Design standards and disability: Limitations in person-centred home modifications

Mr Michael Lo Bianco, Swinburne University of Technology, Melbourne, Australia
Associate Professor Sonja Pedell, Swinburne University of Technology, Melbourne, Australia
Dr Gianni Renda, Swinburne University of Technology, Melbourne, Australia
Professor Ajay Kapoor, Swinburne University of Technology, Melbourne, Australia

Abstract
Falls are a significant problem for older adults which affect their ability to maintain their independence and remain living at home. Home modifications are a common method to prevent falls. Fall prevention service providers follow the Australian Standard 1428.1 Design for access and mobility as a design guideline in the retrofitting of residential dwellings. However, there are issues linked to the application of this standard within the context of person-centred fall prevention. Within this paper, the barriers and problems linked to the application of AS 1428.1 are investigated amongst fall prevention industry professionals.

Background
Person-centredness is a healthcare ideology which focusses on the goals and the abilities of the client rather than concentrating on their incapability (National Ageing Research Institute, 2006; Sanderson, Kennedy, Ritchie, & Goodwin, 1997). Fall prevention service providers aim to
deliver person-centred home modifications. However, the use of AS 1428.1 within the context of person-centred older adult fall is problematic.

Firstly, AS 1428.1 references design requirements for new building work in Australia. The standard specifies the technical elements needed to design building spaces that “achieve the level of access required for a deemed-to-satisfy solution” (Standards Australia, 2009, p. 5). Occupational therapists and architects to refer to AS 1428.1 when designing and recommending fall preventative home modifications. Adhering to AS 1428.1 is not a formal service requirement; yet, no other related design standard is applicable. Secondly, the AS 1428.1 was originally published in 1968 and was amended in 2009. However, gaps exist concerning the applicability of the design recommendations for an older population as AS 1428.1 “is based on data resulting from empirical testing of persons aged between 18 and 60 years and may not be appropriate when applied to persons outside this age range” (Standards Australia, 2009, p. 5). Thus, older adults over 60 years of age fail to be represented within the standard that guides home modification design. The utility of a design standard that fails to address older adults is contradictory to person-centeredness. Therefore, this research aims to give the practitioners a strong voice to substantiate why a new standard is needed.

**Method**

Semi-structured interviews with eleven professionals from five fall prevention service providers were conducted. All participants had a combined 170+ years working experience within the health sector. The participants specialised in various fields including occupational therapy,
Results and discussion

Standards and person-centred practice

All participants stated that they followed the AS 1428.1; however, in practice occupational therapists and architects work around the standard’s recommendations to create retrofitted outcomes that are more applicable to the individual needs of their older clientele. An identified theme amongst all clinicians was that the design guidelines are not in the spirit of person-centredness.

There are practical issues related the age of the supporting data. The following quotation emphasis this:

Participant K (disability specialist architect):

“It is based on old data which was done back in the 70s and 80s, so much has changed...”

Furthermore, since the collection of the data supporting the 1428.1, significant advancements have been made in other related fields including assistive technologies. For example, wheelchairs and walkers are commonly used in conjunction with ramps; the standard does not account for this:

Participant K (disability specialist architect):
“... It is also based on someone who is self-propelling in a wheelchair. What about someone who is assisted? What about motorised chairs, scooters, motorised beds, these other modes of getting around that aren’t covered.”

Furthermore, the age range of the data (18-60) that supports the standard commonly raises problems as well; Participant K (disability specialist architect):

“Most of my clients are way over that.”

The other side of the issue is the intended new building purpose of the standard itself. Within the context of environmental retrofitting fails to provide an accurate design basis:

Participant K (disability specialist architect):

“It is the only standard that we can refer to, what we need is to have another standard for retrofitting existing houses.”

Age and retrofitting create common service problems which clinicians and older adults confront on a daily basis.

**Barriers and problems**

As a consequence of the standard on new building works more problems arise; these are highlighted below:

Participant E (occupational therapist - domiciliary care):
“I don’t even think I have been to a household that allow enough room to apply the Australian Standards to it ... You must work with the space you have got ... you’re always having to adapt what you’re meant to do.”

Advised circulation spaces are problematic, in particular the landing size, a minimum is specified; however, it is too small:

Participant K (disability specialist architect):

“I have had people tie string into the key to pull it out, or put a tie around their neck to shut the door behind them. That hasn’t been addressed and is major a problem.”

Alternative approaches have been taken by clinicians to both communicate and cover liability issues linked to deviation from the standard. Participant E (occupational therapist - domiciliary care) highlights this below:

“There are a few forms about deviating from the Standard, it is not a formal form. It is something that I created several years ago because this came up all the time ... because we’re deviating from what the standards are doing but we have a reason for it.”

The barriers and problems highlighted directly affect the person-centredness of the fall prevention service. These issues stem from the application of a poorly fitting design standard, one which fails to address older adults.
Conclusion

Fall prevention service providers aim to deliver personalised home modifications for older adults. However, disability design standards that are used in practice fail to accommodate for the nature of retrofitting, the older demographic or the improvements in disability aids that are commonly used in conjunction with modifications. The research presented highlights the need for a new design standard, one which addresses the issues raised and promotes greater person-centred home modification design processes and outcomes.

Reference list

