ANNUAL
REPORT 2018 - 2019

Authored by

The Home Modification Information Clearinghouse

for

The Faculty of the Built Environment
University of New South Wales

December 2019

info

ACKNOWLEDGEMENTS

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introduction

SECTION 1

1 INTRODUCTION

Welcome to the 2018/19 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@fbe.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
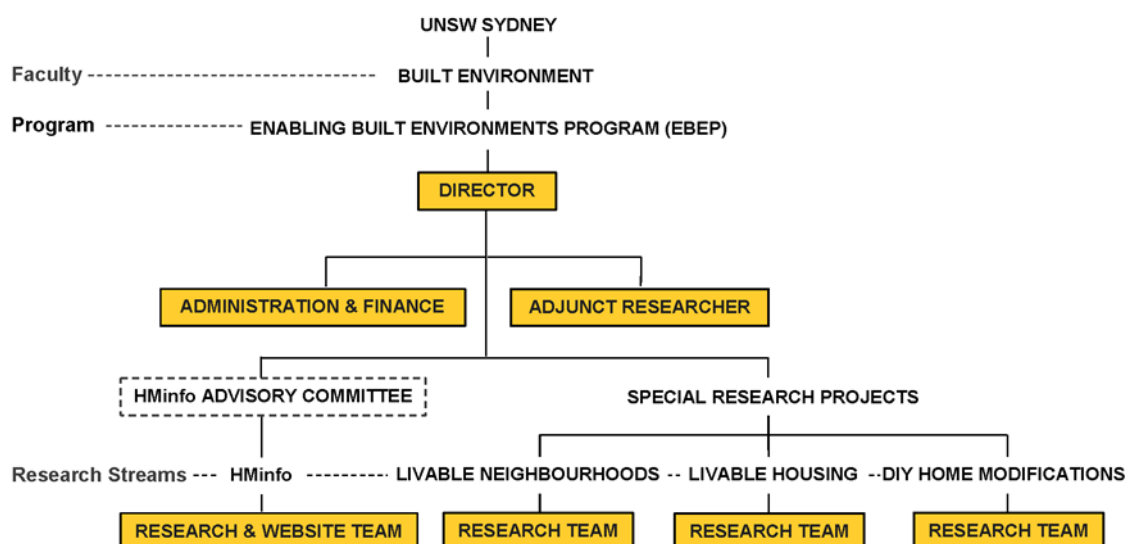
The Special Research Projects complement and inform the work undertaken by HMinfo. The broad scope of EBEP research projects ensures that HMinfo's home modification research is suitably placed within the scope of current research and practice in the built environment for carers, older people and people with disability.

For the financial year 2018-2019, HMinfo is funded by the Australian Government Department of Health, under their Commonwealth Home Support Program (CHSP).

The EBEP Special Research Projects' three streams of research are funded by a range of government and non-government organisations. In 2018-2019, these included: Australian Building Codes Board (ABCB), Australian Research Council (ARC), Australian Housing Urban Research Institute (AHURI), and industry partner Caroma (GWA).

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 research partners and its contract and postgraduate research people having a diverse skill set that includes: Industrial Design, Architecture, Engineering, Occupational Therapy, Health Sciences, Biomechanics and Construction Safety.

Figure 1. Greater China-Australia Dialogue on Public Administration Workshop 2018

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 centre 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 2018-2019, spanned the three research streams. An overview of the projects in each research stream are provided below.

LIVEABLE NEIGHBOURHOODS

Australian Building Codes Board (ABCB) – Performance Based Access Design

EBEP was appointed by the Australian Building Codes Board to assist / develop a Handbook on Performance based Access Design. This was a continuation of two previous research projects concerning:

- Ramp Access Design – Preparation of Metrics for a design verification method for inclusion in the 2019 Edition of the National Construction Code (DV3).

- Building Access Design – Preparation of metrics / performance design process for incorporation into the 2019 Edition of the National Construction Code (DV2).

The two projects were completed and the resultant Verification Methods, DV2 and DV3, have been included in NCC 2019.

EBEP reviewed the original briefings for the two projects above as part of a public review process undertaken by the ABCB and recommended that the Handbook that was to be prepared for the Building Industry should integrate the two verification methods together as they form the basis of performance based design for Building Access.

The Handbook was developed in 2018-2019. This was a major undertaking as it was a first on the international scene. A version of the Handbook has been issued by the ABCB to the Industry for use by the associated experts (access consultants, architects and other building professionals). The time was also used to develop educational material for inclusion at a later stage in a continuing professional program on performance-based design in building access. The material underpins the importance of evidence as the development of performance solutions need to be evidence-based.

Public Submissions on NCC 2019 and Amendments

EBEP prepared a few submissions over the year as part of the public review of amendments:

- NCC 2018 - The Accessible Housing Options Paper was released by the Australian Building Codes Board Office on behalf of the Commonwealth of Australia and States and Territories of Australia in September 2018 and EBEP submitted a response to the set consultation questions before the 30th of November close off of the consultation period. While we strongly supported a role for regulation in new housing design and construction, we also cautioned that whist a stepless entry is critical for all new build, in areas prone to flooding or likely to have significant water ingress more design detail and innovation is required. Also raised in our submission, was concern that within the context of both an ageing population and a greater likelihood of major weather events and global warming impacts, the lack of integration of climate and accessibility features potentially creates a triple jeopardy situation with older people being more vulnerable due to both climate events, physiological factors and increased likelihood of living in poorly adapted homes.

- Fire safety in residential flat buildings < 25m effective height – focussing on the incorporation of automatic life safety sprinkler systems. Submission included a case for the consideration of water mist systems which could also be incorporated into accessible housing being extremely cost effective. ABCB was referred to a research paper prepared by Hamish MacLennan on the performance of water mist systems.

•   Fire Safety Verification relating to the process and evidence used to characterise the building occupants in terms of their egress response, behaviour and associated movement patterns in fire scenarios. Reference was made to the current Australian Standards on warning systems and how the current alarm signature and sound energy level is ineffective in waking children and older people from their sleep.

•   NCC 2019 - Accessible adult change facilities in public buildings. The changes proposed apply to Class 6 and 9b buildings. The changes are mainly geared to wheelchair users and set out new layout and manoeuvring space requirements which include the change "table" and other fixtures. An in-depth analysis reveals that incontinence is an extremely prevalent condition especially in terms of ageing and for other disabilities. The prescriptive solutions offered in the new F2.4 of NCC 2019 (proposed) are inflexible and no doubt will generate multiple performance solutions which have the potential to be far more inclusive/ enabling.

Continuing Professional Education Performance-based Building Access Design

A two-day short course has been developed for this area in an introductory format and incorporates DV2 and DV3. The market has been investigated and found to extend many professional groups in the building industry such as architects, access consultants, building surveyors and certifiers, interior designers, and other building professionals. It is anticipated that this course will be offered in the first half of 2020. Further CPD short courses are also being considered.

Generally, EBEP are committed to the incorporation of evidence-based design in the development of performance solutions in building access and as such will be developing additional material as part of their research program utilising the Liveability Laboratory. It is envisaged that in the future digital material will be developed for use with BIM and in the formulation of performance solutions in association with the National Construction Code.

Review of Access / Safe Movement Performance Solution for Stadia Australia

Adjunct Professor Hamish MacLennan is currently leading a team reviewing the outcome of the performance solution for the safety of the circulation systems for the recently completed Bankwest Stadium in Parramatta. This review will utilise the case study research method and will include a combination of tools (user survey, video observation, focus groups etc.) that will permit the triangulation of survey results via data from video observation (real time) and focus groups. The team comprises the architects, building certifiers and venue operators. This will be invaluable as feedback for future projects and for inclusion in the CPD program.

Co-operation with National Australia Bank

EBEP is currently investigating initiating a joint research and development program with members of the NAB executive in specialist disability accommodation. This will be centred on the use of performance-based design to develop user centred cost-effective approaches and solutions that complement the newly issued NDIS Standard.

