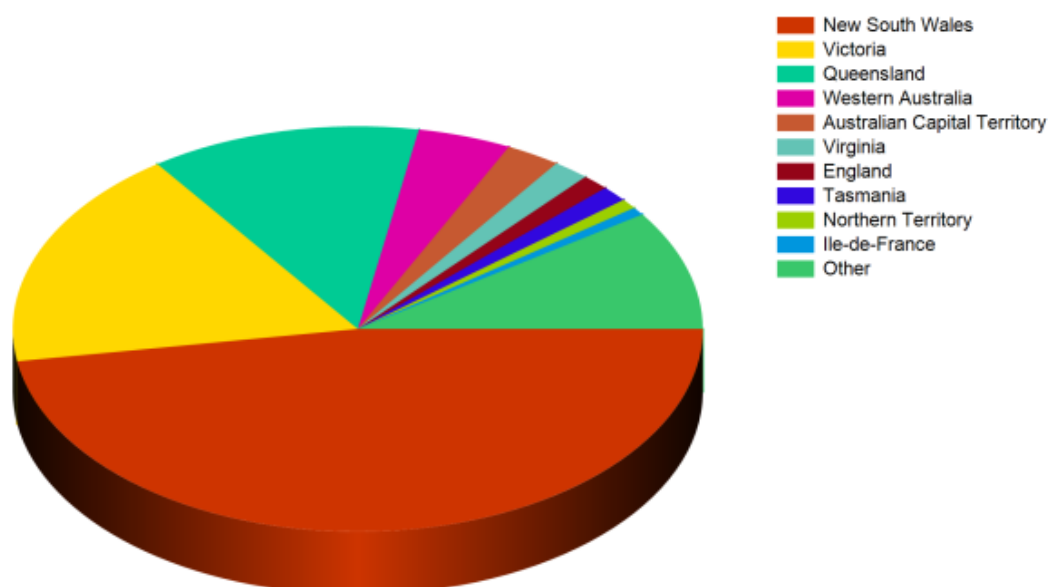
6.2.5 Visitors by country - 2017-2018 (graphical)



6.2.6 Visitors by country - 2017-2018 (top 10)

Country	Visits	% of Total Visitors
Australia	16,564	84.42
United States	1,171	5.97
United Kingdom	287	1.46
Canada	131	0.67
France	131	0.67
New Zealand	124	0.63
India	121	0.62
Malaysia	102	0.52
Peru	100	0.51
Philippines	72	0.37

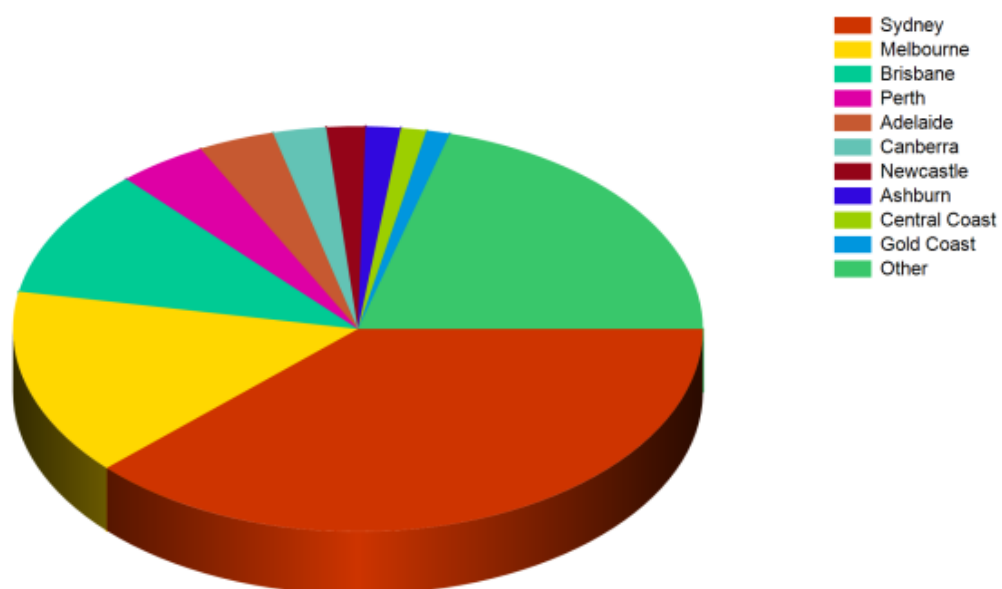
6.2.7 Visitors by region - 2017-2018 (graphical)



