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Making homes more accessible for people with mobility impairment: A lived experience perspective

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Abstract

People with mobility impairment have the right to live in accessible housing that meets their needs. Although the Australian National Construction Code for residential housing will be amended to include minimum accessibility standards in September 2022, some states have chosen not to adopt these standards (New South Wales, Western Australia and South Australia). The inclusion of people with lived experience in decisions surrounding accessible housing design is lacking. This study sought the perspective of people with mobility impairment on the most important modifications they would make to the design of their own homes, and the homes of their friends and family, to make them more accessible. An online survey was completed from February to March 2021 by 145 people living in Australia including 112 people with mobility impairment, and 33 family members. Results indicated that 71 per cent of the participants were living in housing that did not fully meet their accessibility needs. Descriptive qualitative analyses demonstrated that commonly reported modifications included a step-free entrance, wider internal doors and corridors, and level access

throughout the home. These modifications would promote social inclusion, functioning, independence and overall quality of life. These results have policy implications for the implementation of accessibility standards in the National Construction Code.

KEYWORDS
accessible housing, lived experience, mobility impairment

1 | INTRODUCTION

With over 3.3 million Australians living with activity limitations and an ageing population (ABS, 2019), the demand for accessible housing is growing. Given almost one in five Australians live with disability, with the majority reporting a physical condition as their main long-term health condition, it is estimated that one third of all Australian households are currently occupied by a person with disability (Galbraith, 2018). The Centre for International Economics (2020) projects that 5.75 million Australians will have a mobility limitation by 2060. Although the United Nations Convention on the Rights of Persons with Disabilities (UNCRPD) states that people have the right to housing that suits one's needs (United Nations, 2007), there is a dearth of appropriate accessible housing for people with mobility impairment (Aplin et al., 2020; Lakhani et al., 2020; National Disability Services, 2015).

Recognising the shortage of accessible housing in Australia, the government introduced a voluntary programme in 2011, which aimed to provide accessible features in all new housing by 2020 (Council of Australian Governments, 2011; Ward, 2011). This voluntary programme focused on inclusivity rather than specialisation, meaning that new dwellings were expected to be constructed with a reduced need for adaptation or post-construction modifications, aligning with "visitable" standards. This voluntary programme intended to achieve accessible features in all new dwellings, to ensure that people with mobility impairment are able to visit or live in the dwelling (Ward & Franz, 2015). However, the Centre for International Economics (2020) estimated, based on previous evidence, that less than 10 per cent of new housing stock has been built to these baseline standards, indicating that this approach has failed. Many people with mobility impairment are living in housing that does not meet their needs. A recent survey of 1187 Australians with mobility impairments showed that 74 per cent of respondents were living in housing that did not adequately meet their accessibility needs (Wiesel, 2020). Thus, the over-reliance on the private market to voluntarily address the inequalities surrounding accessible housing has, so far, been ineffective (Ward & Jacobs, 2017).

Significantly, in March 2021, the Australian Building Codes Board (ABCB) agreed to amend the National Construction Code from September 2022 to include minimum accessibility standards (Department of Industry, Science, Energy & Resources, 2021). However, several states have chosen to opt out of these changes to the building code, including New South Wales, Western Australia and South Australia.

People with disability in Australia experience housing inequalities beyond inaccessibility. A nationally representative survey of Australians indicated that people with disability experience an increased likelihood of living in unaffordable, insecure and/or poor-quality housing (Aitken et al., 2019; Kavanagh et al., 2015). The risk of living in public housing is six times higher for people with disability (Aitken et al., 2019). People with mobility impairments are often forced to rely on social or community housing, or even residential aged care facilities (Gonzalez et al., 2015; Oliver et al., 2020; Saugeres, 2011), and this is often because they cannot secure housing that meets their needs. Public and community housing encompasses only 6 per

cent of the Australian market, with these facilities often burdened by stretched resources, long waitlists, and limited choices (Saugeres, 2011). Private rentals, the only other option, are often not accessible. Post-construction modifications to increase the accessibility of private rentals are often unaffordable, are low in quality and have lengthy wait times (Jones et al., 2008; Peace & Darton, 2020; Petersen & Aplin, 2021). This limited supply of accessible housing that is affordable in the current market does not meet Australia's commitment to the UNCRPD and the rights of people with disability to live with equality and choice (Wiesel, 2020).

