Mapping housing for the disabled in New Zealand

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The relationship between health and housing has been well documented in New Zealand, finding that decent housing is important for both physical and psychological well-being, and that health and overall life satisfaction are affected by housing standards. For public buildings, official building standards specifically address the particular vulnerability of young children and the elderly through the requirement for facilities such as day care centres and nursing homes to maintain an indoor temperature of a minimum 16 degrees. However, these standards do not extend to housing; nor do they address the health concerns of those with impairments. With an ageing population and the attendant increase in impairment, this article seeks to connect issues of housing with issues of health, and to identify patterns of change that have implications for public health services and facilities.

The post-census Disability Survey is currently the primary source of information on disabled people in New Zealand. The survey consists of the Household Disability Survey (children and adults living in private households) and the Disability Survey of Residential Facilities (adults living in residential facilities), both of which rely on self-reporting. The definition of ‘disability’ in the 2013 Disability Survey is “…an impairment which has a long-term limiting effect on a person’s ability to carry out day-to-day activities. Long-term means six months or longer, and limiting effect means a restriction or lack of ability to perform”. People are not considered to have a disability if an assistive device (such as glasses or crutches) eliminates their impairment.

The 2013 survey identified that almost one-quarter (24%) of people living in New Zealand are currently disabled. Disabled adults living in households account for 92% of this population while disabled children living in households account for 8%. The results also show that disability increases with age and in the 2013 survey, nearly 60% of people aged 65 years or over were identified as disabled (Figure 1).

**Figure 1:** Number of non-disabled and disabled people in New Zealand in 2013, according to age.

Source: Statistics New Zealand 2013 Disability Survey.
New Zealand disabled population projections

In order to anticipate future health needs, the patterns of disability have been analysed and projected, given specific consideration to ethnicity, changing birth and death rates and migration. Figure 2 shows the disabled population projection based on age and ethnic group-specific disability prevalence rates, with medium median (50th percentile) birth, death and migration assumptions, created using the latest census data, which includes:

- Disability rates according to age group and ethnicity from Statistics NZ 2013 Disability Survey issued 17 June 2014.

Percentiles indicate the probability that the actual result is lower than this percentile. The 50th percentile (median) indicates a 50% probability that the actual result for a given year is lower than this percentile.

Figure 3 shows the population projection for the total population and disabled population between 2013 and 2038. The New Zealand population is projected to increase by 31% between 2013 and 2038, but the disabled population is projected to increase by 45%. In 2013, 24% of the population were identified as disabled and this figure is projected to rise to 27% of the population in 2038. Disability trends consider the current and projected demographics of the New Zealand population and are the best attempt at mapping disability based on the current data.

The big increases in disability between 2013 and 2038 are projected to fall in two main clusters: the 15–39 year age group (28% increase) and the 65+ year age group, which is set to double during this time-frame. The population projection for people aged over 85 years is shown in Figure 4.

Impairment types

The types of impairment and their trends are significant for health care and for housing. The 2013 Disability Survey showed that both physical and sensory impairments are most common for adults (15 years or over) and are low for children (0–14 years). Figure 5 shows the disabled population projection according to impairment type.
**Figure 3:** New Zealand population projection for the total population and the disabled population from 2013 to 2038 with median (50th percentile) birth, death and migration assumptions.

Source: Author.

**Figure 4:** Population projection of people aged over 85 years with median (50th percentile) birth, death and migration assumptions.

between 2013 and 2038 created by using Figure 3 as a base and undertaking further calculations from statistics found in the document ‘Impairment types according to age group’ from Statistics NZ 2013 Disability Survey issued 17 June 2014.

The largest increase can be seen in physical impairment types (76% increase over 2013), followed by sensory (70% increase over 2013). The significant increases in the physical and sensory impairment types are explained by the ageing population. In the 2013 survey, the median age of disabled people in each ethnic group was Māori (40 years), European/Pākehā (57 years), Pacific (39 years) and Asian (45 years). After adjusting for differences in ethnic population age profiles, Māori and Pacific people had higher-than-average disability rates. The incidence of disability increases with age and therefore, in the future, there will be greater demands for accessible housing stocks and services.

Disability and deprivation

The New Zealand Deprivation Index is a measure of socioeconomic deprivation in New Zealand. It is created using census data for variables, which include: car and telephone access, receipt of means-tested benefits, unemployment, household income, sole parenting, educational qualifications, home ownership and home living space.4 Forty-three percent (43%) of Māori disabled and 49% of Pacific Island disabled live in the most deprived areas (Figure 6). This compares to 17% of the European/Other and 18% of the Asian groups. The same pattern is observed in the location of the non-disabled population, with 35% of Māori not disabled and 49% of Pacific not disabled living in the most deprived areas, compared to only 10% and 16% of the European/Other and Asian groups.

