

Accessible Product Design Alliance

POSITION STATEMENT

Products and packaging should be designed to be accessible for all consumers, regardless of their level of ability. Inaccessible products and packaging can cause day to day frustration for people without disability, but for those who have a chronic condition or a disability these products and packaging can become impossible. Inaccessible products and packaging can cause unnecessary physical pain and discomfort, stress and frustration and impact a person's independence. With the population ageing, and the increasing prevalence of people with chronic conditions and disability, accessible products and packaging should be at the forefront of design.

Key points

Accessible design is a process that aims to make products and packaging easier to use for all consumers, regardless of their level of ability.

Up to 20% of the population have impairments that limit their ability to open, use and enjoy standard consumer products. These impairments include poor vision, issues with mobility and limited strength and dexterity. Those affected include older people, people with disability and people with chronic conditions such as arthritis and other musculoskeletal conditions, chronic pain, neurological conditions, movement disorders and other related degenerative disorders.

In addition, population ageing and the increasing prevalence of chronic conditions means that more and more people are being significantly affected by accessibility issues¹. Those affected include:

- More than four million Australians (18% of population)² and one million New Zealanders (24% of population) have a disability³.
- Older people, including 3.8 million Australians⁴ and 700,000 New Zealanders⁵ aged 65 years or over.

People without impairments also struggle with difficult to use products and packaging.^{6,7} Inaccessible products and packaging can cause unnecessary physical pain or discomfort, stress and frustration, and can undermine a person's health, independence and self-esteem. In some cases people may injure themselves from using sharp objects to open packaging to access products.

Measures to improve the availability of accessible products and packaging offer new opportunities for government and industry to support inclusivity and independence for people with disability as well as a more positive consumer experience for all.

The Accessible Product Design Alliance has been established to advocate to government and industry to improve access to products and packaging that are easy to use for consumers with physical and other impairments. The objectives of the Alliance are to support the development of more inclusive product and packaging design through awareness raising, research, and the adoption by government and industry of systemic changes to policy and standards that incorporate accessible design principles.

1. Why is accessible design important?

A large proportion of the population experiences disability, chronic conditions, or age-related impairments that can affect their ability to use standard consumer products and packaging.

Inaccessible products and packaging can cause unnecessary physical pain or discomfort, stress and frustration, and can undermine a person's health, independence and self-esteem.

Designing accessible products and packaging that are easy to use for as many people as possible contributes to a more inclusive society and improves the consumer experience for all.

1.1 Disability

More than four million Australians² and one million New Zealanders³ live with disability, or around one in five people.

The social model of disability views disability as the interaction between an individual and society. A person is 'disabled' when they encounter a barrier that stops their full and effective participation in society on an equal basis with others. This model is internationally recognized in the UN Convention on the Rights of Persons with Disabilities, to which both Australia and New Zealand are signatories.⁸

The UN Convention sets out the obligations of signatories to enable persons with disability to live independently and participate fully in all aspects of life, including through the identification and elimination of obstacles and barriers to accessibility. This includes a general obligation to promote accessible design, being 'the design of products, environments, programmes and services that are usable by all people, to the greatest extent possible, without the need for adaptation or specialised design'.⁸

Accessible product and packaging design strongly aligns with the principles of the Convention by supporting people with disability to live as independently as possible by reducing existing barriers that exclude them from using and enjoying a product on an equal basis with others.

1.2 Chronic conditions

One in two Australians lives with one or more chronic health conditions.⁹ Many of these chronic conditions can affect a person's ability to use standard consumer products and packaging. While some of these conditions are more common in older people, many of these conditions can occur at any age.

Conditions that affect people's ability to use products and packaging include arthritis and other musculoskeletal conditions, chronic pain, neurological conditions, movement disorders and other related degenerative disorders. These conditions affect more than five million Australians (*see Table 1*) and can lead to impairments in strength, dexterity and coordination, as well as fatigue and tremors that make packaging and products harder to use. Poor vision can also affect a person's ability to read and understand product information on packaging or how to use a product. More than 114,000 Australians were estimated to have uncorrectable low vision in 2004, with this number expected to double by 2024.¹⁰

A 2020 Accessibility in the Home survey of people in Australia and New Zealand living with these conditions identified a range of difficult to use products in the home including:

- Heavy pots, pans and kettles (50% of respondents)
- Mattresses and beds that were difficult to manage due to their weight and difficulties in tucking in sheets (69%)
- Baths including sinks and taps (65%) and hairdryers (48%).
- Vacuum cleaners and ironing boards (69%)
- Product packaging that was difficult to open.¹¹

Table 1: Prevalence of selected chronic conditions associated with disability

<i>Condition</i>	<i>Est. prevalence</i>
Arthritis (in Australia)	4,000,000
Arthritis (in New Zealand)	670,000
Stroke	475,000
Parkinson’s Disease	81,000
Cerebral Palsy	34,000
Multiple Sclerosis (MS)	25,600
Muscular Dystrophy	20,000
Cystic Fibrosis Australia	3,500
Motor Neurone Disease (MND)	2,100
Huntington’s Disease	1,800
Total	5,313,000

Difficult to use products and packaging can affect people’s ability to manage their health, as well as undermining independence and self-esteem. An Australian study on patients with rheumatoid arthritis, for example, found that difficulties opening medication bottles was a major impediment to adherence to prescribed treatment.¹²

1.3 Ageing population

More than 3.8 million Australians⁴ and 700,000 New Zealanders⁵, or about 15% of the population, are currently aged 65 years and over. This proportion is expected to increase in Australia by around 22% by 2066.¹³ Ageing is associated with increasing impairments in many faculties, including vision, hearing, mobility, dexterity and strength.

As a result of changes in physical capabilities and social circumstances, older people often face particular challenges in using standard consumer products and packaging.¹⁴ Studies have found that struggling with difficult to open packaging, for example, leaves older people feeling vulnerable, powerless and frustrated. It also increases their risk of injury as they resort to using sharp objects such as knives or scissors as aids.¹⁵

Poorer eyesight can also make it difficult for older people to read product information on packaging. This can affect safety, for example, by hindering their ability to read safety precautions in the use of household products with harmful chemicals. Difficulties in reading use-by-dates on food packaging or dosage instructions on medication can also put their health at risk.¹²

Having to seek assistance from others to handle difficult to use products and packaging undermines the independence of older people and is particularly difficult for the one in four older Australians who lives alone.¹⁶

Supporting independent living among older people has been identified as a significant strategy for alleviating some of the fiscal and service implications of an ageing population. Accessible product and packaging design can support the desire of older people to remain independent and live in their own home for as long as possible.

1.4 Hospitals and aged care facilities

Difficult to open food packaging has also been found to contribute to malnutrition in vulnerable older people. The Report of the NSW Special Commission of Inquiry into Acute Care Services in NSW Public Hospitals 2008 (Garling Report) found that single serve foods used in health environments such as hospitals were often difficult to open for many patients. Research conducted in NSW hospitals revealed that one in two patients had some form of malnutrition, which could double hospital stays and triple complications, with one in four patients becoming malnourished during their stay in hospital. Hard to open food packaging for hospital meals contributed to this issue, with over 70% of elderly patients experiencing difficulties or being unable to open one or more food packaging items. This issue was not limited to older people, however, with nearly 50% of patients of all ages struggling to open the food packaging of an average of three items.¹⁷

1.5 Consumer experience

All consumers are impacted by hard-to-open packaging. For instance, when packaging is unable to be opened it fails to meet one of packaging's key functions, which is to provide convenience of use for the end consumer.¹⁸

Research on consumer experience with packaging, for example, has found high levels of dissatisfaction and injury:

- In the UK, 49,000-60,000 people annually required hospital treatment due to injuries caused whilst opening difficult packaging, mainly due to consumers undertaking desperate actions and using tools such as knives to open the packaging in a way not intended by the manufacturer.¹⁹
- 1-in-2 Australians have injured themselves opening packaging, including deep cuts & chipped teeth.^{6,7}
- 89% of consumers in Australia, New Zealand and Malaysia experience frustration or fury when struggling with packaging.⁶
- 65% of consumers often have to wait for someone to open packaging for them.^{6,7}



5 million

Australians with **disabling chronic conditions**



5 million

Australians and New Zealanders with **disability**



4.5 million

Australians and New Zealanders **aged 65+**



50%
people have **injured** themselves opening packaging

89%
people experience **frustration** when opening packaging



65%
people have had to **wait** for someone to opening packaging for them

44%
people **struggle** with packaging every day



Recent surveys comparing consumer and packaging industry professionals' perceptions relating to difficult to open packaging have found that industry substantially underestimates the extent of the problem and the way in which consumers are affected. These surveys revealed that 44% of consumers struggle with packaging everyday while industry perceived that consumers would most likely struggle with packaging only once or twice a week. In addition, 92% of consumers reported spilling or damaging a product when trying to open the packaging, while industry perceived that only 25% of consumers would report this experience.²⁰ These surveys highlight the importance of improving industry understanding of the experiences of consumers with a diverse range of abilities and impairments in using their products and packaging.

