

Severe housing deprivation
(homelessness) estimates –
updated methodology

2023 Census | Tatauranga 2023





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Purpose and summary

Purpose

Severe housing deprivation (homelessness) estimates – updated methodology: 2023 Census describes the method used to produce the 2023 severe housing deprivation estimates and includes 2018 comparison figures. They are considered estimates because they are constructed from a combination of variables rather than being counted from a single direct question to individuals in the census. The severe housing deprivation estimates are considered the best point-in-time estimates of the number of people who are homeless in Aotearoa New Zealand, and their characteristics.

[2023 Census severe housing deprivation \(homelessness\) estimates](#) describes the results of the 2023 severe housing deprivation estimates.

[Aotearoa Data Explorer](#) has tables of the 2023 severe housing deprivation estimates.

Summary of key points

The 2023 Census included an improved collection strategy among those who might be vulnerable to living in homelessness, including:

- those living in emergency and transitional housing
- those using temporary dwellings or a shelter that is not a private dwelling
- better matching of dwelling, household, and family structures with individuals
- roofless or rough sleepers.

Despite these improvements, the estimates of those in severe housing deprivation are still likely to be undercounts. Over 355,000 people are included in the 'cannot be determined' category for homelessness, down from over 457,000 people in 2018. Most are people who were counted using admin data and for whom we had enough information to place them in a meshblock but not enough information to place into a dwelling.

The definition of homelessness measured using severe housing deprivation

Homelessness is defined as a living situation where people with no other options for safe and secure housing are either:

- without shelter
- in temporary accommodation
- sharing accommodation with a household
- living in uninhabitable housing.

The New Zealand definition of homelessness was initially developed by a working group from Stats NZ, Housing New Zealand Corporation, and the Ministry of Social Development. It was published by Stats NZ in 2009 for use in the Official Statistics System and has provided the basis for measurement of homelessness. While the definition hasn't changed since then, the paper describing it was updated in 2015. Homelessness is referred to as 'severe housing deprivation'.

[New Zealand definition of homelessness: 2015 update](#) has more information.

Researchers from the University of Otago worked to classify homelessness and generated a set of operational definitions, allowing us to estimate severe housing deprivation in New Zealand using census data, supplemented by emergency housing provider data.¹

Severe housing deprivation encompasses different living situations where people are unable to access minimally adequate housing. Homelessness researcher Dr Kate Amore describes minimally adequate housing as housing that 'provides the basics in at least two of the core dimensions of housing adequacy – habitability, privacy and control, and security of tenure'.

These living situations vary from rough sleeping and temporary housing situations to sharing crowded housing with no legal security of tenure and living in housing without basic amenities. Although not everyone living in these situations would consider themselves homeless, collectively these are situations where people are living in severely inadequate housing, hence the term 'severe housing deprivation'.

¹ For 2001 to 2013, providers were surveyed; in 2018, transitional housing data was provided by HUD; in 2023, emergency and transitional housing information has been included in the census frame.

Improving the measure over time

[Severe housing deprivation: The problem and its measurement](#), a report on initial estimates for 2001 and 2006, was carried out with an Official Statistics Research Grant from Stats NZ. These estimates indicated the number of people living without shelter, in temporary accommodation, and sharing accommodation. The researchers went on to produce estimates for 2013 and identified a data gap for the category 'living in uninhabitable housing'.

[Severe housing deprivation in Aotearoa/New Zealand: 2001–2013](#) has information on the 2013 estimates.

Due to demand for this information, Stats NZ included a question on access to basic amenities in the 2018 Census to help estimate the number of people living in uninhabitable housing. Stats NZ noted the high degree of interest in housing quality, including access to basic amenities and the need to collect this information in the census (Stats NZ, 2017). Te Tūāpapa Kura Kāinga – the Ministry of Housing and Urban Development (HUD²) commissioned University of Otago researchers to produce estimates for 2018.

Both the definition of homelessness and the concept of severe housing deprivation have been consistent over time. However, improvements in both the data collection, and the analysis of the data mean that caution is advised when comparing these estimates over time. Data from 2018 and 2023 are the most comparable, as the data has been revised to be as similar as possible. Prior to 2018, data that could be used to derive uninhabitable housing was not collected, so only the first three categories of homelessness can be compared.