LIVEABLE HOUSING

Washbasin Project

In early 2018 a new project was commenced in partnership with Caroma (GWA International – Bathrooms and Kitchen) to investigate the under-basin clearances and associated space requirements of washbasins in public accessible bathrooms. The focus of the research is wheelchair users, including those who may not always need to use a wheelchair. In this year, we have gained our ethics approval both from UNSW and from the Cerebral Palsy Alliance (CPA) and commenced recruitment, which is ongoing. Pilot testing has been completed and testing can commence as soon as there are participants.
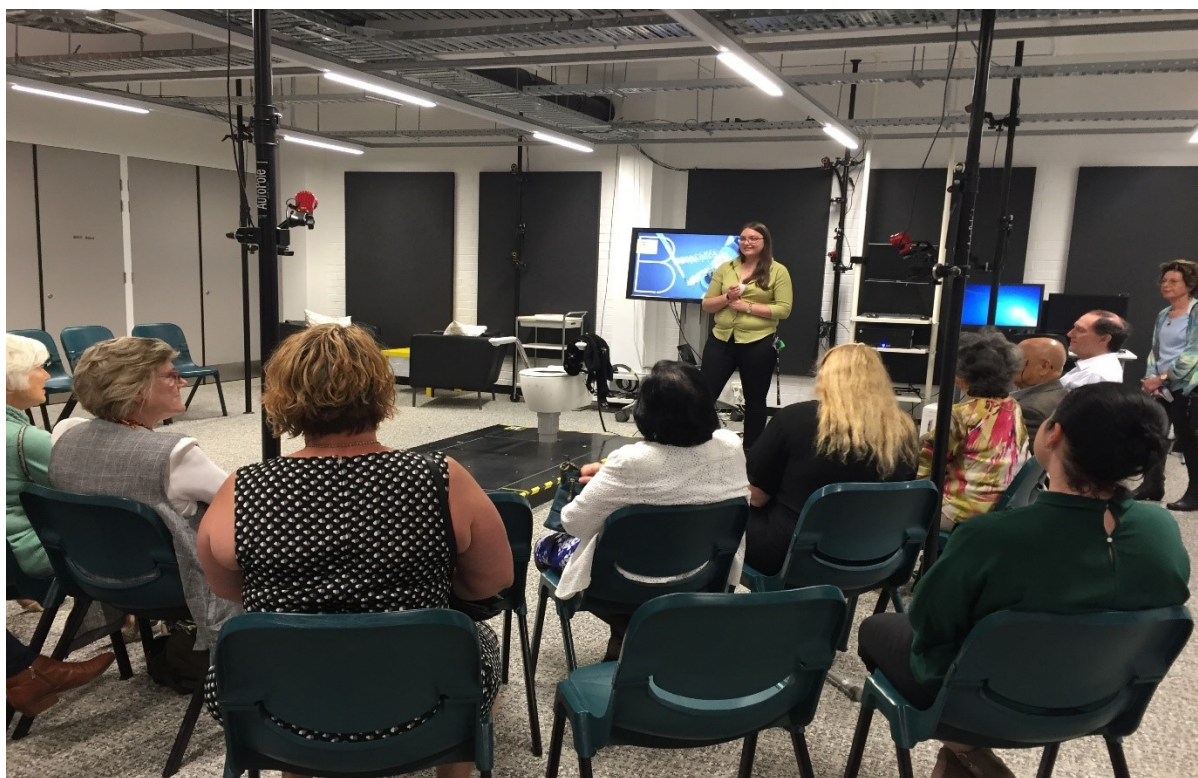
Figure 2. Presentation of the EBEP Program to a group of philanthropists by Livability Lab Manager Kim Andersen

Livable Bathrooms for Older People

The Livable Bathroom project wrapped up at the end of 2016 and the final report was submitted and approved by the Australian Research Council shortly after. Since that time GWA Bathrooms and Kitchens has been able to use this research to create protectable intellectual property and to change it's market strategy. As a result, GWA Bathrooms and Kitchens has allocated a substantial investment to creating a greater manufacturing and healthcare advantage by design innovation that is both aspirational for older people and commercially feasible. GWA Bathrooms and Kitchens have now committed within their current business development strategy to new products to enable ageing in place as a major business growth area going forward. Consequently, the new strategic business plan includes growing the profitability of its business by bathroom innovations that facilitate usability and access to better bathroom design outcomes for older Australians. The Ageing Joyfully whitepaper and some of the new products resulting from the original research work were launched as a part of the Livewell Aged Care range. This range of new products; from grab rails, specialised tapware and rail showers to raised height toilets, nurse call armrests and supportive backrests. Also, the entire care portfolio can be retrofitted enabling easy upgrades to existing bathrooms in aged care and home care applications

Figure 3. The Caroma LiveWell range. Source: https://specify.caroma.com.au/livewell

1.2 Impacts of new and emerging Assistive Technologies for ageing and disabled housing

This new project which started in 2019 and runs until early 2020 seeks to address the implications of new and emerging Assistive Technologies (AT) for older people and those living with a disability. The key research question concerns understanding the current state and developments in AT devices and the implications for policy and practice in advancing their use and adoption to maintain and prolong independent living, improve quality of life and reduce care provision. AT usage in housing for older people and people with disabilities in Australia and its popularity and potential growth remains unclear despite the existence of a nexus between housing design, geography and retrofit and upgrade strategies. Previous research studies and grey literature reports indicate that many older people and those with disabilities do not obtain the AT that would be of most benefit because of issues with retrofitting; usability and consequences of user error; cost and interoperability.
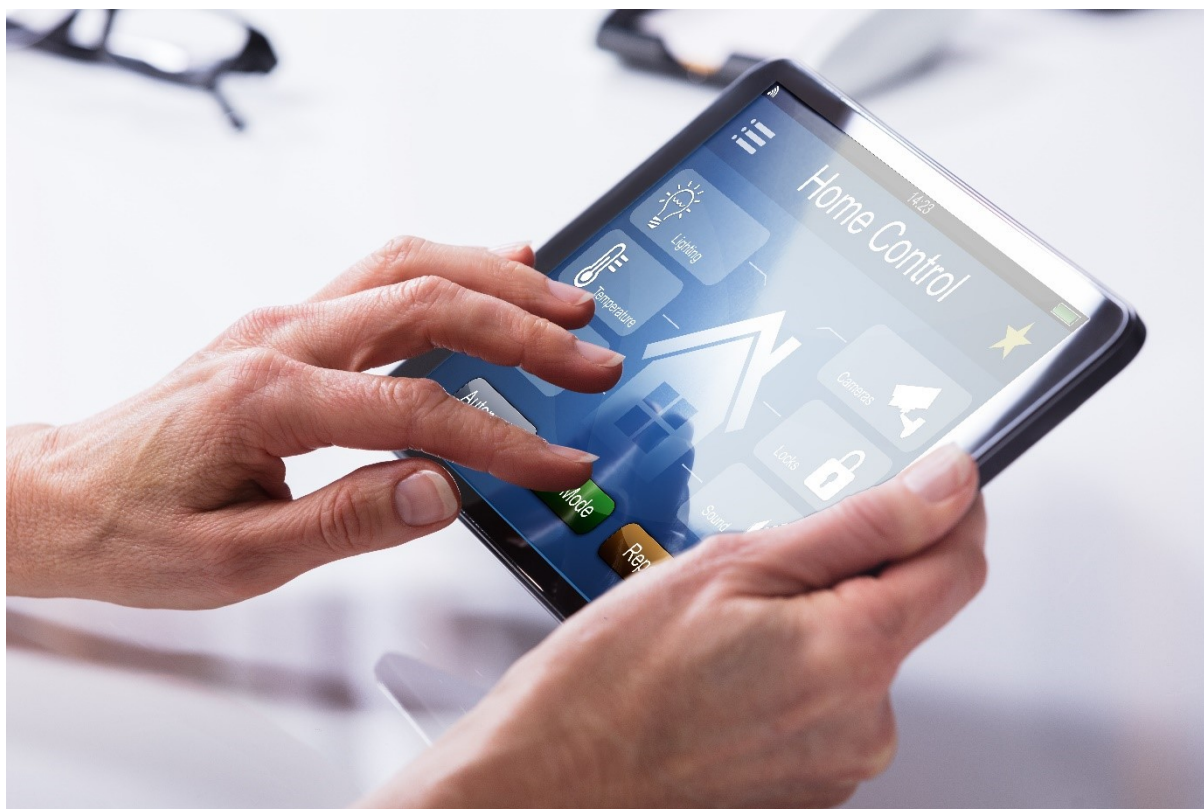
Figure 4. Assistive Technologies for ageing and disabled housing. Source: www.shutterstock.com

Our research approach is framed by aiming to acquire knowledge and understanding of the nature of AT access within Australia by identification of the social and economic benefits and opportunities that AT does and can play in supporting independent living and the ability for people to age at home. We explore how housing providers and older people and those with

disabilities perceive AT and what they view as incentives and disincentives to invest therein; and what drives or does not encourage better AT policy. Our multi-method research design involves a literature review, focus groups, a survey questionnaire and targeted case studies. The focus groups and survey data will provide enough information to complete an economic analysis and to gain understanding of the impact of AT on quality of life of its users. These discussions will feed into our policy recommendations. This is a collaborative project undertaken between the University of New South Wales, Faculty of the Built Environment; The University of Adelaide, Centre for Housing, Urban and Regional Planning (CHURP) and University of Tasmania, Housing and Community Research Unit, School of Sociology and Social Work AHURI Research Centre. A major strength of the team is its interdisciplinary nature with social science, architectural, health and economics knowledge expertise.

1.3 Linked Semantic Platforms for Policy and Practice

This very large, multi-state, multi-disciplinary Australian Research Council funded Linkage Infrastructure, Equipment and Facilities project seeks to develop the next generation of decision tools for interdisciplinary research on critical public policy issues. The project leverages expertise from HMinfo, Australian Policy on Line (APO) and Australian Urban Research Infrastructure Network (AURIN) to name a few of the key players to improve inter-operability across major social science databases and to develop new analytical tools that can transform the research capabilities for evidence-based policy making. Our focus is digital inclusion and we are responsible for two projects in this area the first commenced in 2019. Due to the nature of the research conducted at these organisations it is imperative that all demographics can access the data contained, be they academics, government officials, general public, the elderly or those with disabilities.

We are aiming to develop guidelines and tools that not only improve HMinfo's capabilities but work for all the linked social sciences online platforms. Our goal is to:

- Increase functionality and accessibility of websites on mobile devices, or other non-computer device;

- Make websites more accessible to all users – "break the habit of prioritising aesthetics over accessibility";

- Provide guidelines for accessibility and inclusivity that includes app user interfaces.

All websites included on the platform should be accessible and inclusive environments to minimise and where possible eliminate any features which may disadvantage a subset of users. For example, plain language on the website even if the articles are academic in nature, or accessible features for those who may have an impairment. Accessibility guidelines already exist (i.e. W3C), to ensure website accessibility, however, these are not always implemented appropriately. For example, scrolling background images, mouseover buttons/menus and

progressively loading results can cause confusion and may not read on a screen reader for someone with a visual impairment.

1.4 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.

1.4.1 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.

1.4.2 HMinfo Home Modification Research Publications

HMinfo produces 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.