6.2.8 Visitors by region - 2017-2018 (top 10)

Region	Visits	% of Total Visitors
New South Wales	8,200	41.79
Victoria	3,469	17.68
Queensland	2,493	12.71
Western Australia	840	4.28
South Australia	720	3.67
Australian Capital Territory	490	2.50
(no set)	371	1.89
Virginia	334	1.70
England	248	1.26
Tasmania	247	1.26

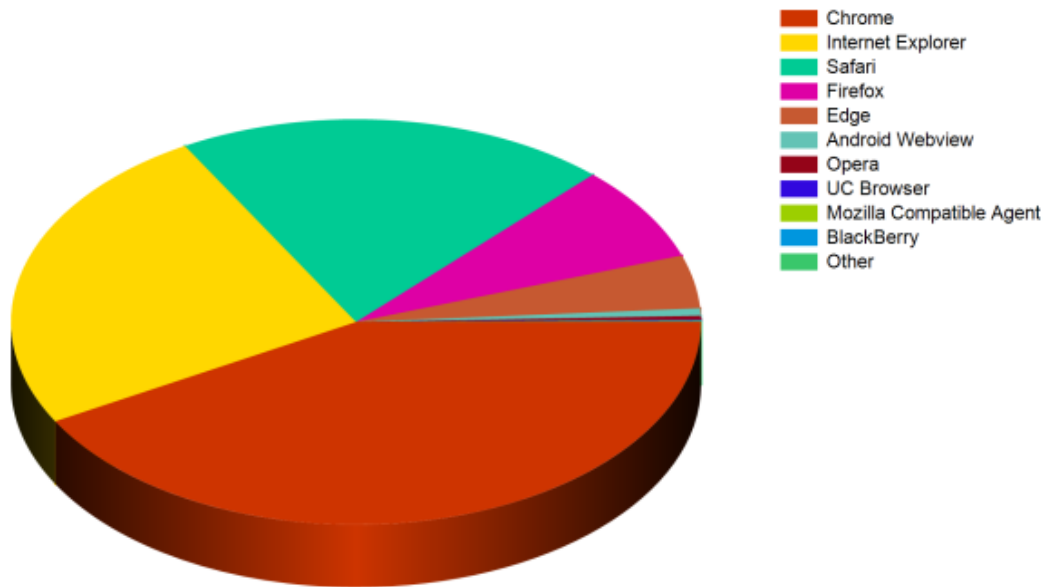
6.2.9 Visitors by city 2017-2018 (graphical)



6.2.10 Visitors by city - 2017-2018 (top 10)

City	Visits	% of Total
Sydney	6,904	35.19
Melbourne	2,940	14.98
Brisbane	2,023	10.31
Perth	820	4.18
Adelaide	702	3.58
(not set)	548	2.79
Canberra	490	2.50
Newcastle	358	1.82
Ashburn	321	1.64
Central Coast	236	1.20