There will always be challenges in estimating the number of people experiencing homelessness. Many people in this situation have experienced trauma from a young age and/or have intergenerational trauma that has contributed to an inherent distrust in authority (McMinn, 2021; Lawson-Te Aho et al, 2019).

Despite some limitations, New Zealand's census and the methodology used for severe housing deprivation means that New Zealand has a stronger evidential base than other countries. This also means the New Zealand figures are not directly comparable to those of other countries as there is no standard international measurement of homelessness.

² This work was initially commissioned by the Ministry of Social Development in 2018, prior to HUD being established.

Data sources

In analysing 2023 severe housing deprivation, the 2023 Census has been used for all but one of the included living situations (see table 1). Women's Refuge accommodation data is not identifiable through the census, so it has been excluded from most of the tables and analysis of estimates of severe housing deprivation. However, the numbers of adults and children accommodated by the National Collective of Independent Women's Refuges on census night have been provided directly and are included in the total national number for completeness. There's a small chance that some of those in women's refuges are also counted as sharing someone else's private dwelling.

[2023 Census of Population and Dwellings – DataInfo+](#) has more information on the 2023 Census variables and their quality.

[2018 Census of Population and Dwellings– DataInfo+](#) has more information on the 2018 Census variables and their quality.

Table 1

Data sources used to measure severe housing deprivation

Broad living situation (NZ definition of homelessness category)		Specific living situation (Types of severely inadequate housing)	2018 data source	2023 data source
Without shelter		Roofless or rough sleeper	Census	Census
		Improvised dwelling or shelter		
		Mobile dwelling (not in a motor camp)		
Temporary accommodation ²	Targeted to homeless people (emergency and transitional housing)	Night shelter	Operational data from providers (via HUD ¹ and direct)	Census
		Women's Refuge		Providers
		Other accommodation for homeless people (emergency and transitional)		Census
	Not targeted	Institution not targeted to homeless people (eg, 'overstaying' in hospital)	No data available	No data available

	to homeless people	solely due to lack of housing)		
		Camping ground/motor camp	Census	Census
		Boarding houses, hotels, motels, vessels		
		Marae ³		
Sharing someone else's private dwelling (sharing accommodation)		Temporary resident in a severely crowded private dwelling	Census	Census
Uninhabitable housing		Housing that lacks one or more basic amenities	Census	Census
1. HUD: Ministry of Housing and Urban Development – Te Tūāpapa Kura Kāinga. 2. While this category is named 'temporary accommodation', people may live in these situations long term. 3. Although some marae provide services for homeless people, people stay at marae for many reasons. Marae are therefore classified as 'not targeted to homeless people'.				