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.
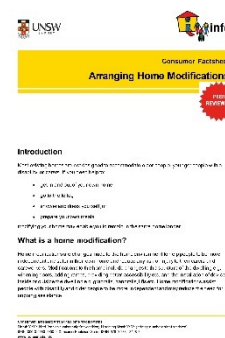
Home Modification Industry Factsheets and Checklists

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.

1.4.3 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.

1.4.4 HMinfo Research Projects

Three key Home Modification issues were addressed in HMinfo research Projects. These were Lighting for people with reduced vision, Bidet douche seats, flexible hoses and bidets and Design home environments for people who experience problems with cognition and who display aggressive or self- injurious behaviour. In addition, the HMinfo website was improved with several upgrades to the appearance, interface, and usability. An overview of these projects is provided below.

Evidence Based Practice Review: Lighting your Way into Home Modifications, 2nd ed.

The aging process causes changes in the human visual system that lead to significant decreases in mobility performance. Older people and people with vision impairments often struggle to walk around and orientate, not only in new but also in familiar environments, such as residential hallways. Lighting is one of the environmental parameters that can either improve or impair the mobility of people in residential hallways.

This publication identifies the characteristics of the lighting systems that would enable independent and safe mobility of older people and people with vision impairments in a residential hallway. The study showed that the mobility performance of people with vision impairments in hallways is better in photopic, than in mesopic or scotopic conditions. Generally, within the photopic range, the higher the illuminance levels, the better the performance of the participants. Ambient lighting systems and systems that provide perceptual cues of the environment are preferred by people and lead to better performances.

The lighting of residential hallways should be adapted to the time of day and the needs of the users, to provide safe and independent movement, without disrupting the daily rhythms of

people. Hybrid lighting systems, comprising of low ambient lighting and wayfinding elements seem to be effective for mobility in mesopic and scotopic conditions.

The research paper is the second edition of the 2006 publication Lighting Your Way into Home Modifications by Pitch, M. and Bridge, C. The HMinfo Evidence Based Practice Review: Lighting your Way into Home Modifications was published in December 2018.
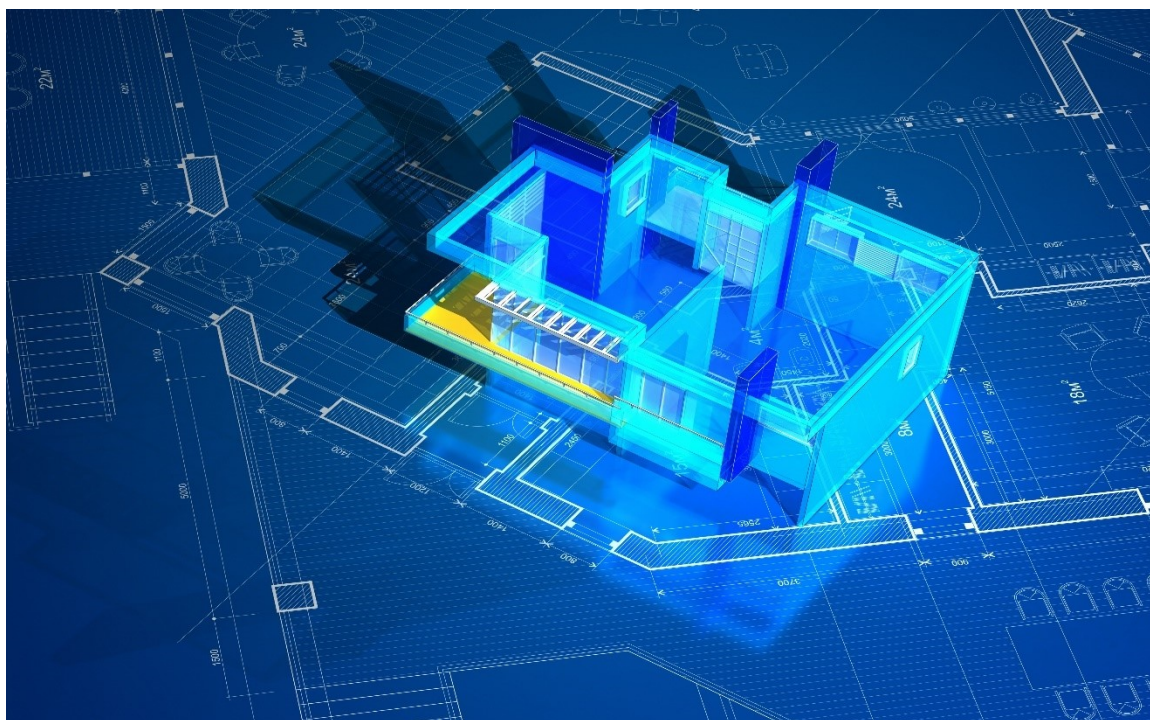
Figure 5. Evidence-based design and Home modifications. Source: https://www.istockphoto.com/au

Consumer Factsheet: Bidet douche seats, flexible hoses and bidets

The purpose of this factsheet is to inform consumers about the function of bidet douche seats, flexible hoses and bidets and about the hazards associated to non-compliant installations of these fittings in their bathrooms. The HMinfo Consumer Factsheet: Bidet douche seats, flexible hoses and bidets was published in June 2019.

Evidence Based Practice Review: Designing home environments for people who experience problems with cognition and who display aggressive or self- injurious behaviour. Ed. 2

People who experience problems with cognition have many adverse behavioural symptoms. Incidences of aggressive or self-injurious behaviours can occur and environmental factors seem to affect these behaviours. The objective of this publication is to determine the physical design features of a home environment that would impact aggressive or self-injurious behaviour in people with cognitive deficits.

This study showed that little specific information pertaining to the design requirements of the physical home environment for people who experience problems with cognition who display aggressive or self-injurious behaviour exists. Nine guidelines have been highlighted to assist in the design of optimum home environments. Further research in the home environment is clearly needed. The HMinfo Evidence Based Practice Review: Designing home environments for people who experience problems with cognition and who display aggressive or self-injurious behaviour. Ed. 2 was published in June 2019.

1.4.5 HMinfo Website Upgrades

Website development during 2018-2019 was primarily focused on the implementation of a new, responsive website design aimed at greatly improving the website's usability on mobile devices while maintaining compliance with accessibility requirements. The new design went live on the 25th of January 2019.

The new HMinfo website front-end scales to fit devices of varying screen resolutions and thus caters to an increasing number of users who navigate it using their mobile device. Users browsing the website on mobile devices increased to 29.01% in the 2019 financial year. In the 2018 financial year, 25.98% of users browsed the website on a mobile device.

Following the launch of the new design, Vision Australia and the Physical Disability Council of NSW (PDCN) commenced auditing and reviewing the website. Outcomes of the audit and review were positive. The website passed 87% of the Web Content Accessibility Guidelines success criteria and 5 out of 10 issues found were of a technical nature. The usability review identified 7 technical issues and 4 content related issues.

HMinfo Website Professionals Forum and Mailing List

- The Built Environment Industry Professionals Forum was adapted to the HMinfo website's responsive design and launched.

- Registered users who were eligible to participate in the forum were automatically subscribed to the new mailing list and received an electronic pamphlet.

- The new mailing list allows 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 was integrated into the HMinfo website in order to improve its existing search capabilities.

- Queries via the HMinfo website's search interface now use synonym matching algorithms and Google's proprietary search algorithm to find relevant results.

- Synonyms used for finding results are configurable by staff via the HMinfo website back-end interface.

Google for Non-profits

We were luckily able to win a Google Ads grant worth $10,000 US per annum and so Google Ads have been implemented for the HMinfo website via Google for non-profits in Australia.

Potential users who utilise Google to search for information related to home modifications may be shown ads that link to the HMinfo website depending on their query. Ads linking to various areas of the website, such as the service directory, FAQs and legislation pages have been configured. Since its implementation, 176 users have visited the HMinfo website via ads. In order to increase ad clicks, the ad configuration is reviewed regularly and modified according to performance.

Minor HMinfo platform enhancements

Various minor enhancements were developed over the course of this reporting period to facilitate website administration and add features that benefit users. Enhancements included:

- Website reporting
  - Automatic retrieval and output of DIYmodify app download counters.
  - Automatic generation of Google Analytics graphics (world map, overview charts).
- Content management
  - Added content checking functionality that identifies formatting issues that are likely to cause content to fail accessibility tests.
  - Reduced the complexity of the newsletter wizard while maintaining compliance with accessibility guidelines.
  - Added a function to automatically populate news item source acknowledgement fields. Machine learning is used to select the most probable news source based on a given author's name.
  - Added easier to use controls for defining event dates and times.
  - Extended DOI minting functionality to Administrative Publications.
- User Features
  - HMinfo Service Directory search results are now ordered based on service proximity to the user's geographic location.

- To prevent unwanted hacking and robotic attacks most websites use CAPTCHA (an acronym for "Completely Automated Public Turing test to tell Computers and Humans Apart") this challenge–response test is used to determine whether or not the user is human but can be an accessibility barrier as it typically relies on vision and/or audio tests, so implemented the most accessible and simple CAPTCHA available.
- Users are now able to subscribe to reminders for upcoming events.

our people

2 OUR PEOPLE

2.1 HMinfo Team

The HMinfo team is led by Director, Professor Catherine Bridge. Our HMinfo team members combine experience from a range of design and health disciplines.