1.1 | Impact of housing accessibility

Evidence is emerging on the social, emotional, economic and health impact of inaccessible housing for people with mobility limitations. More than 80 per cent of respondents in an Australian online survey of 1187 people with mobility impairments indicated that they could not visit family and friends whose homes are inaccessible (Wiesel, 2020). This situation often resulted in people living "hermit" lives, characterised by isolation, loneliness and a disconnection from the community. Social exclusion due to a lack of accessibility resulted in participants feeling dehumanised and reclusive, which had severe impacts on self-reported mental health. Moreover, the time and energy spent navigating inaccessible housing often leads to higher levels of difficulty, stress and fatigue in performing everyday activities at home such as moving around, self-care and caregiving of others (Aplin et al., 2015; Lau et al., 2018). Easier access around the home often results in reduced formal and/or informal support needs, meaning that people have a greater sense of independence and privacy when conducting everyday activities (Norin et al., 2017; Wiesel, 2020). When a home is modified to be accessible, there are a range of activities that are easier, including getting in and out of the home, showering/bathing, transferring to the toilet, grooming and moving in and out of bed (Lau et al., 2018). Increased autonomy and control in easily performing these activities allows time to be freed up for more meaningful tasks (Norin et al., 2017).

Accessible housing can also reduce the risk of falls and progression of frailty, leading to improvements in both physical and mental well-being. This reduced risk is particularly important for seniors wanting to age in place at home, rather than moving to institutional environments. A recent study of older Australians found that housing modifications reduced hours of care by 42 per cent per week (Carnemolla & Bridge, 2019). These changes in care positively contributed to participants' autonomy and the ability to remain in their current housing situation. However, the study is limited in its generalisability to all people with mobility impairment, as an overwhelming majority of participants were homeowners, rather than people living in private rentals, where changes to accessible design are significantly more difficult. Nevertheless, for people with mobility impairment, the stress of possibly being forced to move to another residence or to residential aged care has significant negative impacts on self-reported mental health and well-being (Oliver et al., 2020; Wiesel, 2020). Therefore, incorporating accessible features in new dwellings would improve opportunity and choice for people to stay in locations close to family and friends, and reduce the need for them to move to alternative accommodation (Aplin et al., 2015). Consequently, this would positively contribute to people's mental and physical well-being. Although this emerging literature highlights the benefits of accessible housing, there is limited evidence on which specific accessible features would be most beneficial to include in accessible design.

1.2 | Making housing more accessible: lived experience expertise

A more coordinated and informed approach focusing on the needs and preferences of people who are likely to directly benefit from accessible housing is required to facilitate effective

change. International literature suggests that people with disability face barriers in the homeowner market due to a systematic lack of knowledge and direct consultation in the design stage from developers and builders (Burns, 2004; Nasar & Elmer, 2016; Thomas, 2004). Key stakeholders including developers and builders are often unaware of the impacts of building inaccessible housing, with a limited understanding of the preferences and needs of end-users (Imrie, 2003; Lakhani et al., 2020). Current evidence demonstrates how the inclusion of people with lived experience in design decisions improves the final product. For example, Lau et al. (2018) completed a mixed-methods study to investigate the effectiveness of home modifications from clients' perspectives. They found that actively involving clients in decision-making processes surrounding home modifications positively contributed to the effectiveness of their completion. In particular, home modifications allowed improvements in independence, safety, privacy and confidence, which supported participants' ability to complete daily living and self-care activities. The results demonstrated the importance of collaboration and communication across clients, occupational therapists and builders when installing home modifications, to ensure that the lived experience perspective guides the effectiveness of their completion. Similarly, a recent investigation into clients' satisfaction with home modifications in Australia concluded that person-centred experiences of the home environment must be central to the process behind consumer-directed care (Aplin et al., 2020). In fact, poor consultation around the needs and preferences of the client often resulted in incorrect or unnecessary home modifications being installed, leading to safety concerns and wasted resources (Aplin et al., 2015).