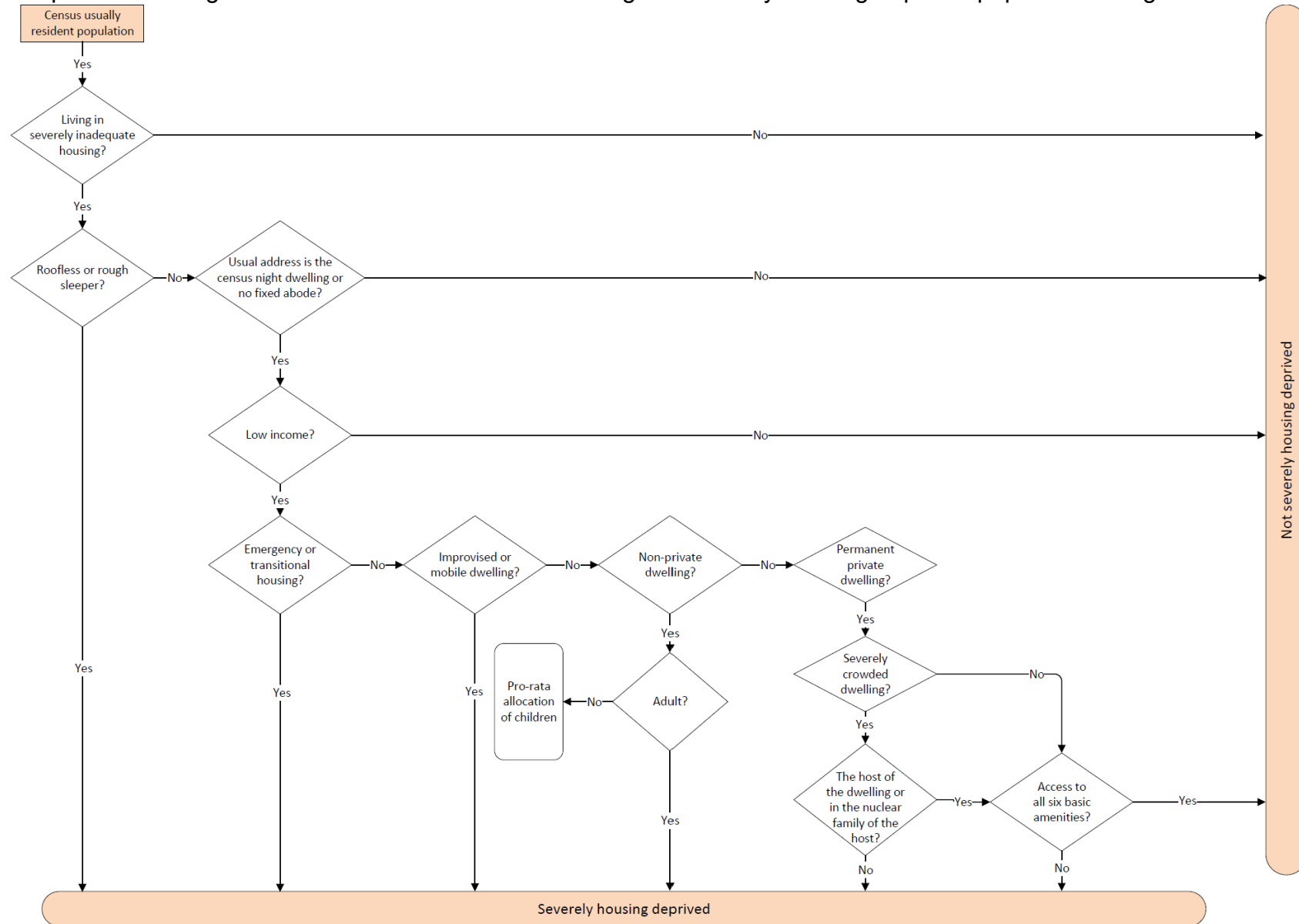
Currently the housing situation of people in institutions (eg, hospitals and correctional facilities) are not routinely collected to allow us to calculate how many are staying in these places due to lack of housing.

Algorithm for severe housing deprivation

Figure 1 presents a simplified flow diagram for estimating the severely housing deprived population using census data. The components are described in more detail below. There are two key changes from the 2018 methodology, and other changes outlined in the 'Changes in method for 2023' section below.

Figure 1

Simplified flow diagram of the 2023 method for estimating the severely housing deprived population using census data



Note: Severely inadequate housing relates to the specific living situations in table 1.

Where there was insufficient information for these variables, people were categorised as 'cannot be determined – not shown in the figure.'

Emergency or transitional housing refers to whether the dwelling has been identified as one for which the Ministry of Social Development has provided payment for emergency housing (via Emergency Housing Special Needs Grant), or the Ministry of Housing and Urban Development has contracted for transitional housing.

Pro-rata allocation of children is a special filter applied to children in severely inadequate non-private dwellings (NPDs).

A severely crowded dwelling was defined as a dwelling with a deficit of two or more bedrooms using the [Canadian National Occupancy Standard](#).

The host of a dwelling is the owner, the person who completed the census online household setup form or paper dwelling form, the only person or family in the dwelling, or the only family or person over 18 years.

The six basic amenities considered here are drinkable tap water, electricity, cooking facilities, a kitchen sink, a bath or shower, and a toilet.

Analysis of severe housing deprivation uses occupied private and non-private dwellings. Census usual residence is used unless someone has no usual residence and are either a roofless/rough sleeper or have no fixed abode.

Analysis of census to produce severe housing deprivation estimates has previously found that some non-private dwellings had been misclassified and were actually student accommodation (Amore, 2019). To address this, any hotels, boarding houses, or vessels where more than 75 percent of residents are full-time students have been reclassified as student accommodation. This was done for 2023 to maintain consistency, with 33 dwellings reclassified.