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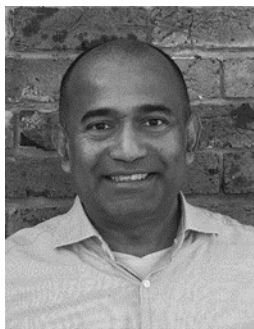
Vincent D'cruz joined the EBEP team in May 2018 as the Research Program Administrator, to oversee the administration support for the Enabling Built Environments Program. Vincent has ten years working experience in the tertiary education sector in the areas of research support, finance, human resources,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

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.

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.

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.

Hamish MacLennan is an acknowledged international expert in performance based safe human circulation design based on real world evidence. He completed a "case study" based PhD in inclusive design at the University of Salford in the UK looking at the performance and capability of building occupants traversing stairs in high rise buildings along with an extensive study of the movement of older people outdoors. The study examined data and knowledge gained in an international career spanning some 32 years in the field. Hamish was the founding Principal of what is now the largest specialist fire engineering practice in Australasia after being involved as one of the leading international players in the development of risk-based fire engineering between 1979 and 1994. His interest in research is now in evidence based enabling design and he has led the EBEP in developing metrics for access in conjunction with the Australian Building Codes Board.

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 VETERAN AFFAIRS
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.

3Bridges Community

Julian Werrett is a licensed builder with 25 years' experience in the building industry. He is currently the Home Modification and Maintenance Manager at 3Bridges Community, a not-for-profit in Sydney's South West. Julian manages a team of highly skilled and committed building professionals who provide specialised major and minor home modification services to those people who are eligible for the NDIS, CHSP, DVA and MyAgedCare programs. 3Bridges also provides specialist home modification management to icareNSW.

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.
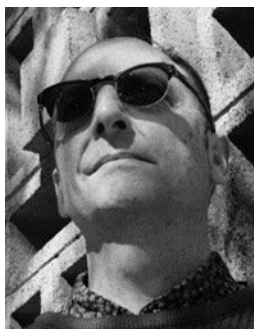
NSW LAND & HOUSING CORPORATION

Nicholas Loder 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 projects.

OCCUPATIONAL THERAPY AUSTRALIA

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 OTs in NSW.

WESLEY MISSION HOME MODIFICATION AND MAINTENANCE

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 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.

TECHNOLOGY ASSISTING DISABILITY WESTERN AUSTRALIA

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.

DOMICILLIARY EQUIPMENT SERVICE SOUTH AUSTRALIA

Agnieska 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

PHYSICAL DISABILITY COUNCIL NSW

Alice Dixon-Wilmshurst Bio is Policy Officer at 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 since May this year. In this role she advocates on the needs of people with physical disability and contributes to policy and legislative development at State, Commonwealth and Local levels though her participation on advisory councils, written submissions, and participation in consultations.

NATIONAL SENIORS AUSTRALIA

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

COUNCIL ON THE AGEING NSW

Karen Appleby is the Senior Policy Officer at Council on the Ageing NSW, where she has specialised in examining the policies and issues that impact older Australians for over 2 years. The role encompasses research, advocacy and consultation with older people, government and other stakeholders to ensure the needs and aspirations of older people are addressed. Karen has extensive community development experience in the areas of ageing, disability and youth, including social research and planning. She has a Master's degree in Gerontology (Policy) from Charles Sturt University.

SPINAL CORD INJURIES AUSTRALIA

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, 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.
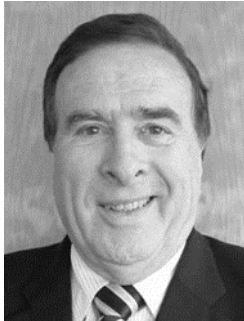
PARAQUAD

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. 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.
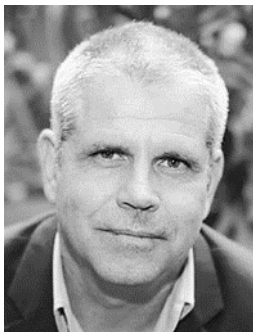
YOUNGCARE

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.

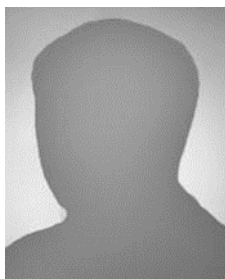### 2.2.3 Advisory Committee Members – Government

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 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.

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 2018-2019.

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

Glenn Redmayne   Marrickville Council

Greg Killeen   Spinal Cord Injuries Australia

Keith Shinn   Deafness Forum of Australia

director's report

3 DIRECTOR'S REPORT

I am pleased to present the 2018–19 Annual Report. This report details our results, services and achievements for the past year. The report also highlights the efforts of our dedicated staff throughout the year as they work with people with a disability, frail older people, their carers and families, Industry, designers, and non-government and government groups to increase participation across Australia via the curation and creation of reliable and credible built environment innovation and information.

Ensuring that older people have access to healthy, accessible and affordable housing outcomes is critical to enabling them to remain in their homes and communities for longer. Housing provides a base for ontological security, maintaining health, quality of life, engagement with family, community and society and facilitating activity and independence. Poor housing conditions and poor accessibility can result in "housing-related disability" and reduce the safety, efficacy and feasibility of older people caring for themselves, or being cared for, in their own homes. In this context access to in-home care and home modifications are critical factors in enabling people to age in place and should be key interventions.

A number of initiatives, together with ongoing Community Home and Support funding, have made the last year a period of significant impact. For instance, our recently published research showed that Home Modifications can reduce Care by 42% whilst improving every aspect of Quality of Life. However to date despite several applications we have been unsuccessful in gaining any funding via the Information, Linkages and Capacity Building (ILC) framework a key component of the NDIS insurance model that is expected to contribute to the sustainability of the NDIS by building the capacity of the community, people with disability, their families and carers which in turn will reduce the need for funding of supports for people.

Additionally, the ongoing lack of certainty over the last year, has seen Home Modification service provision adversely impacted by funding caps and insufficient clarity on agreed definition of appropriate types of home modifications. For instance, it is unclear when an Occupational Therapist (OT) assessment is required and which home modification service providers can carry out the services. This is important, as anyone with an impairments of function faces extra hurdles in participating in our community and Home Modification is often the cornerstone on which frail older people and people with a disability are able to age in place, maintain quality of life, reduce care and participate within the community

CBridge

Professor Catherine Bridge. Director, Home Modification Information Clearinghouse

workplan

4 HMINFO WORKPLAN 2018-2019

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.

In May 2018, the Department of Health offered HMinfo an extension of the CHSP funding it was receiving, under the "Home Support" program. The funding extension applies to the financial years 2018-2019 and 2019-2020. The Activity Work Plan for these years is shown on the following pages, with the reported measures of success for the year.

4.1 Commonwealth Home Support Program (CHSP) Activity Work Plan - July 2018 to 30 June 2020

AUSTRALIAN GOVERNMENT DEPARTMENT OF HEALTH, COMMONWEALTH HOME SUPPORT PROGRAMME (100% HMinfo funding)

ACTIVITY DETAILS	
Activity Requirements	The objectives of the Home Modification Information Clearinghouse Activity include: 1. Developing and disseminating information on the CHSP and its interaction with the broader aged care system. 2. Embedding wellness, reablement and restorative care approaches into service delivery. 3. Strengthening the capacity of CHSP service providers to deliver quality services that are responsive to client needs, including clients with diverse needs. 4. Brokering, coordinating and delivering training and education to service providers, workforce and consumers. 5. Developing and promoting collaborative partnerships within the CHSP and across the broader aged care service system. 6. Supporting and maintaining the volunteer workforce.
Activity Work Plan Period	Activity Work Plan Start Date: 01/07/2018 Activity Work Plan Start Date: 30/06/2020

ACTIVITY DELIVERABLES

Objectives:

1. Developing and disseminating information on the CHSP and its interaction with the broader aged care system.

Deliverable	Performance Indicators
Update and maintain currency of arranging home modification consumer factsheet as it relates to CHSP.	Any change in policy or program manual reflected in all information available within factsheet within 24 hours of change notification.

ACTIVITY DELIVERABLES

Objectives:

2 – Embedding wellness, reablement and restorative care approaches into service delivery.

3 – Strengthening the capacity of CHSP service providers to deliver quality services that are responsive to client needs, including clients with diverse needs.

Deliverable	Timeframes
Update and review evidence published on HMinfo website which reflects current good practice and the developing home modifications evidence base so as to support older people and their carers.	Number of items identified for update or review.
Maintain HMinfo website to current standards.	HMinfo website available 24/7.

ACTIVITY DELIVERABLES

Objectives:

2 – Embedding wellness, reablement and restorative care approaches into service delivery.

3 – Strengthening the capacity of CHSP service providers to deliver quality services that are responsive to client needs, including clients with diverse needs.

4 – Brokering, coordinating and delivering training and education to service providers, workforce and consumers.

Deliverable	Timeframes
Publish new and updated research relevant to home modifications and enabling environments for older people.	HMinfo content reviewed on a rolling 5-year cycle or as new information becomes available.
Publish HMinfo quarterly newsletters	• Quarterly newsletters published on time. • Number of downloads of newsletter from website

ACTIVITY DELIVERABLES

Objectives:

5 – Developing and promoting collaborative partnerships within the CHSP and across the broader aged care service system

Deliverable	Performance Indicators
Work with Design and Construction Industry, AIA, OT Australia and Independent Living Centres Australia to promote crosslinks between websites and facilitate access to home modifications evidence-base.	• Maintain MOUs with relevant bodies. • Maintain liaison with individual Assistive Technology Australia members until they have a national body.
Enhance knowledge of home modifications for Home Modification Group Forums for occupational therapists and for building practitioners.	• Maintain Forums. • Increase number of Forum members.
Ensure government, industry and consumer stakeholders on HMinfo Advisory Committee reflect a national focus.	• DoH nominate a relevant representative to the HMinfo Advisory Committee to ensure that a Commonwealth government perspective is incorporated into all HMinfo considerations • HMinfo Advisory Committee is broadly representative of appropriate industry and consumer stakeholders.