The aim of the current study was to obtain the perspective of people with mobility impairment on the most important modifications they would make to the design of their own homes, and the homes of their friends and family, in order to make them more accessible. A further aim was to explore the reason for the modifications and the potential impact of the modifications. It is important to understand which specific housing features are most essential for people with mobility impairment when choosing a new place to live and when visiting family and friends. Access to this information would allow homeowners, builders and governments to gain insight into the lived experience priorities of accessible design.

2 | METHOD

This study involved an online survey (via QuestionPro) of people with mobility impairment including seniors and people with mobility-related disability. Prior to distribution, the survey was piloted by three people with mobility impairment to check ease of completion. The respondents indicated that they felt the questions were easy to complete. Ethics approval was obtained from (Ethics approval was obtained from La Trobe University Human Research Ethics Committee (HEC21021)). Survey participants were recruited via advertisements in newsletters and social media accounts of an advocacy association. To be eligible, participants had to be 18 years or older, currently reside in Australia and have a mobility impairment. An option was included for a carer or relative to complete the survey on behalf of the person with the mobility impairment. The survey took on average 33.2 min (SD = 38.5) to complete, and no reimbursement was offered for participation.

The survey opened with questions regarding standard demographic information. The respondents were then asked about their current housing situation including the type of housing (private rental, residential group home or supported accommodation), who they live with (alone, with family and with others) and the accessibility of their current home (whether it was built accessible, modified fully accessible, modified partly accessible, or not built or modified accessible; scale sourced from Wiesel, 2020). The participants were also asked to provide

details of their mobility impairment including the level of impairment (scale sourced from EQ-5D-5L; McCaffrey et al., 2016), type of impairment (adapted from Wiesel, 2020 to ensure it was inclusive of people with disability and seniors) and whether they use mobility aids (item sourced from Survey of Disability, Ageing and Carers, ABS, 2019). Finally, participants were asked to indicate whether they had a "magic wand," what they would change about the physical features of their current home, and the homes of family and friends, in order to make them more accessible. They were asked to identify up to three features and describe why these changes would be important. An option to provide general comments was included at the end of the survey.

2.1 | Data analyses

Demographic data were analysed using *R* and Excel to generate frequencies and average responses. Descriptive qualitative analyses were used to analyse responses to open-ended questions about design features that participants would like to change in their own home and the homes of family and friends (Braun & Clarke, 2006). A list of design features that were commonly reported were identified and summarised. Common themes underlying the importance and impact of these design features were identified.

3 | RESULTS

3.1 | Sample characteristics

The final sample consisted of 145 participants including 77.2 per cent people with mobility impairment and 22.7 per cent family members of the person with mobility impairment. Demographic information and housing situations of the sample were compared with those of all Australians with activity limitations as shown in Table 1, indicating that the sample was relatively representative of national data (ABS, 2019), although the sample over-represented people younger than 65 years. When asked about the accessibility of their current home, results indicated that 27.5 per cent of participants were living in accessible housing (including 18.6 per cent built accessible and 8.9 per cent modified fully accessible), while 71.0 per cent were living in housing that did not fully meet their accessibility needs (including 38.6 per cent modified partly accessible and 32.4 per cent not built or modified accessible).

Additionally, most people who reported having a severe or profound mobility impairment were currently living in inaccessible housing (85.1 per cent and 59.6 per cent, respectively; see Table 2). When determining the severity of their mobility impairment, the majority of participants indicated that they have severe problems in walking (32.4 per cent) or are unable to walk (32.4 per cent). The data of people with severe/profound impairments were over-represented compared to the normative data, whereby only 2.9 per cent of Australians report having a severe or extreme mobility impairment (sourced from a community sample of 2908 South Australians; McCaffrey et al., 2016). Participants reported having a range of disabilities, with the most common including arthritis (28.9 per cent), back problems (28.3 per cent), general lack of mobility (25.5 per cent) and knee problems (24.1 per cent). Wheelchair use was the most frequently reported mobility aid (39.3 per cent manual wheelchair, 4.1 per cent manual wheelchair with electric features and 33.1 per cent electric wheelchair), followed by walking stick (28.3 per cent), walking frame (22.1 per cent), scooter (16.6 per cent), and crutches or Canadian walking sticks (6.2 per cent).

