

A horizontal teal bar with a white circular icon containing a teal dot.

Crowded housing in New Zealand 1986–2006



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Crowded housing in New Zealand 1986–2006

Purpose

This is one of a series of short reports examining crowded housing in New Zealand. It updates the 2003 report *What is the extent of crowding in New Zealand? An analysis of crowding in New Zealand households 1986–2001*.

Crowded housing in New Zealand 1986–2006 examines levels of household crowding in New Zealand over this longer period.

Household crowding has long been of concern because of the detrimental health outcomes associated with living in crowded conditions. This report provides information on how household crowding is measured and the number of households and people affected by crowded living conditions between 1986 and 2006.

Summary

At the time of the 2006 Census, 1 in 20 households were defined as crowded and 1 in 10 New Zealanders lived in crowded conditions.

In 1986, 7 percent of households were defined as crowded. Rates fell steadily after that until 2006. Between 2001 and 2006, the percentage of households that were crowded stabilised at just over 5 percent.

Rates of crowding were consistently higher among some ethnic groups, with almost 1 in 4 Māori (23 percent) and almost half of Pacific peoples (43 percent) living in crowded households in 2006.

Background

What is the relationship between crowding and health?

Recent studies have linked crowding and infectious disease, while the media have shown increasing awareness of the consequences of poor housing. For example, in 2009 the *Papakura Courier* headlined an article on housing and health with “Fever rates on the rise”, while in 2010 *The Dominion Post* announced the results of a study with “Housing fails to meet needs of children”.

Di Grennell (2008) wrote about the experience of a child living with poverty and crowding.

She is eleven months old. She has had three hospital admissions for respiratory illness and has visited to A & E five other times. There is watered-down cow’s milk in her bottle. Her mother shares a three-bedroom house with five other children and three adults. If it’s really cold they put the oven on and leave the door open. They used candles for two months when their power was cut-off.

Household crowding is considered a serious issue in New Zealand. Both internationally and nationally, crowding has been linked with poorer-than-average physical health, higher rates of infectious disease transmission, poorer mental health, and reduced educational outcomes for children. Children are believed to be particularly at risk from crowding. In New Zealand, research (Baker et al, 2000, 2006) shows that rates of certain infectious diseases among children (eg meningococcal disease and rheumatic fever) are higher in areas with high rates of household crowding.

For example, a study of meningococcal disease in Auckland (Baker, McNicholas, Garrett, Jones, Stewart, Koberstein, & Lennon, 2000) showed that, even after...

...controlling for age, ethnicity, season and socioeconomic factors, risk of disease was strongly associated with overcrowding as measured by the number of adolescent and adult (10 years or older) household members per room.

These infectious diseases can have life-long consequences for children's health.

Health researchers have been concerned by a sharp rise in infectious diseases, including skin diseases, in the 10 years to 2009. In New Zealand, hospitalisation rates for serious skin infections are approximately double the rates of the United States and Australia (Turner & Innes, 2008). Researchers theorise that these could be related to crowding within New Zealand homes as rates are much higher among Māori and Pacific children (University of Otago, 2009). Infectious disease rates among children with Māori and Pacific ethnicity have risen in recent years, but fallen among children with European ethnicity (University of Otago, 2009).

There is clear evidence of a relationship between crowding and rates of infectious disease. Through studying household crowding we can inform further research in this area.

How is crowding measured?

Crowding in the home can be measured both quantitatively (by applying various crowding measures) and subjectively (through a self-recorded perception of crowding).

Different ways of measuring and evaluating crowding have been developed, both in New Zealand and overseas. They use dwelling size, or proxies for dwelling size such as the number of rooms and bedrooms. The formulas used to measure crowding range from a simple count of people and rooms, to more sophisticated models that also consider the number of bedrooms, household composition, and demographic information.

The quantitative measures used internationally vary. In New Zealand, the Canadian National Occupancy Standard (CNOS) is the most common measure, but the American Crowding Index/People per room index (ACI/PPR) and the Equivalised Crowding Index (ECI) are also used.

In the ACI/PPR, a household with more than one person per room is defined as crowded. If there are more than 1.5 people per room then the household is defined as severely crowded. The ECI allocates a bedroom to a couple, one bedroom for pairs of children under 10 years, and a bedroom each for household members aged 10 years and over. Any household that does not meet these criteria is considered crowded.

