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Consumer Factsheet

Designing home environments for people with problems with cognition who display aggressive or self-injurious behaviour, Ed. 2

This Consumer Factsheet gives information about elements and systems that can be used to make a home safer and more comfortable for people with cognitive impairments, presenting self-injurious or aggressive behaviour and their family members or carers.

The strategies and systems that can be implemented to a residential environment to make it safer for the people using it as well as more resistant to potential damage attempts belong to three main categories:

- Strategies to reduce potential triggers;
- Strategies to reduce the risk of property damage, and
- Strategies to reduce the risk of harm for people that present challenging behaviours and their families and/or carers.

Not all the solutions proposed in the following paragraphs are appropriate for all people or environments. Any modifications should respond to an individual's needs and behaviours and should be discussed with their doctors and/or occupational therapists.

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Strategies that reduce potential triggers

Many people, even without significant disabilities, are affected by environmental parameters such as temperature, humidity, air flow, noise, lighting, etc. Depending on the person's needs and behaviours, some or all the above-mentioned parameters should be appropriately controlled so that potential triggers are minimised. If **thermal discomfort** causes agitation to a person you care for, you might want to consider:

- If you are renting or buying a new house, the windows and walls should be appropriately oriented and thermally insulated and/or shaded. Consider double windows with external shading elements to avoid overheating of east, north and west facing windows. Shading could be provided by awnings, shutters, plants and trees, etc.

- Heating and cooling systems should be installed to provide stable and comfortable thermal conditions. Reverse-cycle cooling and heating with ceiling mounted outlets is a possible solution. Remember to avoid grilles that are easily reached and have not been secured with tamper-resistant screws as they can be removed by a person with self-injurious behaviours and used for self-harm.

Noise is a common source of stress. To reduce noise in the home, you might want to consider:

- If you are renting or buying a new house, consider reducing external noises by using solid masonry or earth berms in conjunction with plant noise blockers. The openings (doors and windows) should be facing away from noisy parts of the lot (street, courtyards with pets, etc).

- Double glazing, laminated glass and well-sealed window frames are effective at reducing street noise and can also limit the noises exiting the house.

- Some electronic devices inside the home eg, lighting, vacuum cleaners, televisions and radios, washing machines, as well as ventilation, heating and cooling systems can all trigger a person who is sensitive to them. The use and layout of spaces in a house is critical in reducing the impact of any internal noise sources. Rooms with noisy appliances or devices, such as laundries, bathrooms or living rooms, should be positioned far away from bedrooms. Noisy appliances could also be mounted on sound absorbing pads. Soft interior surfaces, like carpets and sound absorbing panels for ceilings could also be used in large spaces to reduce noise.

- Ventilation and cooling/heating units must comply with any relevant local government ordinances and should provide spaces with air as silently as possible. Avoid locating the outdoor air conditioner units near reflective (hard) surfaces and any acoustic barriers must be constructed in accordance with manufacturer specifications for ventilation to

avoid damage to the outdoor unit.

- Use electronic ballasts for fluorescent lamps and the right drivers for LEDs as they can eliminate humming and flickering of the lighting systems. Also, when lighting is controlled by dimmers, the appropriate lamps should be used (for example, most compact fluorescent lamps cannot be dimmed).

Too bright or dim **lighting**, as well as glare sources might affect the behaviour of people too. If you care about a person with light related sensitivities, you might need to consider:

- Availability of natural light is important in all home environments, as it helps the regulation of the circadian rhythms, including numerous bodily functions as well as mood.
- The light levels during the night should be low, however, night lights with motion sensors can be used to ensure safe access to bathrooms or other areas of the house.
- Windows and glass doors should have some type of shading, for privacy and to reduce glare, preferably positioned between layers of safety glass or externally. Electronic controls of the shading elements should be silent.
- Dimmers, adjusting lighting to the desired levels, can be installed in bedrooms and/or other rooms of people with sensitivity to light.
- Very glossy and light-coloured interior surfaces should be avoided in areas where sunlight may be reflected from, as they can be secondary sources of glare.
- Lighting units, consisting of lamps, light fixtures and ballast or driver (where applicable) should be recessed in the ceilings and walls and should not have glass elements that people might reach, break and use for harm. Fluorescent and compact fluorescent lamps should be out of reach, as they contain mercury which people can touch if the lamps break.