TABLE 1 Representativeness of the demographic characteristics and housing situations of the sample compared to those of all Australians with activity limitations

	% of sample	% of all Australians with activity limitations
Younger than 65 years	72.5	52.5
Female	62.1	51.7
Live in metropolitan regions	62.1	65.6
Employed full-time or part-time	22.8	20.5
Living in private homes, owned by themselves/family or rented from a private landlord or public authority[a]	78.0	94.6
Living in cared accommodation such as residential group homes, aged care or supported accommodation[a]	8.4	5.3
Living alone[b]	32.7	21.2
Living with others including a spouse/partner, family members or people not related to them[b]	66.9	73.6

Note: Comparisons to people with activity limitations were sourced from national data from Survey of Disability, Aging and Carers (ABS, 2019).

[a]Aside from living in private homes and living in cared accommodation, 12.4% of participants reported living in "other" accommodation (e.g. boarding house/private hotel, short-term crisis, public/community housing, retirement village and purpose-built dwellings) or did not respond (1.2%).

[b]0.4% of participants did not respond to this question.

TABLE 2 Number of participants living in accessible or inaccessible housing, as a proportion of severity of mobility impairment

	Mild impairment	Moderate impairment	Severe impairment	Profound impairment	Total (%)
Accessible housing	5	9	7	19	27.6
Inaccessible housing	12	21	40	28	69.7
Total (%)	11.7	20.7	32.4	32.4	97.2

Note: Scale of impairment severity taken from EQ-5D-5L (McCaffrey et al., 2016). Four participants did not respond to this question; thus, total does not add to 100%.

3.2 | Accessible design features

Participants were asked to identify up to three design features that, if they had a magic wand, they would change in their own homes and the homes of their friends and family to make them more accessible. Within their own home and the homes of others, the most commonly reported changes were a clear, step-free entrance to the property, wider internal passageways and doors, no stairs throughout the home and increased bathroom space. These features and other changes are summarised within "sections of the home" in Table 3, including entrance to outdoor spaces, larger room sizes, non-slip flooring, accessible bathrooms, and heights of features and appliances around the home.

3.3 | Impact of accessible design features

Participants' reports of why these changes were important allowed researchers to identify themes on the impact of accessible housing including social inclusion, increased functioning and independence, and increased quality of life.

TABLE 3 Summary of design features that participants wanted to change within their own home and the homes of their friends and family

Section of the home	Changes to design features
Entrance to home and outdoor areas	Clear, step-free pathway into the property that is wide enough to fit mobility devices
	Step-free, seamless entrance to backyards and outdoor spaces
Getting around the home	Level access throughout the property (no stairs)
	Wider internal doorways and corridors to allow mobility devices to be used without damaging the property
	Flooring that is seamless, non-carpeted, and non-slip to prevent trips and falls
	Larger room sizes to allow circulation space for wheelchair users
	Bedroom located on the ground floor
	If stairs are necessary, a handrail should be included to reduce risk of falls and mitigate effort involved
Bathroom and toilet	Larger bathrooms located on the ground floor
	Step-free/hobless shower with grab rails to prevent falls
	Higher toilet to allow easier transfers
Using features in the home	Height of benches, cabinets/drawers, and appliances in the kitchen and laundry was lowered to allow access from a sitting position
	Lower handles and switches and/or automated controls for temperature, lighting, doors and windows to allow easier access to these features

3.4 | Social inclusion

Accessible design where people with mobility impairment can access the house or move around the house with ease promotes social inclusion. For some people, getting into the houses of family and friends was either impossible or extremely difficult, and so they were excluded from visiting others. Participants described that if the effort of entering the house is too great, they are less inclined to visit again or are not invited to visit again, impacting friendships.