The least deprived areas contain 21% of the disabled European/Other group and 16% of the disabled Asian group, but only 7% and 5% of the disabled Māori and Pacific groups (Figure 7). Similarly, 28% of the European/Other not disabled and 19% of the Asian not disabled live in the least deprived areas, compared to only 13% and 5% of the Māori and Pacific not disabled groups.

Figure 5: New Zealand disabled population projection according to impairment type with median (50th percentile) birth, death and migration assumptions.
**Figure 6:** Percentage of the disabled, not disabled and total population, according to ethnicity, who live in the most deprived areas of New Zealand.

**Figure 7:** Percentage of the disabled, not disabled and total population, according to ethnicity, who live in the least deprived areas of New Zealand.
Significantly higher percentages of the Māori and Pacific groups are living in the most deprived areas with the least deprived areas being occupied by higher percentages of the European/Other and Asian groups. Higher percentages of disabled people from all ethnic groups live in the most deprived areas.

Healthy housing

The 2013 census included questions about house dampness and coldness. Figure 8 shows the percentage of people who find their house damp according to ethnicity, and highlights the considerable differences between the responses from the different ethnic groups. One-third (33%) of Māori disabled find their house damp compared to 23% of Pacific disabled, 21% of Asian disabled and only 14% of disabled European/Other.

In addition to concerns of dampness, poor-quality housing is generally difficult to heat. Figure 9 shows the percentage of people who find their house difficult to keep warm according to ethnicity, and there are significant differences between the responses from the different ethnic groups.

Over one-third of the Māori, Pacific and Asian disabled groups (36%, 37% and 33% respectively) are living in houses that they find difficult to keep warm, compared to 22% of disabled European/Other. These figures differ considerably from the able-bodied population in each ethnic group. The disabled population in each ethnic group find their houses more difficult to keep warm than the able-bodied in each group. Overall, 25% of disabled people are living in houses which are hard to keep warm compared to 16% of the not disabled population. In all ethnic groups and in all age groups, higher percentages of the disabled population are living in houses that they find difficult to keep warm compared to those of the not disabled population. In particular, the Pacific people would appear to be living in housing that is in worse condition from the other ethnic groups.7

Living in the community, with some level of independence, will always be preferable to many, and there is likely to be a continued emphasis on “ageing in place”. However, BRANZ research indicates that it is more cost effective to build universal design
features into a new home than retrofit the same house later, estimating that the cost of equipping a new house with UD features on average is $1,720, compared to approx. $16,990 for retrofitting at a later date.\(^8\) Research has shown that existing houses are cold and damp, are expensive to heat and need modifications to be useable, indicating that “ageing in place” may not be an option for many. The elderly will require housing which is safe, warm, secure and easily maintained, with access to public transport, health, and other services. International studies have found that the majority of people aged over 65 years want to live outside of master-planned or age-restricted communities,\(^8\) however, demand for retirement homes and residential facilities is growing with increasing numbers of people needing full-time care. The two largest growing demographics in disability are Māori and Pacific populations, however, both ethnicities prefer private households compared to residential facilities like retirement villages.

In general, Māori and Pacific Island households are larger than the standard houses can accommodate in New Zealand. Relatives often live in the same house and multi-family housing needs to be located in greater quantity to create compatible relationships in a community. Historically, housing in New Zealand has neglected the needs of ethnicities in the design and supply of social housing, catering mainly for the nuclear family of two parents and two children, but the growth of non-European ethnic populations is likely to mean more multi-generational families living together\(^10\) and provision should be made to facilitate this. The lack of suitable housing for the growing numbers of ethnic groups whose culture and lifestyle necessitate larger houses can lead to overcrowding in undersized dwellings.\(^11\)

Housing tenure also plays a critical role in healthy housing. The 2014 New Zealand General Social Survey showed that people living in rented housing were more likely to have a problem with dampness or mould (12%) than people living in housing which

**Figure 9:** Percentage of the disabled, not disabled and total population, according to ethnicity, who find their house difficult to keep warm.
was owner-occupied (3%). Similarly, 35% of people living in rented housing indicated that their house was always or often colder than they would like, compared to only 15% of the people living in their own houses. Research has indicated that rental housing in general is in worse condition overall than owner-occupied housing, and it could be argued that current rental accommodation is not generally suitable for the elderly or for people with disabilities.

Current housing supply is short of good-quality rental housing suitable for the ageing population requiring one or two bedroomed affordable and accessible units. It is also short of good-quality large houses for rental to ethnic groups where multigenerational families are living together. It is considered unlikely that the market will address the shortfall in housing supply, and the current housing stock requires significant modification and up-grade in order to accommodate these people groups. These patterns predict poorer health outcomes for the ageing in the future.