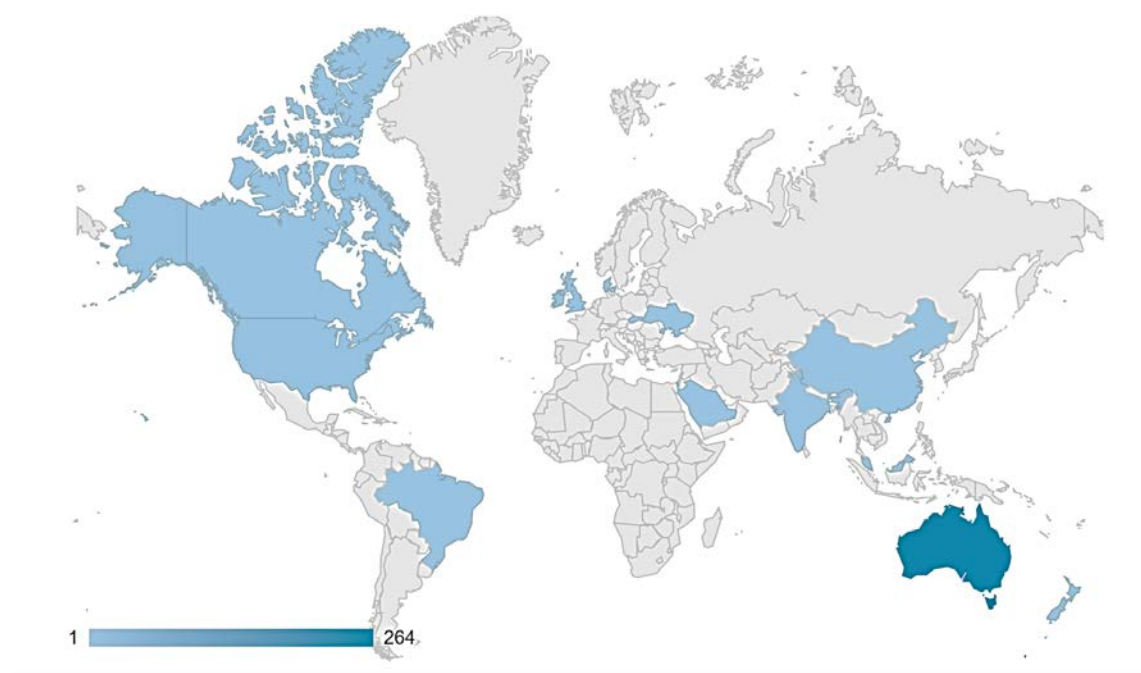
6.2.11 Browsers used - 2017-2018 (graphical)



6.2.12 Browsers used - 2016-2017 (top 10)

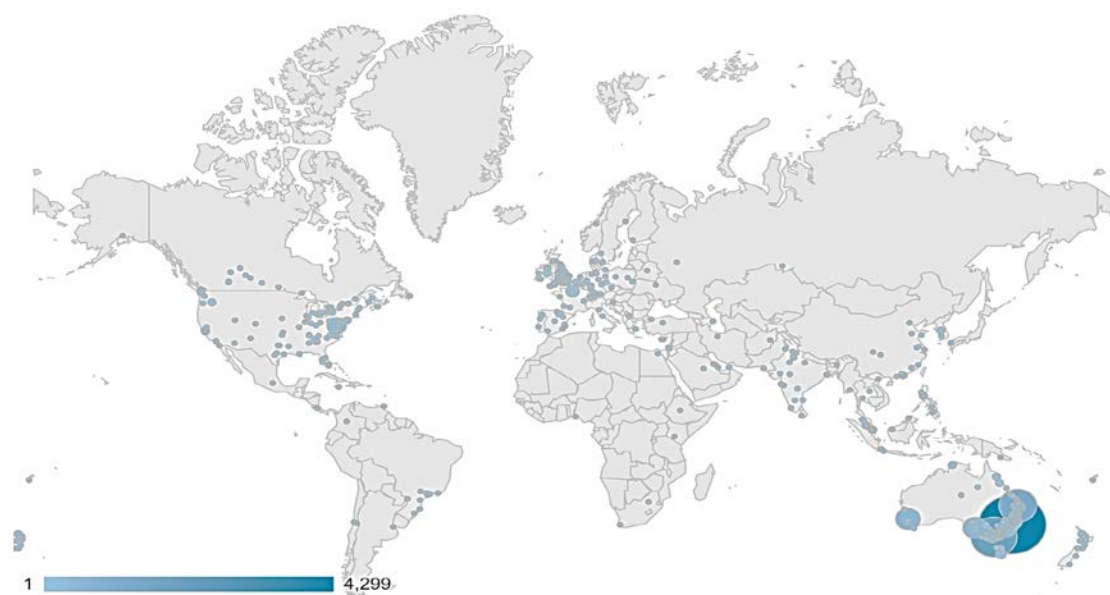
Browser	Visits	% of Total
Chrome	8,211	41.85
Internet Explorer	4,884	24.89
Safari	3,985	20.31
FireFox	1,495	7.62
Edge	833	4.25
Android Webview	116	0.59
Opera	60	0.31
UC Browser	14	0.07
Mozilla	9	0.05
BlackBerry	4	0.02