ACTIVITY DELIVERABLES

Objectives:

4 - Brokering, coordinating and delivering training and education to service providers, workforce and consumers.

5 – Developing and promoting collaborative partnerships within the CHSP and across the broader aged care service system.

6 – Supporting and maintaining the volunteer workforce

Deliverable	Performance Indicators
Maintain existing links with research stakeholders and develop new ones as appropriate.	• Number of papers/seminars/posters etc. delivered at number of conferences/seminars/forums/other media i.e. social media. • Number of citations of HMinfo research in published articles.

ACTIVITY DELIVERABLES

Objectives:

6 – Supporting and maintaining the volunteer workforce.

| Deliverable	Performance Indicators
Maintain and update information associated with DIY modification App, that facilities reablement and volunteer participation in Home Modifications.	- DIY modify App available 24/7 on Google Play and Apple store. - All 52 associated consumer factsheets available and contents current in terms of any change in legislation, new research etc. within factsheet within 24 hours of change notification.

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.

activities
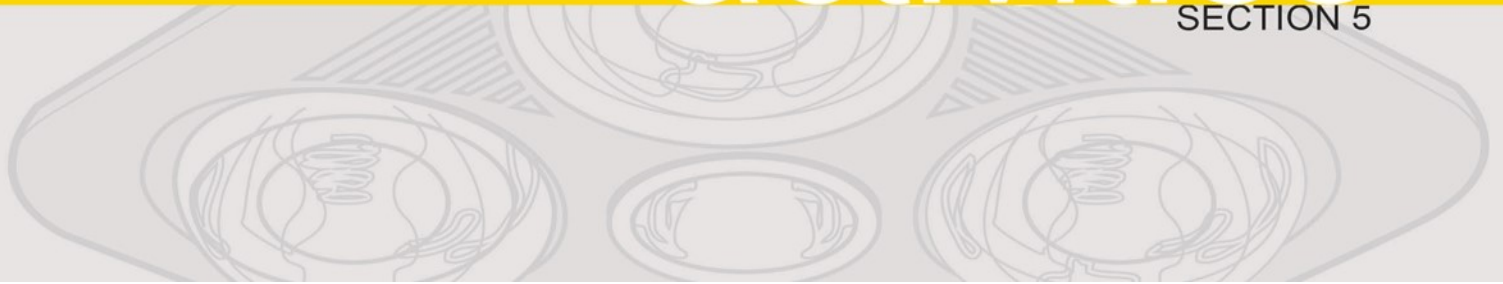
5 HMINFO ACTIVITIES 2018-2019

5.1 Research & Publications

HMinfo Publications

Vasilakopoulou, K., Bridge, C. (2018). Evidence Based Practice Review: Lighting your Way into Home Modifications, 2nd ed. Sydney, Australia: Home Modification Information Clearinghouse, UNSW Sydney.

Bridge, C. (2019) Evidence Based Practice Review: Designing home environments for people who experience problems with cognition and who display aggressive or self-injurious behaviour. Ed. 2. Sydney, Australia: Home Modification Information Clearinghouse, UNSW Sydney.

Vasilakopoulou, K., Bridge, C. (2019). Consumer Factsheet: Bidet douche seats, flexible hoses and bidets. Sydney, Australia: Home Modification Information Clearinghouse, UNSW Sydney.

Book Chapters

Bridge C. (2018). Participatory Design Resulting in a 'Do-It-Yourself Home Modification' Smartphone App. Pg 101-111. In Langdon, P., Lazar, J., Heylighen, A., Dong, H. (Eds.). Breaking Down Barriers. Usability, Accessibility and Inclusive Design. Proceedings of CWUAAT '14. Springer International Publishing

Journal Articles

Carnemolla, P.; Bridge, C. (2019). Housing Design and Community Care: How Home Modifications Reduce Care Needs of Older People and People with Disability. Int. J. Environ. Res. Public Health 2019, 16, 1951.

Lukman, A. L., Bridge, C., Dain, S. J., & Boon, M.-Y. (2019). Luminance Contrast of Accessible Tactile Indicators for People With Visual Impairment. Ergonomics in Design. https://doi.org/10.1177/1064804619841841

Bridge C. (June, 2019). Caroma and EBEP whitepaper on the future of Aged Care Wellbeing, available from the Caroma website. Prof. Bridge also spoke on the Caroma event hosted in the company's showroom in Alexandria.

Conference Papers and Presentations

Bridge C. (March 2018). Assisting consumers to make their homes more functional: the 'DIYmodify' case study. Presented at the Symposium: From Room to Region: Age-Friendly Environmental Design and Planning in the Western Asia-Pacific, Kyushu University (Ohashi Campus), Fukuoka, 12th to 16th March 2018

Bridge C. (September 2018) Business of Wellness: Inclusion of vulnerable peoples in our future cities. Keynote speaker for the Business of Wellness Symposium, Sponsored by Barangaroo Delivery Authority and the Urban Land Institute (ULI).

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.

Bridge, C. (November 2018). Frontier technologies: CoDesigning tools and knowledge for a more inclusive future. Meet the New Professor: Professorial Inaugural Lecture Series. UNSW, Kensington, Sydney.

Bridge, C. (June 2019). Livable Bathroom for Older People Project Overview. Keynote at the Caroma LiveWell's launch.

5.2 Reviewer & Assessor Roles

Prof. Catherine Bridge

- Invitation to be on the UDHEIT 2018 Congress - Scientific Committee
- Invitation to review for iCREATe 2019 Congress - Scientific Committee
- IAUD 2018 conference Committee, and a scientific paper reviewer
- Invitation to be a Scientific reviewer for the CWUAT 2018 conference Breaking Down Barriers: Usability, Accessibility and Inclusive Design, Cambridge University Cambridge, UK.

5.3 Teaching/Convened Courses

Prof. Catherine Bridge

- 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

- 2012-2018: Peter Sweatman, PhD candidate (UNSW) Built Environment

- 2017-present: Maximilienne Whitby, PhD candidate (UNSW) Built Environment

- 2018-present: Sima Alizadeh, PhD candidate (UNSW) Built Environment

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.

- Invitation to review for the Housing, Care and Support journal.

- Invitation to review for the Indoor and Built Environment journal.

- 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

- 2018
  - Lucy Caroll (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

- 2019
    - Cheu, S. (June 12 2019). Caroma launches new bathroom solutions for older people. in Industry, Research & Clinical, Australian Ageing Agenda.
    - Donaldson, A. (June 21 2019). Sweet relief: an innovative bathroom designed just for older people. Aged Care https://www.agedcare101.com.au/the-donaldson-sisters/sweet-relief-an-innovative-bathroom-designed-just-for-older-people/

Figure 6. Visit from Mr Sam Tan Minister of State, Ministry for Foreign Affairs and Ministry of Social and Family Development, Singapore

website

6 WEBSITE STATISTICS

6.1 Website Overview 2018-2019

Total page views: 82,743

Total visitors: 29,785

Total new website registrations: 134

6.2 Website & Google Analytics Reports

6.2.1 Visitors by month – 2018-2019

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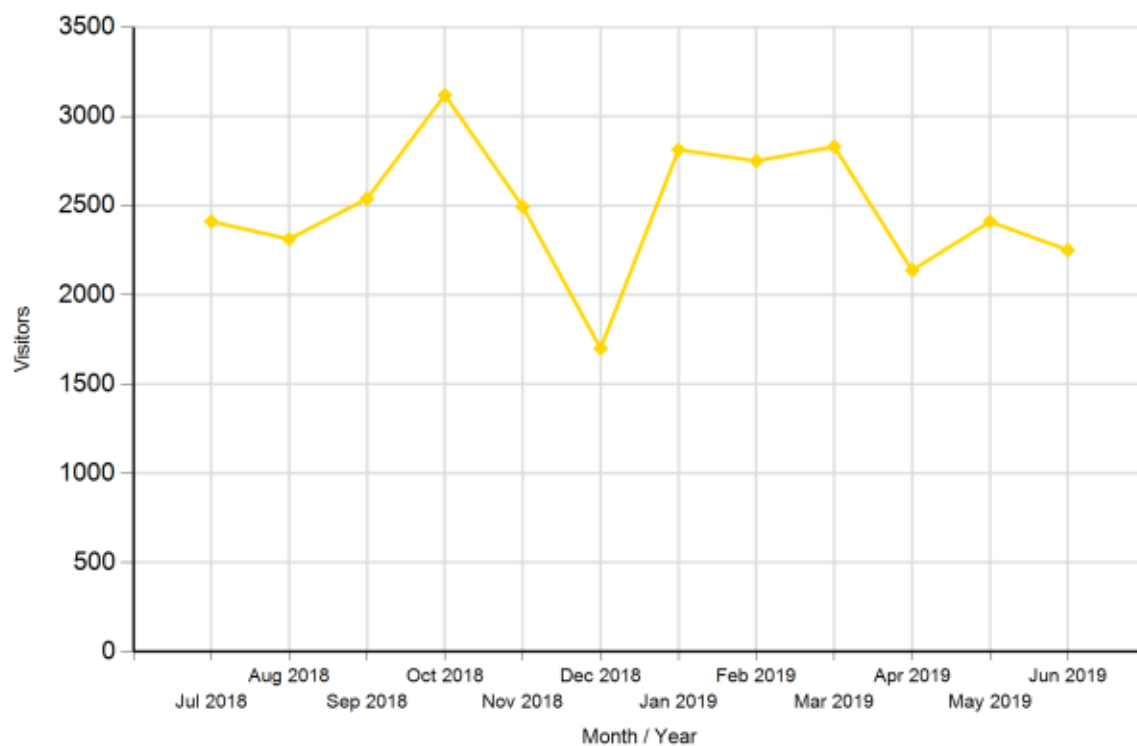
Month (year)	Visitors	Page views
July 2018	2,412	6,076
August 2018	2,314	6,490
September 2018	2,540	6,123
October 2018	3,121	7,690
November 2018	2,495	6,013
December 2018	1,701	4,161
January 2019	2,815	7,536
February 2019	2,752	8,486
March 2019	2,832	8,465
April 2019	2,139	7,558
May 2019	2,412	7,431
June 2019	2,252	6,714
Total	**29,785**	**82,743**