**Location of the disabled population**

As the population ages and impairments increase along with the costs of living, the elderly in New Zealand have traditionally located to more rural settings. More than 22% of the population in the districts of Kapiti Coast, Thames-Coromandel, Horowhenua, Waitaki and Waimate are aged 65+ years. Other areas with a high proportion of people aged 65+ years include Wairarapa and the districts of Hauraki, Buller, Marlborough, Timaru and Central Otago. Currently, the very aged tend to be concentrated in larger urban areas, presumably due to the need to close to facilities and services dedicated for high-dependency needs. More research is required to fully understand the very aged group (85+ years).

Table 1 shows the percentage of disabled people in private households in each region in New Zealand. ‘Rest of South Island’ contains the Tasman, Nelson, Marlborough and West Coast regions.

The Auckland region, while containing the highest absolute number of disabled people, has the lowest percentage of disabled people in New Zealand (19%). Possible reasons for this include the younger age structure of the Auckland population and the large Asian population who have lower-than-average disability rates. The highest percentages of disabled people are in Taranaki and Northland (30% and 29% respectively).

Table 1: Percentage of disabled people in private households in New Zealand according to region.

<table>
<thead>
<tr>
<th>Region</th>
<th>Total private household population (000)</th>
<th>Disabled population in private households (000)</th>
<th>Disabled population in private households as a % of the total population (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Northland</td>
<td>153</td>
<td>44</td>
<td>29</td>
</tr>
<tr>
<td>Auckland</td>
<td>1,419</td>
<td>271</td>
<td>19</td>
</tr>
<tr>
<td>Waikato</td>
<td>423</td>
<td>105</td>
<td>25</td>
</tr>
<tr>
<td>Bay of Plenty</td>
<td>268</td>
<td>73</td>
<td>27</td>
</tr>
<tr>
<td>Gisborne/Hawke’s Bay</td>
<td>200</td>
<td>46</td>
<td>23</td>
</tr>
<tr>
<td>Taranaki</td>
<td>121</td>
<td>36</td>
<td>30</td>
</tr>
<tr>
<td>Manawatu-Wanganui</td>
<td>243</td>
<td>67</td>
<td>27</td>
</tr>
<tr>
<td>Wellington</td>
<td>514</td>
<td>114</td>
<td>22</td>
</tr>
<tr>
<td>Canterbury</td>
<td>575</td>
<td>143</td>
<td>25</td>
</tr>
<tr>
<td>Otago</td>
<td>201</td>
<td>52</td>
<td>26</td>
</tr>
<tr>
<td>Southland</td>
<td>105</td>
<td>27</td>
<td>26</td>
</tr>
<tr>
<td>Rest of South Island</td>
<td>155</td>
<td>41</td>
<td>27</td>
</tr>
</tbody>
</table>

Source: Statistics New Zealand 2013 Disability Survey.
followed by Manawatu-Wanganui (28%), Bay of Plenty (27%) and Otago, Southland and the Rest of South Island (each 26%). Further research is required matching the quality and availability of health services and housing in these locations with disability projections.

Conclusions

The factors that affect the rates and types of disability are changing. Quantifying the change in demand is useful in determining the suitability of the future supply of appropriate housing but also the availability of appropriate health care. The most significant impact of a growing non-European population is that of intergenerational families living together, which results in a preference for larger households or the flexibility to open and close spaces to adapt to family structures. Further research is required to investigate and explore the specific housing needs of those Māori, Pacific Island and Asian groups who prefer more collective living options.

The population is ageing and the incidence of persons with a disability in New Zealand is increasing. This study indicates that large numbers of the disabled population in New Zealand are living in the most deprived areas, in rental housing that is damp and difficult to keep warm. It would appear that the poorest and most vulnerable are living in the worst conditions. Research that specifically quantifies the physical and psychological impacts of poor-quality housing on the disabled population is currently lacking, and further research is needed to direct policy to address current or prevent future health impacts.

This study finds that a significant proportion of the existing housing stock is far from suitable for the elderly and/or disabled. The cost of home modification is expensive and not possible for many. Rental housing is generally in worse condition than owner-occupied housing, and considerable financial investment is required in order for it to be made suitable. “Ageing in place” is highly expensive and may be beyond the reach of many. These issues have significant implications for the demands for care in cities outside of major centres. The lack of attention to this situation has had a deleterious impact on both cost and quality of housing in New Zealand.

This article suggests that New Zealand is ill prepared for the projected increase in disability. More overcrowding is predicted in suburban areas for ethnic groups who prefer to live with their families. Worse health outcomes are predicted for those who remain in their current, unmodified houses. Rental housing will come under increased pressure to be accessible, affordable for those on low incomes and suitably situated and designed to meet the needs of the growing elderly and the disabled populations.

Competing interests:
Nil.

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