6.2.13 Google Analytics visits by country - 2016-2017



Country		Acquisition			Behavior		
		Users	New Users	Sessions	Bounce Rate	Pages / Session	Avg. Session Duration
		12,942 (% of Total)	12,641 (% of Total)	19,621 (% of Total)	59.50%	3.10	00:02:13
1.	Australia	10,266 (79.38)	10,000 (79.11)	16,564 (84.42)	56.32%	3.27	00:02:20
2.	United States	1,060 (8.20)	1,056 (8.35)	1,171 (5.97)	82.58%	1.77	00:00:51
3.	United Kingdom	234 (1.81)	231 (1.83)	287 (1.46)	70.03%	2.50	00:01:52
4.	France	131 (1.01)	131 (1.04)	131 (0.67)	100.00%	1.00	00:00:00
5.	Canada	120 (0.93)	120 (0.95)	131 (0.67)	74.05%	2.68	00:02:04
6.	India	110 (0.85)	109 (0.86)	121 (0.62)	76.86%	1.72	00:01:27
7.	New Zealand	102 (0.79)	98 (0.78)	124 (0.63)	68.55%	2.95	00:02:07
8.	Malaysia	95 (0.73)	94 (0.74)	102 (0.52)	78.43%	1.47	00:01:27
9.	Peru	86 (0.66)	85 (0.67)	100 (0.51)	76.00%	1.48	00:02:19
10.	Philippines	67 (0.52)	68 (0.54)	72 (0.37)	75.00%	1.42	00:01:11

6.2.14 Google Analytics visits by city - 2016-2017



City		Acquisition			Behavior		
		Users	New Users	Sessions	Bounce Rate	Pages / Session	Avg. Session Duration
		12,942 (% of Total)	12,641 (% of Total)	19,621 (% of Total)	59.50%	3.10	00:02:13
1.	Sydney	4,299 (32.17)	4,094 (32.39)	6,904 (35.19)	54.20%	3.21	00:02:27
2.	Melbourne	1,908 (14.28)	1,817 (14.37)	2,940 (14.98)	59.69%	3.35	00:02:21
3.	Brisbane	1,315 (9.84)	1,234 (9.76)	2,023 (10.31)	59.47%	3.22	00:02:01
4.	Perth	549 (4.11)	527 (4.17)	819 (4.17)	60.07%	3.10	00:02:15
5.	Adelaide	481 (3.60)	455 (3.60)	702 (3.58)	60.26%	3.02	00:02:06
6.	(not set)	418 (3.13)	395 (3.12)	548 (2.79)	61.86%	2.82	00:02:10
7.	Ashburn	321 (2.40)	321 (2.54)	321 (1.64)	100.00%	1.00	00:00:00
8.	Canberra	301 (2.25)	284 (2.25)	490 (2.50)	53.27%	3.31	00:02:09
9.	Newcastle	227 (1.70)	200 (1.58)	358 (1.82)	49.44%	3.69	00:02:12
10.	Central Coast	180 (1.35)	162 (1.28)	236 (1.20)	55.51%	3.01	00:02:12

