

# Is cognitive impairment associated with the installation of home adaptations amongst older people?

## Summary

**Are older people with cognitive impairments more likely to have home adaptations installed than those without? This will help us understand whether existing home adaptations are particularly targeted or required by people with cognitive impairments. Using English Longitudinal Study of Ageing (ELSA) data, we find that cognitive impairment at baseline was not significantly associated with installing future adaptations. Age, health, mobility problems and housing tenure are the factors most predictive of adaptation installation.**

## Measuring the installation of home adaptations

ELSA respondents are asked about the presence of several home adaptations and to analyse those adaptations they were grouped into three categories.

**Passive property-based adaptations** include modifications done to the home that involve more passive engagement, for example wide doorways or hallways, ramps or street level entrances, automatic or easy open doors, accessible parking or drop off sites, and kitchen modifications. **Active movement-based adaptations** are installations that individuals actively engage with to move around their home, including bed levers and rails, hoists, handrails, lifts, stairlifts or stair glides and alerting devices. Finally, **bathroom specific adaptations** are alterations made within the bathroom, such as installing toilet equipment and commodes; bath or shower seats; walk-in showers and over the bath showers.

Bathroom adaptations are the most common form of adaptation, with 93% of installations including bathroom adaptations, and fewer installations involving passive property-based (44%) or active movement-based (30%) adaptations.

## Who gets adaptations installed?

The sample (N=3,157) is divided into two groups: 56% (N=1,759) who later install home adaptations, and 44% (N=1,398) without adaptations. A total of 225 (13%) of respondents installing adaptations showed cognitive impairment at baseline, compared to 15% (N=202) of respondents without adaptations.

Respondents with adaptations were older (24% in the youngest age category, 50-59 years, compared to 32% without adaptations), a higher percentage were married (71% compared to 64%), and they were less likely to live alone (20% in single person households compared to 23% of respondents without adaptations). Those who installed adaptations appeared to be in a stronger socioeconomic position than those without, with fewer respondents falling in the lowest income (25% compared to 27%) and non-housing wealth (19%

compared to 22%) quartiles. The highest percentages of respondents with adaptations were in the top half of the wealth distribution. Moreover, 68% of the adaptation group were homeowners compared to 61% without adaptations; and adaptations were rarer across all renting categories.

How does all this fit together?

We model whether respondents had any adaptations installed in the four years following the baseline survey. The results indicate that individuals with cognitive impairment were no more, or less, likely to install adaptations than individuals without cognitive impairment. Which, in turn may indicate that the range of adaptations included in the analysis are accessible both to people with and without cognitive impairment. In addition, the types of adaptations analysed were geared more towards mobility difficulties, for example installing ramps, handrails or stairlifts, as supported by the positive association between mobility problems at baseline and installation of future adaptations.

Baseline characteristics that were significantly positively associated with the installation of future adaptations included age, living in a dual person household, fair or poor self-rated health, and mobility problems. For example, the odds of those who experience mobility problems installing an adaptation were 1.2 times higher than those without mobility problems. Respondents living in dual person households demonstrated significantly higher odds of installing adaptations compared to single person households, but no significant difference was observed between larger households ( $\geq 3$  people) and single person households. While adaptations address the needs of the individual, they can be interpreted to disregard the wider family living within the home (Morgan *et al.*, 2016). For example, the installation of some adaptations may require reallocation of rooms, loss of communal space and alter the appearance of the home, these are likely to become more of a concern the more people that reside within the home.

In contrast, the odds that individuals with Activities of Daily Living (ADL/IADL) difficulties at baseline go on to install adaptations were 28% lower than those without ADL/IADL difficulties. One consideration could be that those with these difficulties may be more likely to receive assistance from formal or informal care providers and thus may be less likely to consider adaptations which would help them maintain independence. Alternatively, individuals with ADL/IADL difficulties may also be considering moving house to somewhere more suitable for their needs. Previous research suggests people thinking about moving home are unlikely to be considering renovations or adaptations. Finally, respondents who reported renting their property at baseline, demonstrated lower odds of going on to install adaptations compared to homeowners. This result was expected, as individuals who are buying their property, or already homeowners, have more freedom and flexibility to adapt their home, not relying on permission or funding from landlords or housing associations.