Some non-private dwellings are excluded from the calculation of severe housing deprivation. People staying in these types of non-private dwellings due to a lack of access to minimally adequate housing cannot be identified using census data (Amore, 2019). These dwelling types include:

- residential care for older people
- hospitals
- residential and community care facilities
- welfare institutions
- educational institutions (including those identified above as reclassified)
- religious institutions
- prison or penal institutions
- defence establishments
- work, construction, or training camps
- youth, school, or Scout/Guide camps
- communal staff quarters.

Lack of access to minimally adequate housing

Severe housing deprivation is defined as living in severely inadequate housing (table 2) due to a lack of access to minimally adequate housing (LAMAHA) (Amore et al, 2013).

Having no other address and a low income are used as proxies for 'lacking access to minimally adequate housing' (ie, lack of adequate housing options). This means that before we calculate if someone is severely housing deprived, we need to determine if they have a low income.

Table 2

The three core dimensions of housing adequacy and their basic criteria

Dimension	Basic requirements
Habitability (structural features)	1. Enclosure, including: • roof • walls • floor. 2. Basic amenities, including: • drinkable tap water • toilet • bath or shower • cooking facilities • kitchen sink • electricity.
Privacy and control	1. The dwelling is enclosed (as per habitability criterion 1). 2. The dwelling has all basic amenities (as per habitability criterion 2). 3. The dwelling is managed by the resident(s) on a day-to-day basis (not by an external party) – that is, it is a private dwelling. 4. The person is a permanent resident (not staying in the dwelling on a temporary basis).
Security of tenure	Legal termination of tenancy rights is equal to the minimum provided to people living in private rental housing.
Note: Habitability criterion 1, enclosure, cannot currently be determined for permanent private dwellings through census data. Source: Amore et al, 2021	

Income

Census collects individual income for people aged 15 years or over based on the prior 12 months.³ It is collected in income bands, and the midpoint of each band is used for analysis. These midpoints are then used to calculate the Jensen equivalised income (Jensen, 1988) for each individual, family, and the total number of residents in each dwelling. The poverty threshold (see 'The equivalised income threshold' section for more detail) is then used to determine if each person, family, or group of residents in each dwelling has an equivalised income below the threshold.

For each person (aged 15 years and over), family, and group of residents in a dwelling, we identify if they have received any of these means-tested benefits over the prior 12 months:

- job seeker
- sole parent
- supported living payment
- student allowance.

Low income is then determined for each person, family, or all residents in a dwelling. 'Low income' is defined as having:

- an income below the equivalised income threshold (for the person, family, or all residents in a dwelling)
- missing income data, but having received at least one of the specified income-tested benefits over the prior 12 months (for the person, at least one of the family members, or at least one of the residents of the dwelling).

The low-income criterion was applied to all except two categories of severe housing deprivation:

- roofless and rough sleepers – it was determined through the 2018 analysis that most people did not answer the income question, so would not be counted as severely housing deprived if the low-income criterion was applied (Amore et al, 2021)
- those in Women's Refuge accommodation – living in a dwelling targeted to homeless people establishes their status as severely housing deprived at the time of the 2023 Census.

For estimates prior to 2023, 'other (temporary) accommodation for homeless people' and night shelters were sourced directly from providers. No low-income criterion was applied as the data directly represented those who needed these services and so

³ Children under 15 have their income set to 0.

were severely housing deprived. As this data has been sourced from census for 2023, the low-income criterion is now applied – this ensures that owners and operators are not being included as severely housing deprived.

The equivalised income threshold

The equivalised income threshold used in 2023 was \$43,076 (before tax for the 12 months ended 31 March 2023) (Atkinson et al, 2024). The 2018 equivalised income threshold was \$34,023 (Atkinson et al, 2019).

An equivalised household income adjusts an actual household income by accounting for the number and dependency of the people that the actual income supports. Severe housing deprivation uses an equivalised income threshold produced from the analysis of the [New Zealand Deprivation Index \(NZDep\)](#).

For NZDep, an equivalised income threshold is determined by finding the proportion of people with an equivalised income less than or equal to the 15th percentile of people whose household income could be established.

The NZDep authors used the poverty-line work of Stephens and Waldegrave (2001) as a guide to set the 15 percent threshold. When analysing the 2001 Census, they found that, using a poverty line of less than 60 percent of median equivalised disposable household income before adjusting for housing costs, 15.4 percent of households were in poverty, equating to 14.7 percent of the population. The authors used this to set the threshold at 15 percent, a threshold they continue to use.