6.2.15 Top 10 HMinfo Publication Reads - 2017-2018

Rank	Publication Title	Reads
1	Consumer Factsheet: Arranging Home Modifications	2,232
2	Summary Bulletin: Regulatory Requirements for Controlling Water Temperature in Bathrooms	820
3	Industry Factsheet: Slip Resistance of Ramps 2nd ed.	805
4	DIYmodify Factsheet: CHOICES for GRAB RAILS	801
5	DIYmodify Factsheet: Accessibility	793
6	Summary Bulletin: Fire Safety - Smoke Alarms 2nd ed	747
7	Evidence Based Practice Review: Use of Colour for Safe Movement 2nd ed.	680
8	DIYmodify Factsheet: Electrical zones in the bathroom	675
9	DIYmodify Factsheet: CHOICES for HANDRAILS	662
10	DIYmodify Factsheet: SKILLS NEEDED Floor mounted handrail	646

6.2.16 Top 10 Publication Downloads - 2017-2018

Rank	Publication Title	Downloads
1	Summary Bulletin: Electrical Safety in Bathrooms 2nd ed.	4,002
2	The Effectiveness of Ceiling Hoists in Transferring People with Disabilities – A systematic review	2,604
3	Summary Bulletin: Environmental Assessment & Modification for Australian Occupational Therapists	2,341
4	Summary Bulletin: Fire Safety - Smoke Alarms 2nd ed.	2,150
5	Industry Factsheet: Slip Resistance of Ramps 2 nd ed.	1,974
6	Information Needs of Occupational Therapists Practicing in NSW	1,838
7	Consumer Factsheet: Arranging Home Modifications	1,692
8	Stairs – A Summary Bulletin	1,605
9	Cost-Benefit Analysis of Ramps versus Lifts	1,426
10	DIYmodify Factsheet: CHOICES for GRAB RAILS	1,340

financials

SECTION 7

7 FINANCE REPORT

7.1 DSS-DoH Financial Acquittal for the 2017-2018 period



28 August 2018

Financial Acquittal for the 2017/18 period

This is the acquittal statement for the Grant funds received from the Department of Health (DoH) under the Commonwealth Home Support Program (CHSP). The disclosures in this section have been taken from the UNSW Financial system.

DoH Schedule ID 4-20VWZKS (UNSW account RG152759)

Income: The Home Modification Information Clearinghouse (Activity 4-225MU6D) received recurrent funding of \$241,258.51 for the financial year 2017/18.

Expenditure: the funds were spent on salaries for research associated staff and other direct research expenses including salaries for website maintenance, updates and improvements. A balance of \$26,751.56 was not spent in 2017/18. A carry-forward request will be submitted to the Department and this surplus will be utilised in full in the 2018/19 financial year.

I certify that accounting records are maintained in accordance with the University's accounting policy and procedures, the Australian Accounting Standards, and the FP&A Act and requirements.

A handwritten signature in black ink, appearing to read 'Kieran McGeachie', is written over a horizontal line.

Name: Kieran McGeachie, CA

Title: Analyst - Budget & Management Reporting, Research Finance, UNSW.

7.2 ADHC Financial Acquittal for the 2017-2018 period



28 August 2018

Financial Acquittal for the 2017/18 period

The disclosures in this section have been taken from the UNSW Financial system and ADHC's acquittal summary statement.

FACS ID 17483 (UNSW account RG152265)

Income: The Home Modification Information Clearinghouse (ID 17483) received recurrent funding of \$59,190.95 for the financial year 2017/18.

Expenditure: the funds were spent on salaries for research associated staff and consumables. The grant was fully expended in the financial year 2017/18.

FACS ID 34704 (UNSW account RG152265-A)

Income: The Home Modification Information Clearinghouse (ID 34704) received no funding for the financial year 2017/18.

Expenditure: the funds were spent on salaries for research associated staff and general overheads in the financial year 2017/18. The grant was fully expended in the financial year 2017/18.

I certify that accounting records are maintained in accordance with the University's accounting policy and procedures, the Australian Accounting Standards, and the FP&A Act and requirements.