Strategies to reduce the risk of property damage

House structural elements as well as **furniture** often suffer significant damage from people with cognitive impairments. Some strategies and elements that could be used, are:

- When people have the habit of scuffing or hitting doors, floors, ceilings or walls in the house, impact-resistant wall linings and wall protection sheets might be needed. Damage to the doors' surface can be partially avoided with the addition of kickplates, door edges, and other add-on devices.
- Reinforced plasterboard and with high impact resistance and noise control are available

for households and rigid vinyl, plastic or metal sheeting can be used to preserve door frames, skirting and other wall surfaces.

- In cases where windows might be vandalised or used to cause self-harm, aluminium frames with restrictors that permit 100mm maximum opening are recommended.

- Non-safety mirrors as well as other glass elements, such as picture frames with glass and windowpanes, might present health risks as people can use sharp and pointy pieces of broken glass to cause harm to oneself or to others. The alternatives to glass that are impact resistant, include:

1. Heat-strengthened glass: which when broken, the pieces tend to stay in the opening longer than these of fully tempered glass;
2. Tempered glass: Usually referred to as safety glazing, tempered glass breaks into relatively small pieces, thus reducing the likelihood of serious injuries, compared to ordinary glass. However, the small pieces fall easily from the frame;
3. Laminated glass: When laminated glass breaks, the pieces tend to stay in the opening and the surface remains clean and smooth, ensuring the safety of people;
4. Glass clad polycarbonate glazing: This transparent system keeps the fragments of the broken glass on the opening, reducing the likelihood of injuries.
5. Polycarbonate: Polycarbonate is much stronger and lighter than glass, with high impact resistance. Scratching is a concern, as people might write on polycarbonate.

- Glass-laminated polycarbonate mirrors are safe and scratch resistant. Acrylic mirrors, which are more resistant to breaking are available. Their low cost permits their replacement in case they are scratched. Self-adhesive wall sticker mirrors could be a good and cheap solution for homes where residents might use the fragments of glass or acrylic mirrors to cause harm to themselves or others.

- Glass on wall art and pictures should also be avoided but clear sealers can be added for protection.

- Furniture with sharp edges or corners can be used as self-harming elements, thus furniture with round corners and edges should be chosen where possible.

- Furniture that can be moved and/or picked up can be thrown to carers or moved for barricading or for climbing and escaping from a home or garden. Built-in furniture and appliances are excellent solutions for safety in private dwellings. Furniture could be anchored to the floor and wall art could be securely fixed to the walls to avoid removal. Another solution is to have furniture of larger dimensions (for example benches instead

of chairs) or made from heavy materials (concrete) that cannot be easily lifted and thrown.

- Avoid having furniture with drawers as they can be used as weapons.
- Home-like, warm and friendly environments are important for people's emotional wellbeing and furniture are the main elements that can help achieve this goal. Buy furniture that can be easily cleaned, with improved flammability performance surfaces and upholstery. Avoid complex patterns and a great variety of colours because they might cause sensory over-stimulation or agitation.
- Place TVs in built-in joinery units with polycarbonate, damage-resistant covers.
- Prefer kitchen cabinet doors with glass elements.
- In some cases, locking of spaces and/or cupboards and drawers may be needed. However, keep in mind that installation of locks is an environmental restriction that needs to be approved and reported, according to NDIS Disability Restrictive Practices and behaviour Support Rules.
- Elements such as electrical device cover plates (for switches, receptacles, etc.), electrical outlets, luminaires (light fixtures), HVAC grilles and equipment, picture frames, toilet accessories and fixtures (soap dispensers, taps, etc), etc, should be tamper-resistant, if a person might destroy them or used them for harm.

Strategies to reduce the risk of harm for people

The users of a house should be able to **exit** easily in case of an emergency or when they feel threatened. The building should always comply with the National Construction Code and/or other local egress regulations, however, additional exit points might be required when people with challenging behaviours live in it.

Where can I find more information?

- The HMinfo *Evidence Based Practice Review: Designing home environments for people who experience problems with cognition and who display aggressive or self-injurious behaviour,* available from the HMinfo website: www.homemods.info
- The HMinfo *Industry Factsheet: Designing home environments for people who experience problems with cognition and who display aggressive or self- injurious behaviour,* available from the HMinfo website: www.homemods.info

- *National Construction Code Series 2019*, available from ABCB website: www.abcb.gov.au
- Other home modification resources on the HMinfo website: www.homemods.info

***This publication uses data from other HMinfo publications.*

The information was correct at time of printing.