Each measure results in different levels of crowding. The ACI records the lowest level of crowding and the ECI the highest. However, the ACI is not as reliable a measure because of data quality issues with information on rooms (see glossary).

CNOS was used for the analysis in this article. CNOS was selected because it provides the best fit for the New Zealand social context although it may not fully align with all social and cultural norms. It is important to remember that while cultural norms around how crowding is perceived may vary, levels of physiological stress as a result of crowding occur for different ethnic groups regardless of whether they perceive themselves as crowded (Lepore, Evans, & Palsane, 1991).

Information from CNOS covers severe crowding to underutilisation of bedrooms. The level of crowding according to this standard can be measured consistently over time (from 1986 onwards). Under CNOS the following criteria apply.

- There should be no more than two people per bedroom; parents or couples share a bedroom.
- Children aged less than five years, either of same or opposite sex, may reasonably share a bedroom.
- Children aged less than 18 years, of the same sex, may reasonably share a bedroom.
- A child aged five to 17 years should not share a bedroom with one aged under five of the opposite sex.
- Single adults aged 18 years and over, and any unpaired children, require a separate bedroom.

Note about subject populations

All the results in this paper are for households in private occupied dwellings. This includes all separate houses, units, and apartments; mobile dwellings such as caravans; improvised dwellings such as garages; and dwellings in motor camps that are the usual residence of a household.

Analysis of crowding excludes people living in non-private dwellings, such as boarding houses and night shelters, as household and rooms data is not collected for these dwellings. Because the Canadian National Occupancy Standard is based on household composition, which is only available for usual residents, crowding information excludes visitors to the household.

What are the limitations of crowding indexes?

Any household crowding measure is theoretical and may not always fit different cultural ideas of housing suitability. For example, traditional Japanese and Pacific houses use living space for sleeping, rather than having separate bedrooms. This means that indicators using bedrooms as a measure may have limitations, as they assume only bedrooms can be used for sleeping. They do not consider the use of other rooms as sleeping areas.

The ACI/PPR measures may appear more neutral in this respect. However, as a 2001 report on crowding indexes suggested (Gray, 2001), these indexes assume children and couples have equal use of space; assumptions that are also problematic.

Other factors that cannot be measured from census information may affect a household's situation (eg actual size of the dwelling, size of rooms or bedrooms, number of bathrooms, adequacy of ventilation, and quality of the dwelling). These factors would influence how much crowded living conditions affect the physical and mental health of occupants.

Crowding in 2006

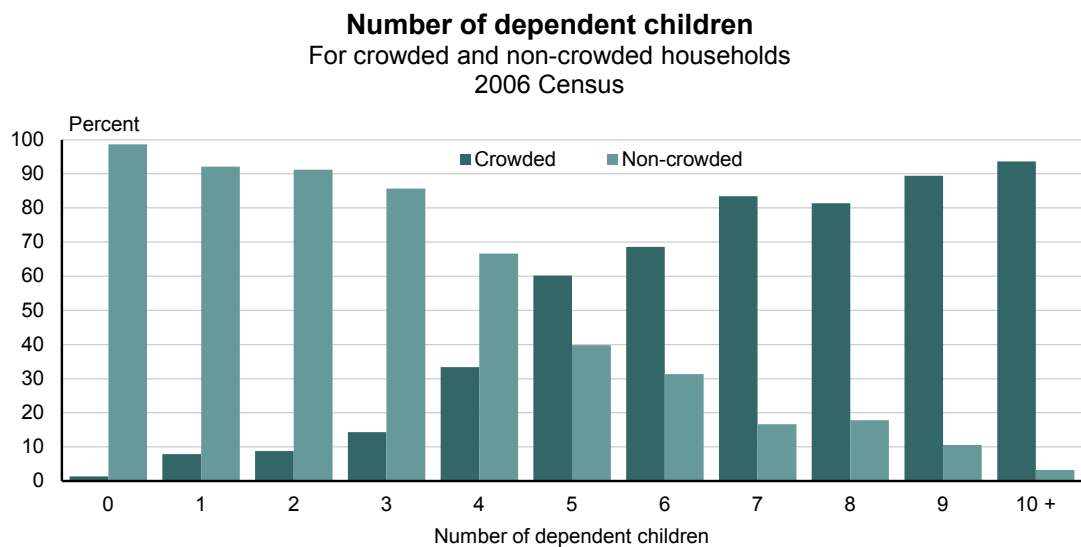
Crowding affects 1 in 10 New Zealanders in 2006

In 2006, 5 percent of households (71,900 households) were defined as crowded according to the CNOS measure. Approximately 1 in 10 people (389,600) in New Zealand lived in a crowded situation.