6.2.2 Visitors returning by month – 2018-2019

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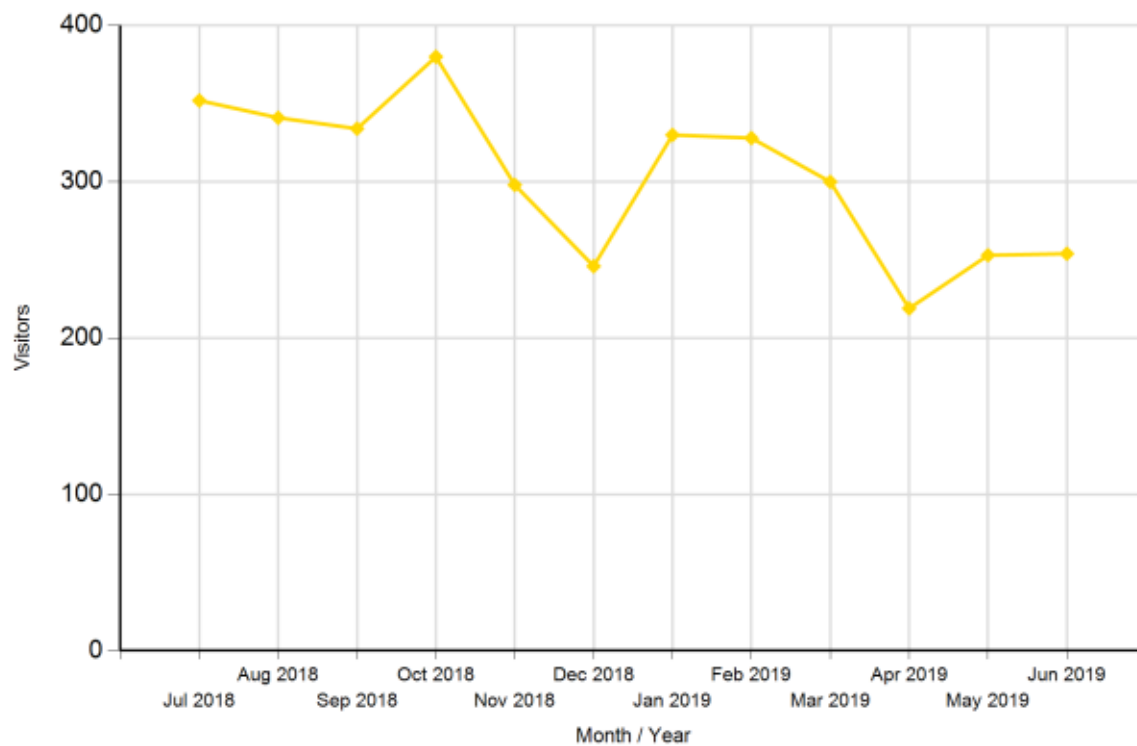
Month	Number of returning visitors	% of Total returning visitors
July 2018	352	9.68
August 2018	341	9.38
September 2018	334	9.19
October 2018	380	10.45
November 2018	298	8.20
December 2018	246	6.77
January 2019	330	9.08
February 2019	328	9.02
March 2019	300	8.25
April 2019	219	6.02
May 2019	253	6.96
June 2019	254	6.99
Total	**3,635**	**100**

6.2.3 Visitors by country – 2018-2019

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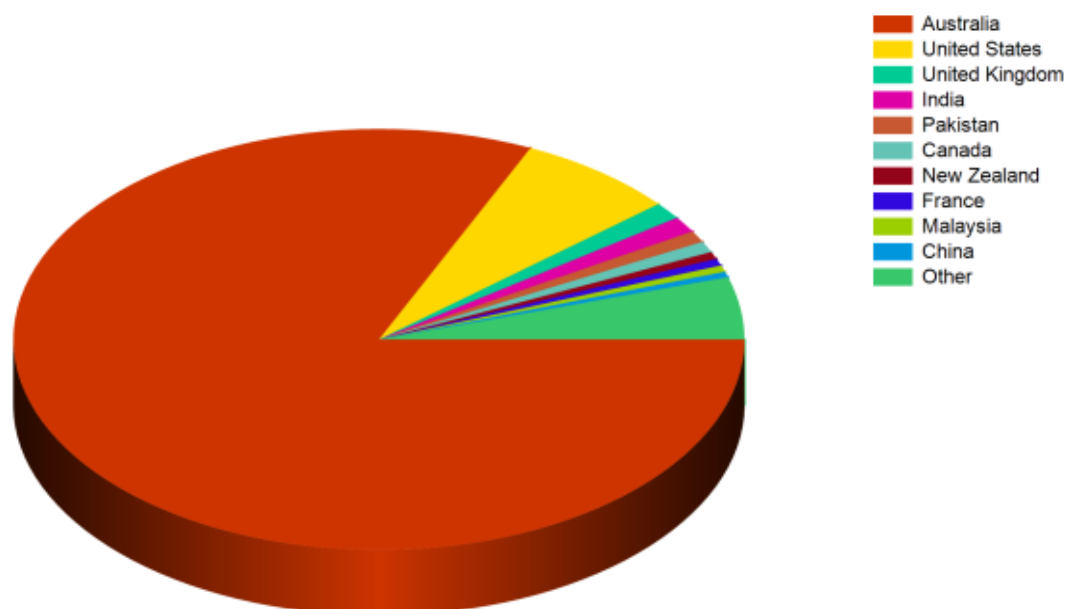
Country	Visits	% of Total visitors
Australia	24,366	81.81
United States	2,102	7.06
United Kingdom	392	1.32
India	367	1.23
Pakistan	268	0.90
Canada	258	0.87
New Zealand	165	0.55
France	162	0.54
Malaysia	149	0.50
China	129	0.43

6.2.4 Visitors by region – 2018-2019

(Graph, text wrap: in line with text, centred, enter alt text)
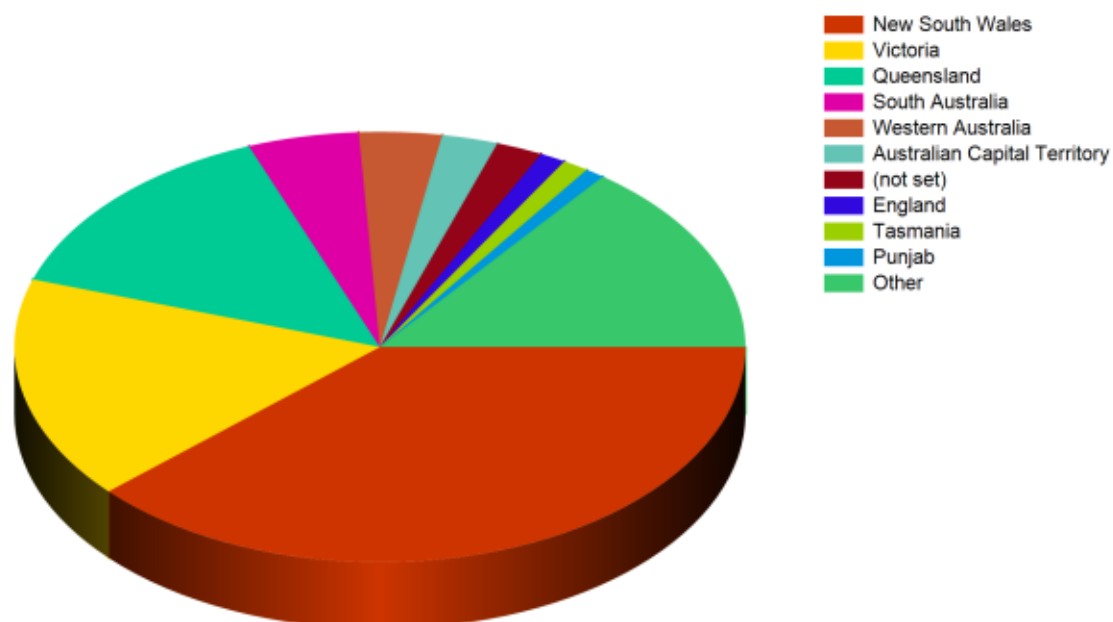
Region	Visits	% of Total visitors
New South Wales	11,409	38.30
Victoria	5,000	16.79
Queensland	4,191	14.07
South Australia	1,463	4.91
Western Australia	1,090	3.66
Australian Capital Territory	739	2.48
(not set)	614	2.06
England	343	1.15
Tasmania	343	1.15
Punjab	259	0.87