Because income data sourced from census is in income bands, there are a limited number of values for equivalised income. A cumulative distribution of people living in households with each (revised Jensen) equivalised income value is used to locate a cut-off point that, as close as possible, and conservatively, defines the bottom 15 percent. This means that the equivalised-income cut-off point will usually be a value that cuts off the cumulative percentage value very close to, but not exceeding, 15 percent. For 2023, the threshold was set at 14.88 percent (Atkinson et al, 2024).

Stats NZ has configured the CANadian Census Editing and Imputation System (CANCEIS) for imputing some New Zealand census data, including income (Stats NZ, 2024a). However, CANCEIS-imputed income is not appropriate for those experiencing severe housing deprivation, so income is only used if it has not been imputed.

Living without shelter

Living situations that provide no shelter, or makeshift shelter, are considered as 'without shelter' (Statistics New Zealand, 2015). These include situations such as living on the street and inhabiting improvised dwellings (for example, living in a garage, a shack, or a car).

This is measured as either:

- living as a roofless or rough sleeper with no other address
- living in an improvised or mobile dwelling with no other address and a low dwelling income.

Roofless and rough sleepers

The census counted 450 roofless or rough-sleeper dwellings, however, approximately 330 people are estimated to be roofless or rough sleepers. These are people for whom we have some census information. A closer analysis of the 2023 Census data identified that there were approximately another 130 people who may have been roofless or rough sleepers at the time of census. It's likely that individual responses for these people were not collected in the 2023 Census, but that there was enough information to indicate someone was living in this situation.

There is a small possibility that these people may have been counted through the use of admin data or at another dwelling, and therefore they have not been added to the total figure of roofless and rough sleepers (Stats NZ, 2024c).

Temporary accommodation

Living situations are considered 'temporary accommodation' when they provide shelter overnight, or when 24-hour accommodation is provided in a non-private dwelling that is not intended to be lived in long term (Statistics New Zealand, 2015). This includes hostels for the homeless, transitional supported accommodation for the homeless, and women's refuges. Also included are motor camps and boarding houses where people are staying long term, as these are not intended for long-term accommodation.

When measuring severe housing deprivation, people categorised as living in temporary accommodation include:

- those living in dwellings that the Ministry of Social Development has paid for as emergency housing, or that the Ministry of Housing and Urban Development has contracted for use as transitional housing, if:
 - the dwelling is an improvised dwelling or shelter, a mobile dwelling not in a motor camp, or a private dwelling in a motor camp, and if those living in the dwelling are determined to have a low income
 - they are in any other dwelling type and living with family, and the family has a low income
 - they are in any other dwelling type and are not living with family, and the person has a low income
- those living in non-private dwellings, including:
 - adults living in non-private dwellings (such as a motor camp or camping ground, boarding house, hotel, commercial vessel, marae, or night shelter) and who have a low income
 - children living in non-private dwellings – where children have been identified, we use the ratio of adults in the same dwelling who have been determined to be 'severely housing deprived', 'not severely housing deprived', and 'cannot be determined' to estimate the number of children in each of these categories for these types of dwellings (this is called pro-rata allocation of children).

Pro-rata allocation of children in non-private dwellings

Pro-rata weights are applied to estimate the number of children aged under 15 years in 'severely inadequate' non-private dwellings, such as boarding houses. People in non-private dwellings are not linked to a family (including children), so the low-income filter cannot be applied like it is to children in private dwellings.

These children, who would otherwise all have been classified as 'cannot be determined', were assigned pro-rata to the three overall categories ('severely housing deprived', 'not severely housing deprived', and 'cannot be determined')

based on the assignments of the adults in the specific dwelling. These numbers are then totalled across the whole dwelling type.

The results are proportions of the total number of children in types of non-private dwellings, not actual children or unit records allocated to each group.

[Everyone Counts: Defining and measuring severe housing deprivation \(homelessness\)](#) has more information.

Pro-rata analysis is undertaken and can be added to totals where the data are presented nationally (and by area). However, as these weights aren't applicable to individuals, they are not used where individual characteristics are analysed. This means that pro-rata weights have not been applied to the severe housing deprivation data currently presented in Aotearoa Data Explorer.