Children experienced the highest rates of crowding of any age group (17 percent of children aged 0–9 years and 15 percent of children aged 10–14 years lived in a crowded house in 2006).

Crowding increased sharply with the number of dependent children. Very few households (less than 2 percent) without dependent children experienced crowding but more than 8 of every 10 households with seven or more dependent children were crowded.

Figure 1



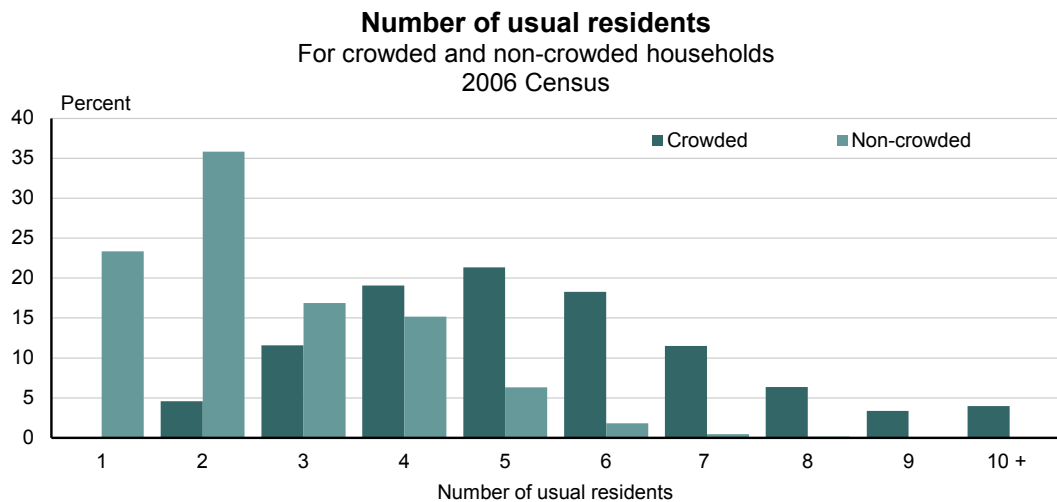
Source: Statistics New Zealand

Crowded households are larger

There were 1,454,175 households and 3,894,891 people living in households in 2006 – giving an overall average household size of 2.7 people. Almost one-quarter of households had only one person, while over half (57 percent) had fewer than three household members. Only 12 percent of households had five or more usual residents.

Crowded households tended to be much larger, with an average of just over five people per household.

Figure 2



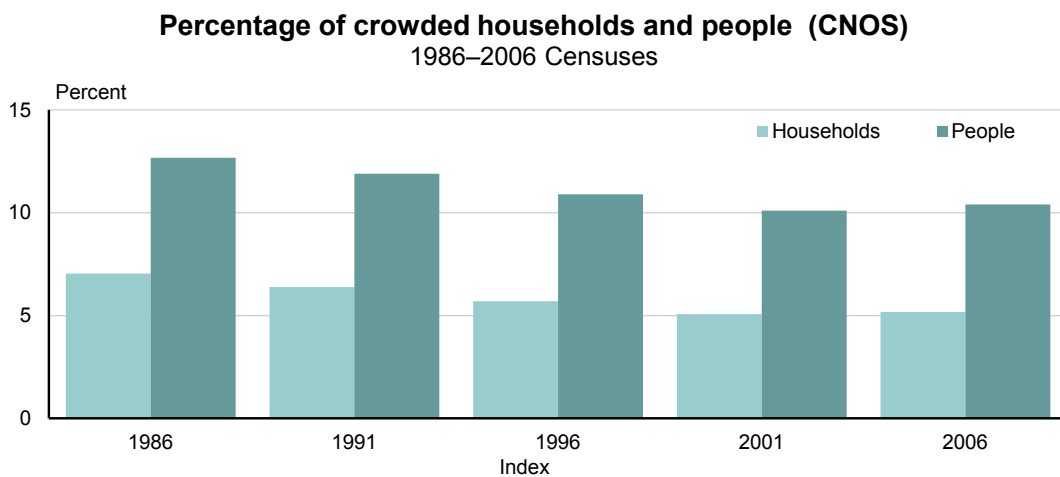
Source: Statistics New Zealand

Change in the extent of crowding over time

Crowding rates fall from 1986

Household crowding rates were highest in 1986, when 7 percent of households were crowded according to the CNOS measure. Rates then declined steadily until the 2006 Census. In 2006, household crowding was virtually unchanged from 2001 (5.1 percent in 2001 to 5.2 percent in 2006).