2. Benefits of accessible product design

While accessible product design usually centres on the needs of people with disabilities, improved design can benefit everyone. The benefits of accessible product design include:

- Allowing more people to use and enjoy products.
- Supporting independence, enablement and empowerment for people with impairments that affect their ability to use standard consumer products.
- Contributing to a more inclusive society.
- Improving the consumer experience for everyone.

A commitment to accessible product and packaging design also offers commercial benefits, including:

- The capacity to address the needs of a growing market of disabled and older customers.
- Improved customer satisfaction.
- A competitive advantage in the market place.
- Improved brand image and customer brand loyalty.

Nearly 20 percent of older consumers, for example, make the decision to stop purchasing a product or change products/ brands based on difficult experiences with packaging.²¹ Improving the consumer experience with packaging adds value and a competitive advantage²² and easy to use packaging also creates brand loyalty.²³

3. Advocacy for accessible design

Designing products and packaging to consider the differing needs of a broader and more diverse consumer base is part of inclusive and universal design principles, but these concepts are still considered relatively new.²² Most designers are aware of research in the field of inclusive design, but there is a gap in knowledge around how it can be implemented, which needs to be addressed.²² Many organisations consider packaging development mainly in terms of technical criteria, with the development of functional specifications seen as an extra, rather than a specific requirement.²² This attitude can be a barrier to developing packaging that meets the needs of the consumers.

Arthritis Australia established its Accessible Design Division to advocate for and work with government and industry to improve the design and packaging of products so that they are easier to use for people who have arthritis and other physical limitations. The Division provides a testing and advisory service for companies wishing to improve the accessibility of their products and packaging. Furthermore, the Division provides accessibility ratings for portion controlled food items to assist food service managers involved in making purchasing decisions for products supplied in hospitals across Australia's health system.

In 2019, Arthritis Australia and ten other not-for-profit consumer health organisations representing consumers with chronic conditions associated with physical limitations, formed the Accessible Product Design Alliance. The aim of the Alliance is to advocate to government and industry to improve access to products and packaging that are easy to use for these consumers and to increase research in the area. The objectives of the Alliance are:

1. To raise awareness of accessibility issues relating to product and packaging design for people with limited dexterity and mobility
2. To support the development of more inclusive product and packaging designs
3. To promote accessible product design principles to the government and industry, in both Australia and New Zealand and to advocate for whole-of-government, systemic changes to policy and standards that incorporate accessible design principles.
4. To support research into accessible product and packaging design.
5. To work with Accessible Product Design Alliance member's stakeholders to encourage wherever possible consideration of the accessibility needs of all members of the community regardless of their level of ability.

Next steps

To fulfill the objectives of achieving more inclusive and accessible product designs, the Alliance is committed to developing initiatives that respond to changes in Australia's health environment. These activities include; collaborating with Alliance consumers to identify problem accessibility areas and possible solutions; developing accessibility resources for industry partners; recognising good product and packaging design with awards; and raising awareness of accessibility issues through media engagement and government submissions.

¹ Yoxall, Alaster, Victor Gonzalez, Joshua Best, Elena M. Rodriguez-Falcon, and Jennifer Rowson. 2019. "As You Like It: Understanding The Relationship Between Packing Design And Accessibility". *Packaging Technology And Science* 32 (10): 496-507. doi:10.1002/pts.2466.

² Australian Institute of Health and Welfare (2019) 'People with disability in Australia 2019: in brief' <https://www.aihw.gov.au/reports/disability/people-with-disability-in-australia-in-brief/contents/how-many-people-have-disability>

³ Stats NZ (2014) 'One in four New Zealanders identified as disabled' <https://www.stats.govt.nz/news/one-in-four-new-zealanders-identified-as-disabled>

⁴ Australian Institute of Health and Welfare (2018) 'Older Australia at a glance' <https://www.aihw.gov.au/reports/older-people/older-australia-at-a-glance/contents/demographics-of-older-australians/australia-s-changing-age-and-gender-profile>

