

# DOORS, DOORWAYS, WALLS Information Sheet for EMS Assessors

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The following information provides design/technical points, relevant aspects of Ministry of Health EMS funding and clinical considerations to think about during the assessment and modification process.

The EMS Assessor's role is to ensure that the person, family/whanau and caregivers are fully informed. This can be done by either providing the information yourself, or by directing the equipment supplier and/or List Contractor/Builder to assist with technical or installation details.

## Types of Doors:

### Hinged Doors:

1. Hinges on one side of the door
2. The door swings in an arc

### Sliding / Surface Mounted Doors:

1. The door is mounted on the wall, and moves along the track flush with the wall.

### Cavity Slider:

1. The door is mounted within the wall cavity and moves along the track within the wall.

## Design/Technical Points about Doors and Doorways and things to think about:

1. Approach and orientation – check if the approach to the door will be straight on or at 90° - a wider space is needed for a turning wheelchair. A 'rule of thumb' is the narrower the hall the wider the door width required, when turning 90°
2. Clear opening ie the width of the opening unhindered by any other structure (the door itself, door handle, towel rail behind the door etc.) The recommended clear width of the doorway is dependent on the existing circulation space at either side of the door and also the size of the person and their mobility aid. A 760mm door with a 710mm open width is usually considered the minimum "accessible width".
3. How the door opens, whether it opens in or out (which requires more complicated manoeuvring for a wheelchair user), the type and height of the door handle, weight of door,



closing mechanism.

4. Use a cardboard model the same size as the wheelchair (including elevating footplates, in tilt mode and headrest) or walker to see if it will turn and 'fit' through the doorway
5. Consider the benefits of rehanging a hinged door so that it swings on the opposite side or swings out instead of in.
6. An offset hinge (aka "hospital hinges") can be used on an existing door to gain extra clear opening space as these allow the door to open to the full width of the door frame.
7. Sliding doors are not compatible with 'room to room' ceiling mounted hoists because of the track., Two smaller width floor to ceiling height hinged doors with a cut out can be used to accommodate the track..
8. An electronic door opener may be a solution in a situation where a person lives alone and has no other means of operating a door to gain essential access. Careful consideration must be given to all other options and to cognitive ability, battery backup, maintenance issues, emergency procedures.
9. Other considerations: take into account the person's:
  - Type of mobility aid and ability to manoeuvre within tight spaces – now and in future. Possible change of mobility aid due to increase in growth or weight.or progression of condition, eg from a walker to a wheelchair, or a manual to a power wheelchair, or upsized wheelchair.
  - Static/ dynamic balance related to functional reach
  - Strength to open door
  - Ability to manipulate and use door handles and locks – related to upper limb function but also cognition and vision.

### Hinged Doors:

1. To measure, open the door to its fully open position and measure from the side of the door to the door frame, not just the door frame to door frame width. Note: The open door itself takes up space – you will get less clear width than the actual width of the door. This can be 40-50mm depending on the thickness of the door and how far the door can open to accommodate the hinge and handle.
2. If you are widening a hinged door, check the opening arc of the proposed width to make sure it will 'fit' into the space available as the swing arc increases as the doorway is widened. This may encroach into the working space of the room into which the door swings. You could use a piece of string the same length as the proposed door to check this.



### Sliding / Surface Mounted Doors:

1. Good for use where there is limited circulation space either side of the door or when the door-arc impinges on the space in the room
2. Require least effort to operate, open and close and to manoeuvre through with a mobility aid.
3. Having a door mounted on the wall reduces the space of the room the door is mounted in – hallways will become narrower
4. Check that the sliding door does not interfere with proposed positioning of hand/grab rails.
5. Ensure the door handle/lock does not protrude into open doorway reducing the effective open width.
6. It is important to talk with the Builder who will know if a door can be widened because there are technical factors that can impact on what can be done.

### Cavity sliding door

1. Has the additional benefit of not reducing any wall space however is more expensive and is dependent on the absence of any wall structures or fittings such as pipes or electrical fittings in the wall cavity to be able to be installed.

### Design/Technical Points about a Walls

1. Generally the interior of New Zealand Timber framed houses consist of either walls supporting the weight of the roof structure called load bearing walls or walls that divide off rooms called partition walls, such as a wall between a bathroom and toilet.
2. Generally structural walls run longitudinally, such as hall walls.
3. Partition walls can be removed without affecting the structural integrity of the house.
4. Removing structural walls is complex and requires a Building consent.

### Ministry of Health EMS Funding Considerations

1. Consider cost effectiveness:
  - Where possible try to keep the proposed widened door width to standard sizes (810mm, 910mm) as unusual sized doors will need to be custom built.
  - Hinged doors are usually the easiest and the most cost effective modification.

**Note:** Cavity sliders do not often meet EMS funding criteria as there are generally more cost effective alternatives such as a widened sliding or hinged door.



2. If more space is required, sometimes additional space can be achieved by removing a wall between two rooms, such as between a bathroom and adjacent toilet.
3. It is important to talk with the Builder who will know if a wall can be easily removed.
4. Note: Removal of structural walls does not often meet EMS funding criteria as this is often an indicator that there are complex issues which need careful consideration. You will need to discuss options with the EMS Provider to work out if EMS funding can be considered.