Figure 3



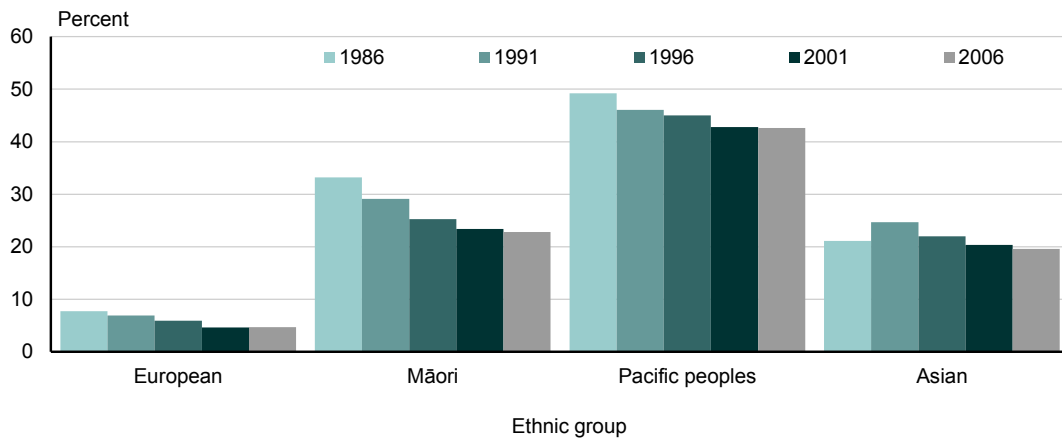
Source: Statistics New Zealand

Crowding rates fall for most ethnic groups

Crowding declined for people in most ethnic groups between 1986 and 2006. See *Ethnicity and crowding* (Statistics NZ, 2012) for greater detail about ethnic differences.

Figure 4

Percent of people living in crowded households
By selected ethnic group (total response)
1986–2006 Censuses



Source: Statistics New Zealand

Crowding rates remain higher for Pacific and Māori

Rates of crowding have declined for Māori and Pacific peoples since 1986 but they are still higher than for people with European ethnicity.

Because of population growth, the numbers of Māori and Pacific peoples experiencing crowded living conditions grew between 2001 and 2006. However, the proportions of people living in crowded conditions remained virtually unchanged, at 5 percent for people with European ethnicity, 23 percent for Māori, and 43 percent for people with Pacific ethnicity.

Table 1 shows that severe crowding (a deficit of two or more bedrooms) was much higher among people with Pacific ethnicity.

Crowding rates were higher for children than adults, with 46 percent of Pacific children and 28 percent of Māori children living in a crowded household in 2006.

Table 1**Number of individuals in each CNOS category**By ethnic group
2006

Ethnic group ⁽¹⁾	CNOS category							
	Severely crowded (two or more bedrooms required)	Crowded (one more bedroom required)	No bedrooms spare and none required	One bedroom spare	Two or more bedrooms spare	Unknown	Total	Total crowded
European	22,900	90,800	565,100	882,200	864,500	27,900	2,453,500	113,700
Māori	42,400	74,600	172,300	144,500	79,900	14,600	528,300	117,000
Pacific	48,800	54,700	75,200	44,400	19,900	10,100	253,200	103,600
Asian	18,000	47,000	112,900	93,800	60,100	7,600	339,400	65,100
MELAA	2,400	4,900	12,200	8,400	3,900	1,000	33,000	7,400
Other	2,100	10,600	82,400	146,600	164,900	3,400	409,900	12,700
Total people	131,100	258,500	939,400	1,247,200	1,160,600	158,000	3,894,900	389,600

1. Includes everyone who stated each ethnic group, whether as their only ethnic group or as one of several ethnic groups. Where a person reports more than one ethnic group, they are counted in each applicable group. For example, if an individual gives Māori and European ethnicities they could be counted as living in crowded conditions under both categories.

Note: All cells are randomly rounded to base 3, and then further rounded to the nearest hundred. MELAA is Middle Eastern, Latin American, and African.

Source: Statistics New Zealand.