> I have lost friendships because I've had to say no to social invitations due to lack of access. Some of the most humiliating moments of my life have involved trying to access friends' and family's inaccessible houses.
>
> (Participant 107; 45–54 years old with a moderate limitation)

> I currently can't visit most of my friends and family because I physically can't get into the house.
>
> (Participant 144; 45–54 years old with a profound limitation)

Important changes to accessibility not only involve entry into the house but also being able to move around the house in social areas. These changes are important in one's own home and the homes of family and friends. For example, freedom to move around the house enables people with mobility impairment to socialise and connect with people where the conversations or celebrations are occurring.

> Better access to friends' decks and gardens. Many social functions involve BBQ and outdoor social groups.
>
> (Participant 131, 25–34 years old with a profound limitation)

Access to bathroom facilities was also important to enable social visits longer than a few hours. Not being able to use the bathroom places limitations on how much people can participate in sharing food and drinks, contributing to worry and stress associated with the social visit. For some people, in order to visit family and friends, they require an overnight stay to manage fatigue or to receive support or they face a lack of transport. Participants described that an overnight stay was only possible with a ground-floor bedroom and bathroom.

> Toilet and bathroom on ground floor which has clear access, so that I can stay longer than a couple of hours.
> (Participant 4; 65–74 years old with a profound limitation)

Participants reported that accessible housing would allow for increased privacy particularly in being able to use the toilet and shut the door properly. The availability of an accessible toilet increases the ability for people to visit family and friends with privacy and dignity.

> Make the toilet accessible in the bathroom with a door I can close behind me… It's the biggest factor for me in deciding whether I can visit a house or not.
> (Participant 107; 45–54 years old with a moderate limitation)

The frustrations over inequalities of accessible design were often felt by participants, with participants suggesting improvements in design would lead to better awareness/visibility of disability and connection to society more generally.

> Not having suitable access to houses and buildings makes it very isolating for wheelchair user's and not feeling like a part of society. A really awful feeling to have for any human being.
> (Participant 21; 18–24 years old with a profound limitation)

3.5 | Increased functioning and independence

Accessible design features in the home would enable increased functioning and independence in completing everyday tasks, such as accessing storage and kitchen cupboards. Reducing reliance on support workers or family members would augment one's ability to live more independently. Additionally, being able to contribute to household tasks such as preparing meals when visiting family and friends would make people feel more useful and included.

> Accessible wardrobes and cupboards, without having to ask for continual help.
> (Participant 19; 65–74 years old with a severe limitation)

> A kitchen you can enter and assist in preparation instead of being placed somewhere else out of the way.
> (Participant 76; 65–74 years old with a severe limitation)

The fatigue and effort involved in navigating inaccessible homes seemed to significantly impact participants' way of life. Accessible features were reported to improve mobility and assist with ease of movement, such that energy could be saved for more meaningful tasks. A home with accessible features also reduces the risk of trips and falls, allowing the person to conserve energy when navigating hazards. Additionally, having space for a support person to provide assistance

if needed would increase safety in completing simple tasks such as using the toilet and moving through corridors and doorways.

> I have recently installed non-slip external tiles throughout my home. This means I am now confident to walk around my home which helps me maintain my strength.
>
> (Participant 41; 55–64 years old with a moderate limitation)

> Make the bathroom twice as big so that I could fit my shower chair, my toilet surround, my wheelchair, my support worker and me comfortably in the room without us having to scramble over one another. It would also be less of a falling hazard.
>
> (Participant 121; 35–44 years old with a severe limitation)

Another important aspect of safety in accessible design is emergency egress from the property. For people with mobility impairment, being able to get out of the property in a safe and timely manner is extremely important in the event of a fire or other emergency. Access for emergency workers to get into the building is equally important, as doorways and passageways are often too narrow to allow sufficient access.