6.2.5 Visitors by city – 2018-2019

(Graph, text wrap: in line with text, centred, enter alt text)
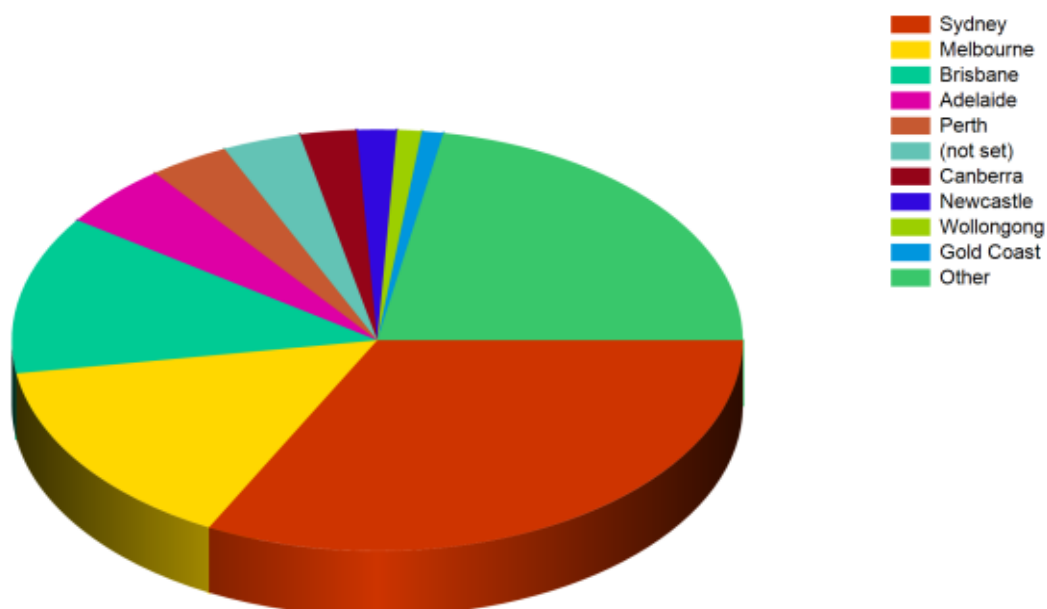
City	Visits	% of Total visitors
Sydney	9,596	32.62
Melbourne	4,375	14.87
Brisbane	3,583	12.18
Adelaide	1,449	4.92
Perth	1,042	3.54
(not set)	1,019	3.46
Canberra	738	2.51
Newcastle	517	1.76
Wollongong	321	1.09
Gold Coast	278	0.94

6.2.6 Browsers used – 2018-2019

(Graph, text wrap: in line with text, centred, enter alt text)
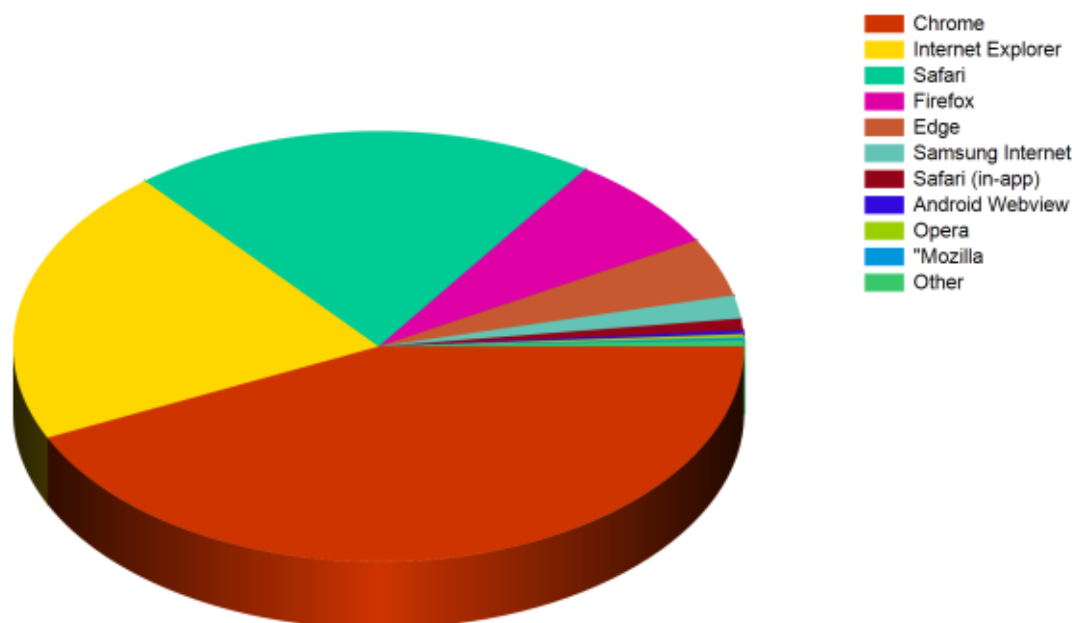
Browser	Visits	% of Total
Chrome	12,819	43.04
Internet Explorer	6,230	20.92
Safari	6,141	20.62
Firefox	2,149	7.22
Edge	1,307	4.39
Samsung Internet	520	1.75
Safari (in-app)	256	0.86
Android Webview	86	0.29
Opera	80	0.27
Mozilla	61	0.20

6.2.7 Google Analytics – visits by country – 2018-2019

(Graph, text wrap: in line with text, centred, enter alt text) (Example table below)
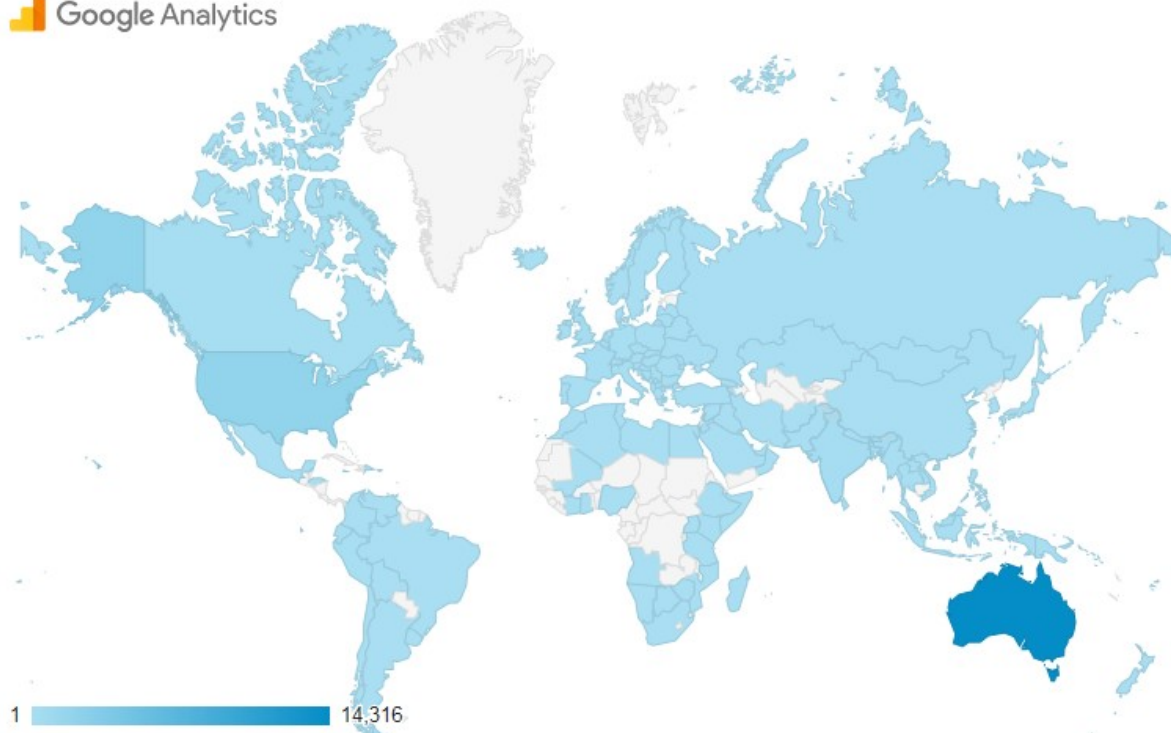
Country		Acquisition			Behaviour		
		Users N (% of total)	New Users N (% of total)	Session N (% of total)	Bounce Rate %	Pages/ Session	Avg. Session Duration HH:MM:SS
Totals		19,076 (100)	18,511 (100)	29,785 (100)	72.29%	1.71	00:01:13
1	Australia	14,316 (75.05)	13,800 (74.55)	24,366 (81.81)	58.57%	3.01	00:02:17
2	United States	1,959 (10.27)	1,951 (10.54)	2,102 (7.06)	86.58%	1.56	00:00:34
3	United Kingdom	354 (1.86)	348 (1.88)	392 (1.32)	81.89%	1.57	00:00:45
4	India	351 (1.84)	351 (1.90)	367 (1.23)	84.47%	1.35	00:00:33
5	Canada	243 (1.27)	241 (1.30)	258 (0.87)	78.29%	1.86	00:00:57
6	France	162 (0.85)	161 (0.87)	162 (0.54)	58.02%	1.48	00:01:53
7	Malaysia	136 (0.71)	136 (0.73)	149 (0.50)	83.89%	1.70	00:00:49
8	China	121 (0.63)	119 (0.64)	129 (0.43)	75.97%	2.05	00:01:46
9	New Zealand	108 (0.57)	103 (0.56)	165 (0.55)	67.88%	3.77	00:02:39
10	Brazil	105 (0.55)	105 (0.57)	105 (0.35)	96.19%	1.09	00:00:30