A handwritten signature in black ink, appearing to read "Kieran McGeachie", is written over a horizontal line.

Name: Kieran McGeachie CA

Title: Analyst – Budget & Management Reporting, Research Finance, UNSW.

looking ahead

SECTION 8



8 LOOKING AHEAD INTO THE FUTURE

On our wish list apart from maintaining and further developing HMinfo, we hope to be able to replace the 23% of budget formally devoted to disability as a part of the FaCs reform process as this has placed research specifically around home modification for NDIS participants at risk of not being up to date.

Specific research planned for the year ahead on advice from our Advisory Committee as priorities include:

Research on Lighting for people with reduced vision

As mentioned in previous sections of this report, one of the research fields that we are currently exploring is lighting for people with vision impairments. The work performed in 2006 by Pitch and Bridge¹, reviewed research material on the lighting levels and type of lighting that is most appropriate for lighting domestic corridors, for people with aging or impaired vision.

The second edition of this paper aims to update the evidence and identify the gaps and the opportunities for new research in the fields of lighting, visibility, wayfinding and navigation for people with reduced vision. As lighting technology is quickly advancing, new materials, devices and fixtures become commercially available. New systems might provide useful solutions for people that have difficulties seeing in various environments. HMinfo will seek opportunities and collaborations to perform research on this and other areas of science during 2018-2019.

Other HMinfo Research

During 2018-2019, HMinfo is planning to focus on research about the critical parameters of stairs and also to update the most popular HMinfo download our: *Consumer Factsheet: Arranging Home Modifications*. This publication analytically examines the necessary steps that people need to take to modify their homes. This Factsheet answers questions like how can home modifications help people with disabilities or older people, who can carry out home modifications, how to apply for funding, etc.

¹ Pitch, M., Bridge, C. (2006). Lighting Your Way into Home Modifications. In: ICADI Assistive Technology Research Series: Promoting Independence for Older Persons with Disabilities, Vol 18, Pages 181-191., Copyright (2006), with permission from IOS Press.

HMinfo website responsive design (mobile friendly)

Ensuring that the HMinfo website is responsive and thus scales to fit devices of varying screen resolutions will aid in increasing the websites ranking in search results as responsive capabilities are a significant factor considered by search engine algorithms.

In addition, the website will cater to an increasing number of users who navigate it using their mobile device. The following figures extracted from Google Analytics demonstrate the gradual rise of mobile/tablet usage on the HMinfo website:

Period	% of website visitors using mobile devices
2014 - 2015	17.15%
2015 - 2016	17.24%
2016 - 2017	23.45%
2017 - 2018	25.98%

Currently, approximately a quarter of users visit the HMinfo website on their mobile device.

Three responsive, mobile friendly versions of the HMinfo website were designed during 2017-2018. The third design was endorsed by the HMinfo Advisory Committee during the quarterly committee meeting held on 28th June 2018.

The implementation of the endorsed responsive design is the top priority web development task during the first half of the 2018-2019 financial year.

The design complies with all accessibility and usability requirements while implementing modern industry standards relating to mobile user interfaces and retaining compatibility with older browsers such as those used in hospital standard operating environments.

Accessibility features include:

- Screen reader compatible.
- Passes luminosity tests up to the highest strictness level.
- Interactive items such as links use shapes rather than colours to denote their interactivity.
- Can be completely navigated via keyboard.

Usability features include:

- Highlights categorised information by target audience.

- Animations are limited to the home page slideshow, which has been moved below all primary information.
- Reduced clicks to reach main content.

Mobile friendly/responsive features include:

- Information is re-arranged by priority depending on device (e.g. smaller screens may hide less important information in order to demonstrate information of higher importance).
- Spacing between buttons and links avoids mistaken input on touch screens.
- Widely recognised user interface features, such as 3-line button mapped to the website menu.

HMinfo Website Professionals Forum and Mailing List

Changes to the forum and mailing list functionality of the HMinfo website are planned for late 2018. These changes aim to improve user retention and increase user participation by adding a mailing list component to the existing Home Modifications Professionals Forum.