3.6 | Increased quality of life

Accessible design was often reported to result in huge changes to quality of life. For some, accessing outdoor areas could result in improvements in mental well-being, increasing areas for socialising around the home and allowing hobbies such as gardening to be undertaken.

> More ramps leading inside, and out than the one I have, so I can enjoy my garden.
>
> (Participant 45; 35–44 years old with a severe limitation)

> I would have ramp access to the workshop/garage area to allow me access to undertake hobbies.
>
> (Participant 26; 55–64 years old with a severe limitation)

Accessible housing can also increase choice and control in terms of people being able to choose where they spend their time within a house, as well as controlling lighting, doors and temperatures. Furthermore, accessible housing can allow people the choice to stay living in their home safely for longer.

> All of the changes so that I can be safe, secure and independent living arrangement whilst ageing in place.
>
> (Participant 116; 55–64 years old with a profound limitation)

> More remote controls so I can operate everything from my wheelchair and bed.
>
> (Participant 28; 65–74 years old with a moderate limitation)

Accessible design would reduce avoidable damage to the property, as mobility devices would be less likely to scrape wider doorways and corridors. This response was particularly prevalent for people living in private rentals where modifications were not possible, and also reported when accessing homes of friends and family.

To be able to move about within your own home without damaging walls.
(Participant 66; 18–24 years old with a profound limitation)

4 | DISCUSSION

This study was undertaken to gain an understanding of accessible design modifications deemed most important from the perspective of people living with mobility impairment. Findings reflect the experiences of 145 participants who responded to an Australian national online survey conducted from February through March 2021. Results demonstrated that the most important accessible design features for people with mobility impairment include a step-free entrance, wider internal doors and corridors, and level access throughout the home. These design features have wide-ranging impacts on people's lives and can increase social inclusion, functioning and quality of life. The changes to design features for their own home and the homes of their friends and family were centred on getting into a home and moving around within it. These findings highlight Australia's failure to date in honouring the commitment made to the rights of people with disability to live with equality and choice in housing that suits one's needs (United Nations, 2007). These findings also provide evidence to support the need for mandatory rather than voluntary minimum accessibility standards.

The changes that people considered important to make in their own home were similar to the changes they would make in the homes of family and friends. This is not surprising given that the majority of participants (71 per cent of the sample) were living in inaccessible housing. This finding was consistent with Wiesel's (2020) survey of 1187 people, where 74 per cent of people were living in inaccessible housing. Similar changes at home and at the homes of family and friends may also reflect the nature of visits for people with mobility impairments, where for a variety of reasons (such as choice, lack of transport and needing support), people may need to stay longer than a few hours with family and friends and thus require accessible design features throughout the house.

Insight into the reason for the changes to housing design elucidated three central themes: social inclusion, increased functioning and independence, and increased quality of life. The lived experience perspective gained in this study highlighted the frustrations experienced by people with mobility impairments. These frustrations included being unable to visit family and friends, reliance on others for basic support needs around the home, being unable to contribute to everyday tasks such as preparing a meal, unnecessary fatigue and effort involved in navigating one's home, and the safety hazards that increase the risk of trips and falls. These findings align with previous literature, exemplifying the impact of inaccessible housing such as social isolation, lack of choice, dependency on others, lack of control and safety concerns, which have consistently been found to be related to poorer health and mental well-being outcomes (Anderson et al., 2020; Carnemolla & Bridge, 2016; Wiesel, 2020; Wright et al., 2017). Social inclusion is a key determinant of mental health (Emerson et al., 2021) and is particularly important for adults with disability, who are four times as likely to experience high or very high levels of psychological distress compared to those without disability (AIHW, 2020). Thus, more accessible housing for people with mobility impairments could contribute to benefits in physical and mental well-being.

The findings also highlight the influence of accessible design on independence, choice and control. Inadequate housing may reinforce the marginalisation of people with disability through unnecessary dependence on others. Previous literature highlights how the introduction of accessible features often reduces formal support requirements (Carnemolla & Bridge, 2019), suggesting that accessible housing could potentially generate savings on costs of formal support. It could also reduce the unnecessary reliance on people with mobility impairments to

live in public or community housing and residential aged care facilities due to limited access to affordable, accessible housing.