⁵ Environmental Health Intelligence New Zealand (2018) 'Age profile' <https://ehinz.ac.nz/indicators/population-vulnerability/age-profile/>

⁶ Catalyst Research 'Packaging Survey Australia Malaysia New Zealand' (2013, DTI (1997a)

⁷ Consumer Safety Research (2014) 'Domestic Accidents Related to Packaging' Vol. I. DTI, London and Browne, Kate

⁸ United Nations 'Convention on the Rights of Persons with Disabilities and Optional Protocol' (2006) <https://www.un.org/disabilities/documents/convention/convoptprot-e.pdf>

⁹ Australian Institute of Health and Welfare 'Chronic disease' (2020) <https://www.aihw.gov.au/reports-data/health-conditions-disability-deaths/chronic-disease/overview>

¹⁰ Macular Disease Foundation Australia (2007) 'Low vision, quality of life and independence A review of the evidence on aids and technologies' <https://mdfa-s3fs-prod.s3-ap-southeast-2.amazonaws.com/s3fs-public/MDFA%20Low%20Vision%20Report%202017.pdf>

- ¹¹ 'Accessibility in the Home survey' (2020) Accessible Product Design Alliance
- ¹² Kelly, A., Tymms, K., de Wit, M., Bartlett, S. J., Cross, M., Dawson, T., ... Tong, A. (2019). 'Patient and caregiver priorities for medication adherence in gout, osteoporosis and rheumatoid arthritis: nominal group technique'. *Arthritis Care & Research*. doi:10.1002/acr.24032
- ¹³ Australian Bureau of Statistics (2018) 'Population Projections, Australia' <https://www.abs.gov.au/ausstats/abs@.nsf/PrimaryMainFeatures/3222.0?OpenDocument>
- ¹⁴ Wenk, Susanna, Christine Brombach, Gràcia Artigas, Eila Järvenpää, Nina Steinemann, Katrin Ziesemer, and Selçuk Yildirim. 2016. 'Evaluation Of The Accessibility Of Selected Packaging By Comparison Of Quantitative Measurements Of The Opening Forces And Qualitative Surveys Through Focus Group Studies'. *Packaging Technology And Science* 29 (11): 559-570. doi:10.1002/pts.2237.
- ¹⁵ Nicholas Ford, Paul Trott & Christopher Simms (2016) Exploring the impact of packaging interactions on quality of life among older consumers, *Journal of Marketing Management*, 32:3-4, 275-312
- ¹⁶ Australian Bureau of Statistics (2016) 'Census of Population and Housing: Reflecting Australia - Stories from the Census, 2016' <https://www.abs.gov.au/ausstats/abs@.nsf/Lookup/by%20Subject/2071.0~2016~Main%20Features~Ageing%20Population~14>
- ¹⁷ NSW Government Department of Premier and Cabinet(2008) 'Special Commission of Inquiry into Acute Care Services in New South Wales Public Hospitals' <https://www.dpc.nsw.gov.au/publications/special-commissions-of-inquiry/special-commission-of-inquiry-into-acute-care-services-in-new-south-wales-public-hospitals/>
- ¹⁸ Emblem, A. (2012). *Packaging technology: Fundamentals, materials and processes*. Cambridge: Woodhead Publishing in Materials.
- ¹⁹ Caner, C., & Pascall, M. A. (2010). Consumer Complaints and Accidents Related to Food Packaging. *Packaging Technology and Science* 23(7):413
- ²⁰ A Brayshaw (2019) 'How accessible is food & drink packaging? Industry Perception VS Consumer Reality' <https://arthritisaustralia.com.au/accessible-design-division/resources-for-industry/guidelines-research/how-accessible-is-food-drink-packaging-industry-perception-vs-consumer-reality/>
- ²¹ Magdalen Galley, E. E. (2005). 'Packaging: a box of delights or a can of worms? The contribution of ergonomics to the usability, safety and semantics of packaging'. *FaraPack Briefing 2005 : New Technologies for Innovative Packaging*, 12-13 October.
- ²² Ryyänen, T., & Rusko, E. (2014). Professionals' View of Consumers' Packaging Interactions – A Narrative Analysis. *Wiley Online Library* , <https://doi.org/10.1002/pts.2107>
- ²³ Sudbury-Riley, L. (2014). Unwrapping senior consumers' packaging experiences. *Marketing Intelligence & Planning* , Vol. 32 Issue: 6, pp.666-686, <https://doi.org/10.1108/MIP-02-2013-0027>