6.2.8 Google Analytics – visits by city – 2018-2019

(Graph, text wrap: in line with text, centred, enter alt text) (Example table below)
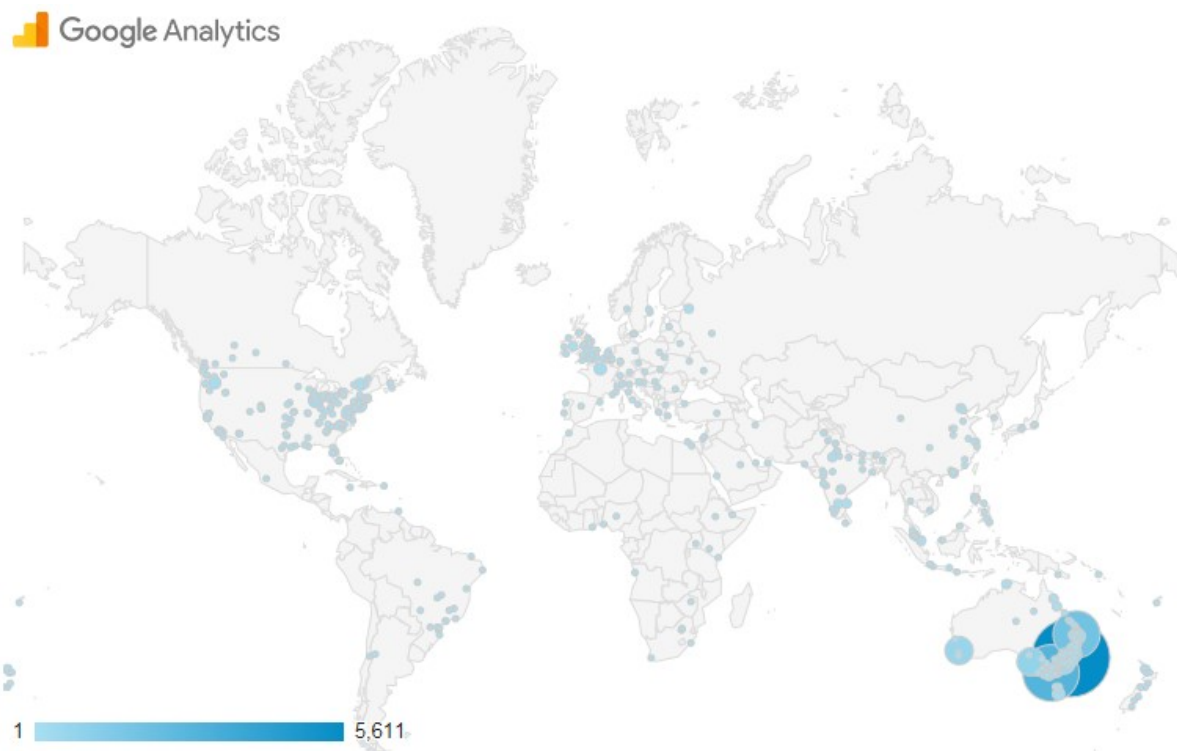
City		Acquisition			Behaviour		
		Users N (% of total)	New Users N (% of total)	Session N (% of total)	Bounce Rate %	Pages/ Session	Avg. Session Duration HH:MM:SS
Totals		19,080 (100)	18,156 (100)	29,400 (100)	77.10%	1.81	00:00:56
	Sydney	5,611 (29.41)	5,387 (29.67)	9,596 (32.64)	56.00%	3.34	00:02:44
2	Melbourne	2,901 (15.20)	2,795 (15.39)	4,375 (14.88)	63.79%	2.55	00:01:44
3	Brisbane	1,920 (10.06)	1,808 (9.96)	3,583 (12.19)	61.88%	2.63	00:01:50
4	(not set)	901 (4.72)	849 (4.68)	1,019 (3.47)	79.20%	1.85	00:01:05
5	Adelaide	767 (4.02)	722 (3.98)	1,449 (4.93)	60.25%	2.86	00:01:56
6	Perth	638 (3.34)	603 (3.32)	1,042 (3.54)	61.71%	2.85	00:02:03
7	Canberra	420 (2.20)	396 (2.18)	738 (2.51)	54.88%	3.00	00:02:16
8	Newcastle	335 (1.76)	299 (1.65)	517 (1.76)	52.22%	3.14	00:02:46
9	Wollongong	215 (1.13)	193 (1.06)	321 (1.09)	55.45%	3.00	00:02:19
10	Gold Coast	210 (1.10)	181 (1.00)	278 (0.95)	57.19%	2.97	00:02:00

6.2.9 Top 10 HMinfo Publication Reads – 2018-2019

Rank	Publication title	Reads
1	Consumer Factsheet: Arranging Home Modifications	2,603
2	Summary Bulletin: Ramps	1,596
3	DIYmodify Factsheet: Accessibility	1,309
4	DIYmodify Factsheet: CHOICES for GRAB RAILS	1,297
5	Summary Bulletin: Slip Resistant Floor Surfaces	1,284
6	DIYmodify Factsheet: Home Modifications in rental and strata title properties	1,200
7	Follow-up efficacy post environmental modifications; clinical practice guide	1,115
8	DIYmodify Factsheet: Home Modification Quotes	1,099
9	DIYmodify Factsheet: Electrical zones in the bathroom	1,091
10	DIYmodify Factsheet: CHOICES for HANDRAILS	1,071

6.2.10   Top 10 HMinfo Publication Downloads – 2018-2019

Rank	Publication title	Reads
1	DIYmodify Factsheet: CHOICES for GRAB RAILS	4,821
2	Stairs - A Summary Bulletin	3,779
3	Summary Bulletin: Environmental Assessment & Modification for Australian Occupational Therapists	3,002
4	Information Needs of Occupational Therapists Practicing in NSW	2,627
5	The Effectiveness of Ceiling Hoists in Transferring People with Disabilities - A systematic review	2,571
6	Summary Bulletin: Electrical Safety in Bathrooms 2nd ed.	2,394
7	DIYmodify Factsheet: Electrical zones in the bathroom	2,162
8	Summary Bulletin: Fire Safety - Smoke Alarms 2nd ed	1,902
9	Consumer Factsheet: Arranging Home Modifications	1,858
10	Industry Factsheet: Slip Resistance of Ramps 2nd ed.	1,840

financials

7 FINANCE REPORT

7.1 DSS-DoH Financial Acquittal for the 2018-2019 period

UNSW
SYDNEY

23 September 2019

Financial Acquittal for the 2018/19 period

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

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

Carry Forward: A balance of $10,783.73 was not spent in the 2017/18 (previously reported as $26,751 which was amended due to the staff movements which had not been taken into consideration).

Income: The Home Modification Information Clearinghouse (Activity 4-225MU6D) received recurrent funding of $196,406.01 for the financial year 2018/19.

Expenditure: The funds were spent on salaries for research associated staff and other direct research expenses including salaries for website maintenance, updates and improvements. Total expenses incurred during this period amounts to a total of $207,189.74 resulting in a closing balance of $0.00 in 2018/19. No carry- forward request needed to be submitted.

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.

Name: AR Gardner CA

Title: Manager, Group Research Finance UNSW Sydney

Note: The CHSP funding amount noted above, received by UNSW was adjusted by indexation of $1,473.05 in the period 2019/20. This supplementation funding is provided to cover costs arising from the Equal Remuneration Order (ERO). These costs include staff wages that have directly increased for the affected Commonwealth program, as well as staff on-costs (i.e. superannuation and leave entitlements) which may have increased because of the ERO.

looking ahead

8 LOOKING AHEAD INTO THE FUTURE

We intend to continue providing a high quality, accessible and evidence-based support for making changes to the home for individuals, families and carers. 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:

8.1 Information on the home environment for people with self-injurious and/or aggressive behaviours for the Industry and for Consumers

One Industry and one Consumer factsheet are going to be published in order to assist service providers and carers to select appropriate elements and systems for the homes of people with self-injurious and/or aggressive behaviour. Under the Specialist Disability Accommodation (SDA) guidelines, these solutions are sometimes referred to as 'robust' housing design. Home modifications of this type are different but do include any structural change to the home designed to resist change, tailored to prevent of individual behavioural triggers, alternatives to restraint and improved safety outcomes.

Information contained in this factsheet serves only as a starting point. The properties and characteristics of any home environment need to be adjusted to the individual needs and behaviours of the residents and recommendations should be implemented as part of a positive behaviour support plan.

8.2 Research on Assistive Technology for older people and people with disability

Assistive technology includes aids or equipment assisting people to perform everyday tasks. It might include from mobility aids, such as wheelchairs, scooters and prosthetic members to software helping people control their home environment with minimum effort.

The research that HMinfo will carry out includes an overview of the assistive technology systems that are related to the home environment. It can be used from occupational therapists and consumers, as well as academics to get familiar with some of the latest technologies that might be useful for people with disabilities.

8.3 Other HMINFO Research

During 2019-2020, HMinfo is planning 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.

8.4 Accessibility and Usability Strategy

A list of web development items was generated to address accessibility and usability issues raised in Vision Australia's accessibility audit and PDCN's usability review of the HMinfo website.

Before any proposed web development items are actioned they will require justification based on industry standards, guidelines and best practice. The outcomes of the process will be used to formulate a website accessibility and usability strategy that will be available via the HMinfo website.

Future user interface development will be actioned in line with the strategy to ensure consistent application of accessibility/usability standards and guidelines across the website.

This work is subject to funding from NDIA or other sources.

8.5 Real time Report Progress

Website reports require a few minutes to generate but currently do not provide an indication of progress to staff, such as a progress bar or status text.

Reports will be redeveloped in a manner that allows the reporting process to update a progress bar in real-time so that staff are aware of progress made during the production of a report.

glossary

9 GLOSSARY

ABCB	Australian Building Codes Board
ADHC	Ageing, Disability & Home Care
AHURI	Australian Housing and Urban Research Institute
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
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