Conclusion

Rates of crowding in homes have fallen since 1986, but crowding is still an issue in New Zealand, affecting approximately 1 in 10 of the New Zealand population in 2006.

Considerable ethnic disparities remain. Crowding rates are much higher among Māori and Pacific peoples. Approximately 2 of every 10 people with Māori ethnicity lived in a crowded household in 2006, and 4 of every 10 Pacific people lived in crowded conditions.

Crowding also disproportionately affects children; and children experience the greatest health risks from living in crowded conditions.

The percentage of households that were crowded grew very slightly between 2001 and 2006, although this cannot be interpreted as a definite trend until we have data from the next few censuses.

Glossary

Bedrooms

A bedroom is defined as a room in a dwelling that is used for, or intended for, sleeping in.

A room is considered a bedroom if it is furnished as a bedroom, even if it is not being used when the household was surveyed. A room furnished as a bedroom should include a sleeping facility such as a bed or mattress, and could include items such as a dresser and chest of drawers. Room equivalents are not counted for one roomed dwellings (ie bed–sitting room). A one-roomed dwelling should be counted as having one bedroom and therefore one total room.

A sleepout adjacent to a private dwelling is counted as a bedroom if it is used and/or furnished as a bedroom and is occupied by members of the same household as occupy the dwelling. A caravan adjacent to a private dwelling is counted as a bedroom only if it is used as a bedroom and is occupied by members of the same household as occupies the dwelling. A room (such as a living room) that is used as a bedroom at night, either short-term or long-term, should not be counted as a bedroom unless the only bedroom facilities in the dwelling are in that room. If the only bedroom facilities in a dwelling are in a room that is also used for another purpose, (ie in a living room) this room should be counted as a bedroom.

Canadian National Occupancy Standard

The Canadian National Occupancy Standard (CNOS) was developed by the Canada Mortgage and Housing Corporation. A household is said to be crowded if the dwelling requires extra bedrooms in order to meet the following criteria.

- There should be no more than two people per bedroom; parents or couples share a bedroom.
- Children aged less than five years, either of same or opposite sex, may reasonably share a bedroom.
- Children aged less than 18 years, of the same sex, may reasonably share a bedroom.
- A child aged five to 17 years should not share a bedroom with one aged under five of the opposite sex.
- Single adults aged 18 years and over, and any unpaired children, require a separate bedroom.

Household

A household, as defined in the census, is either one person who usually lives alone, or two or more people who usually live together and share facilities (eg cooking facilities, bathroom facilities, a living area) in a private dwelling. It may include other people in addition to a family, or two or more families living together.

Room

The definition of a room used in the census includes bedrooms, kitchens, dining rooms, lounges, family rooms, studies, and conservatories that people can sit in. Open-plan areas are counted as if they are separate rooms. Bathrooms and laundries are excluded from the count of rooms. Rooms have been measured reasonably consistently in recent years, although the quality of the data can vary. For example, in 1991 the rooms question did not explain what counted or did not count as a room, resulting in a much higher count of rooms – possibly because people included bathrooms and laundries.

Usual residence

'Usual residence' is the meshblock of the dwelling where a person considers himself or herself to usually reside, except in the following cases.

- People who board at another residence to attend primary or secondary school, and return to the home of their parent(s) or guardian(s) for the holidays, usually

reside at the address of their parent(s) or guardian(s). Post-secondary students usually reside at the address where they live while studying.

- Children in joint custody usually reside at the place where they spend more nights, or if they spend equal amounts of time at each residence, they usually reside at the place where they are at the time of the census.
- People who are in rest homes, hospitals, prisons, or other institutions usually reside where they consider themselves to live, and this may include the institution.
- A person whose home is on any ship, boat, or vessel permanently located in any harbour usually resides at the wharf or landing place (or main wharf or landing place) of the harbour.
- A person from another country who has lived, or intends to live, in New Zealand for 12 months or more usually resides at his or her address in New Zealand (for consistency with other population statistics – eg external migration).
- People who spend equal amounts of time residing at different addresses, and cannot decide which address is their usual residence, usually reside at the address they are at on census night.

If none of the above guidelines apply, the person usually resides at the address he or she is surveyed at.

The definition of usual residence does not include a time criterion because this can lead to households and families being classified on an arbitrary basis. Instead, it uses self-definition. Most people know where they usually live (reside) and this involves feelings of belonging, association, and participation in and with a household.

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