The new mailing list will allow the exchange of ideas and information relating to home modifications via email, in the same manner employed by the existing Occupational Therapist mailing list.

HMinfo Website Search Engine Improvements

Google Custom Search will be integrated into the HMinfo website in order to improve its existing search capabilities.

New functionality will include synonym matching and keyword weight administration. A taxonomy based on Spaces, Activities and People will be used by the search engine to produce results that may not be possible with basic keyword/synonym matching.

Enabling Built Environments project pipeline

Utilising externally funded projects, we hope to further develop new tools and methods to understand and verify wayfinding. For example, on 19th January 2018, a submission was made to the Australian Building Codes Board on initial considerations for Accessibility Metrics that would form the basis of the NCC 2019 Performance Based Accessibility Verification Method (DV2). The Australian Building Codes Board (ABCB) has long recognised that unquantified, qualitative Performance Requirements related to accessibility have always been recognised as a barrier to the increased use of

Performance Solutions. Consequently, much more research is required to develop inclusive and appropriate Verification Methods

This project if funded will articulate relevant considerations to be included in the development of a combined access and wayfinding handbook in conjunction with ABCB. To support this, we propose to conduct an extensive literature review and analysis of:

1. People's characteristics and resultant wayfinding ability where wayfinding and interacting with building features/ barriers was viewed as a task.
2. Circulation route characteristics in terms of the role of wayfinding aids.

We hope to take this next step as the base design model incorporating each of the above aspects was put out for public review by the ABCB.

We will have the benefit of using the feedback to improve the approach and have just been informed by the ABCB that we may receive funding for undertaking this task, which most likely will be confirmed in September or October 2018.

The design model is for use as a performance-based design tool, so that here is a golden opportunity for to continue to gather the evidence required for the "metrics" of accessibility. These are sorely needed as currently they do not exist and as result innovation and design outcomes are less than desired. Built environment accessibility metrics are an important tool for researchers, developers, governmental agencies, and end users because they have the potential to communicate accessibility in a simple form, such as a satisfactory performance test to validate inclusion.

Additionally, we intend to continue our initial research work on luminance, colour and other wayfinding cues to better understand the fundamentals of access reflected in the proposed design model and its associated test kit.

It is no surprise that wayfinding problems are associated with the cognitive decline associated with the increase of Dementia diagnoses part of the global phenomena know as population ageing. Dementia is the fastest growing functional limitation impacting wayfinding capability, thus confirming the need for this element to be factored into the model. The ease of wayfinding is currently evaluated using four approaches:

- Real field testing;
- VR – Virtual Reality field testing with associated questionnaires;
- CAD Model analysis requiring 3D rendered visual information; and
- Wayfinding based simulation – agent-based.

glossary

SECTION 9



9 GLOSSARY

ABCB	Australian Building Codes Board
ADHC	Ageing, Disability & Home Care
AHURI	Australian Housing and Urban Research Institute
CCSP	Community Care Support Program
CHSP	Commonwealth Home Support Programme
DOH	Australian Government Department of Health
DSS	Australian Government Department of Social Services
DVA	Department of Veteran's Affairs
EBEP	Enabling Built Environments Program
FaCS	NSW Department of Family and Community Services
HACC	Home & Community Care Program
HMinfo	Home Modification Information Clearinghouse
MOD.A	Home Modifications Australia
NCC	National Construction Code
NDIA	National Disability Insurance Agency
NDIS	National Disability Insurance Scheme
OT	Occupational Therapist
OTA	Occupational Therapy Australia is the professional association representing Occupational Therapy throughout Australia
PDCN	Physical Disability Council of NSW



Home Modification Information Clearinghouse

Built Environment
University of New South Wales
Level 4, Red Centre (West Wing)
UNSW Sydney NSW 2052
AUSTRALIA

www.homemods.info

Email: hminfo@unsw.edu.au

Tel: 1800 305 486