The strength of this study was that it focused on the perspective of people with lived experience of mobility impairment to understand the importance of accessible housing features. However, the context of the sample must also be considered, as there was an overrepresentation of people younger than 65 years and people with severe or profound mobility impairments. Given this, it is likely that the design changes identified by the participants may be more important for younger people with more severe mobility impairment. Furthermore, as this study was completed using an online survey, there was no opportunity to further explore why design changes were needed. Nevertheless, this study contributed important insights into the perspective of people with mobility impairment on accessible housing features and their impacts.

4.1 | Implications

The results suggest that new housing should incorporate a clear, step-free entrance to the property, wider internal doors and corridors, and level access throughout the home. Winkler et al. (2021a) conducted an audit of Australian houses and found that most of these features are incorporated in many new houses constructed by volume builders, but not in a systematic way that makes all new dwellings fully accessible. These features were also found to be relatively cost-effective and easy to implement in new dwellings according to a survey of expert architects and access consultants (Winkler et al., 2021b). In fact, standardisation of these features was suggested to improve the cost-effectiveness of implementation over time.

Significantly, in March 2021 the ABCB agreed to amend the National Construction Code in September 2022 to include minimum accessibility standards (Department of Industry, Science, Energy & Resources, 2021) based on the Livable Housing Design Guidelines (LHDG) silver standards. This will include a safe, step-free path and entrance to the dwelling, wider internal doors and corridors, a toilet on entry level, a hobless shower in the bathroom, reinforced walls in the bathroom to support grab rail installation if required, and design of stairways to reduce the likelihood of injury and enable future adaptation (Livable Housing Australia, 2017). It is anticipated that this legislative approach to increasing accessible housing supply will offer a great benefit to people with disability and seniors at a relatively low-cost impost (Dalton & Carter, 2020). As these accessible features are consistent with what people with lived experience want to change within their own homes and the homes of their friends and family, this is expected to positively influence the lives of people with mobility impairment.

The inclusion of minimum design standards in the National Construction Code is a major step forward for inclusive housing for the ageing population and people with disability in Australia. While it is disappointing that some states have indicated that they will not adopt these standards, there is an opportunity to demonstrate in the other jurisdictions that universal design can be both cost-effective and improve the quality and design of housing for all users. The adoption of minimum accessibility standards in some jurisdictions also provides an opportunity for research on the real costs and benefits of implementing these standards at scale over time. Further research is also required to better understand what support, training and resources might support the building sector to make the transition to including minimum accessibility standards in all new housing in Australia. The incorporation of the standards into the national code also provides the aged care and disability sector peaks with the opportunity to lobby each of the states that have opted out in the lead up to each state election.

4.2 | Conclusion

This study presented evidence of the most frequently reported modifications that people with mobility impairment would make to their own homes and the homes of their friends and family. These centred around improving access into homes and facilitating movement within them. The impact of these and other changes were perceived to lead to social inclusion, increased functioning and independence, and increased quality of life. These findings support the ABCB's recent decision to include minimum design standards in the National Construction Code.

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AUTHOR CONTRIBUTION

Isabella Goodwin: Writing – original draft preparation (equal); data curation (equal); formal analysis (supporting); writing – review and editing (equal); Elise Davis: Formal analysis (supporting); data curation (equal); project administration (equal); Writing – review and editing (equal); Di Winkler: Conceptualization (Lead); Writing – review and editing (equal); Jacinta Douglas: Conceptualization (Supporting); formal analysis (lead); methodology (lead); Writing – review and editing (equal); Cornelia Wellecke: Writing – original draft preparation (equal); data curation (equal); formal analysis (supporting); writing – review and editing (equal); Kate D'Cruz: Writing – review and editing (equal); Peter Mulherin: Writing – review and editing (equal); Stephanie Liddicoat: Writing – review and editing (equal).

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