Women's Refuge

One of the categories of temporary accommodation that is not identified using census data is those accommodated in Women's Refuge dwellings. The estimate of those in Women's Refuge accommodation has been provided by the National Collective of Independent Women's Refuges; it reflects the information held on census night. This is likely to be lower than the actual number of people accommodated on census night, due to the busy nature of refuge work meaning that information is often entered into the system in the days following.

As the estimate of those accommodated by Women's Refuge is not census data, it is excluded from the Aotearoa Data Explorer tables. However, consistent with previous estimates, it is included in the national estimate.

Women's Refuge accommodated 155 people on census night, 7 March 2023. Of this total, 87 were children under 18 years (56.1 percent) and 68 were adults aged 18 years and over. Table 3 and figure 2 show that just over half of those accommodated were Māori, while the majority of the adults were aged 31 to 40 years old.

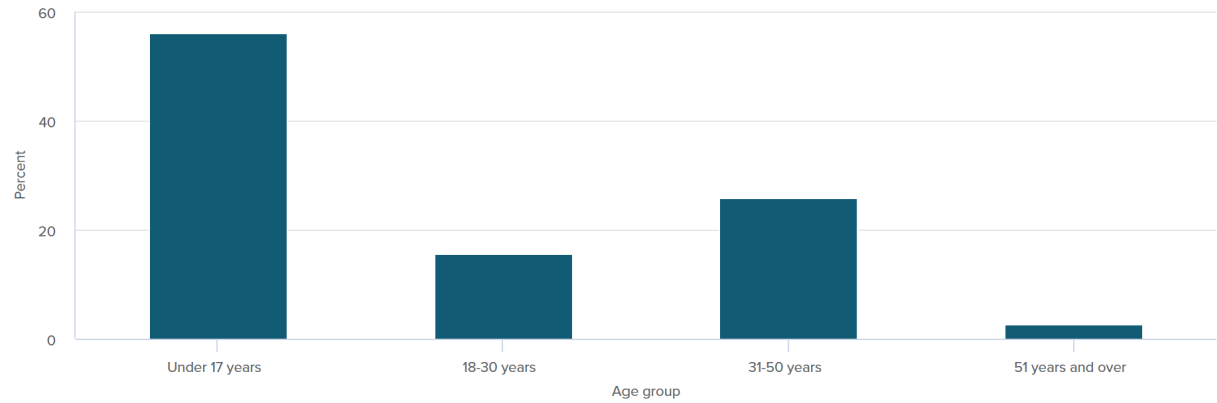
Table 3

Percentage of people staying in Women's Refuge accommodation on census night, by ethnic group, 2023

Ethnic group	Percent
Māori	51.6
European	26.5
Other	7.7
Pacific peoples	5.8
Asian	5.2
Middle Eastern Latin American and African peoples (MELAA)	3.2

Figure 2

Percentage of people staying in Women's Refuge accommodation on census night, by age group, 2023



Source: National Collective of Independent Women's Refuges

Stats NZ

Sharing someone else's private dwelling

The usual residents of a dwelling are not considered homeless even if they are sharing with others. Individuals living in a dwelling on a temporary, informal, and unusual basis by sharing someone else's private dwelling are considered homeless.

This category has been renamed from previous reports, where it was referred to as 'sharing accommodation', to more precisely reflect the underlying concept.

Individuals considered to be 'sharing someone else's private dwelling' are those who meet all these criteria:

- those living in a permanent private dwelling⁴ with no other address, where the dwelling is severely crowded (with a deficit of two or more bedrooms using Canadian National Occupancy Standard)
- 'temporary residents' of a dwelling, where a temporary resident is not a 'host', and where the 'host' of the dwelling is assigned using the following prioritised order:
 - the owner(s) of the dwelling (and their family if applicable)
 - the person who completed the dwelling form (and their family if applicable)
 - all members of the (nuclear) family if the household comprises a single family and no other individuals
 - all members of the (nuclear) family if the household comprises a single family and other individuals who are all aged under 18 years
 - the individual in a one-person household
 - the individual aged 18 or over if a household does not contain a family and only one individual in the household is aged 18 or over
- those who are a member of a family, where the family has a low income, or those who are not a member of a family, where they have a low income as an individual.

To estimate this category, we need to understand who in the dwelling lives there (the host), and who is staying there as a temporary resident.

The reference person – the person who completed the dwelling form (or online household setup form) – is used as a proxy for tenure holder in non-owner-occupied dwellings. However, if a dwelling form was not completed (either dwellings where we have census responses but no dwelling form, or the dwelling consists solely of admin enumerations), although we assign someone within the dwelling as the reference

⁴ Permanent private dwellings are all private dwellings included in the census dwelling type classification except for dwellings in a motor camp, mobile dwellings not in a motor camp, improvised dwellings or shelters, and roofless or rough sleepers.

person, we cannot assume that the reference person is the tenure holder.⁵ Because of this, we have updated the methodology for the category of sharing someone else's private dwelling.

Table 4 summarises how 'host' was assigned prior to 2023, and the updated method. A comparison between 2018 severe housing deprivation estimates using the 2018 method and the updated method is in Appendix 2.

Table 4

Assignment of host in determining whether an individual sharing that dwelling is considered homeless

Individual	Original method used for 2018	Updated method (for 2023 and updated 2018 estimates)
Owner	Host	Host
In the family nucleus of the owner	Host	Host
Reference person	Host	If dwelling form complete – host
In the family nucleus of the reference person	Host	If dwelling form complete – host
Not the owner or in their family nucleus	Temporary	Temporary
Not the reference person or in their family nucleus	Temporary	If dwelling form complete – temporary
Unknown relationship to reference person	Temporary	Cannot be determined
Single family/person in the dwelling only	n/a	Host
Single family in the dwelling and extra individual(s) who are under 18 (who are not in the family nucleus)	n/a	Family is host, individuals aged 15 to 17 are temporary
Individuals in the dwelling, only one of which is over 18	n/a	Over 18-year-old is host, other individuals are temporary
Any other composition of people within the dwelling	n/a	Cannot be determined

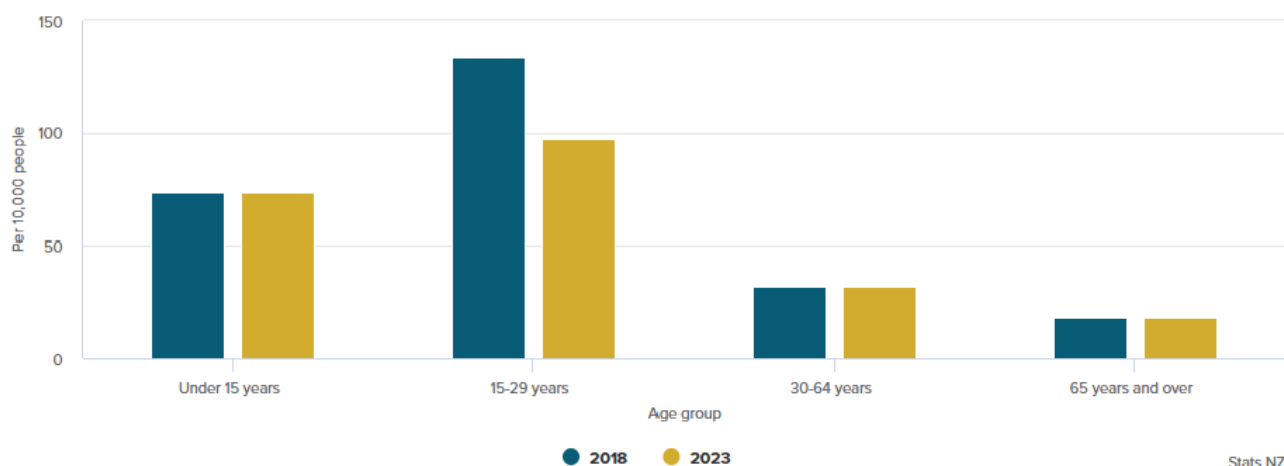
Figure 3 presents the 2018 and 2023 estimates of sharing someone else's private dwelling using the 2023 method.

⁵ This information was unknown to the authors of the 2018 severe housing deprivation estimates.

The only age group with a decrease from 2018 to 2023 in people sharing someone else's private dwelling was young people aged 15 to 29 years. This may be partly because more young people were included in families in 2023 (due to the higher response rate and more people from admin data being able to be placed into dwellings), and due to higher quality input information and improved methods for determining family relationships, with more young people being confirmed to be part of the host family in 2023 (Stats NZ, in print). In 2018, there were challenges with this method, so following our assumptions, those who weren't identified as part of a family are considered temporary residents and likely to be severely housing deprived (if they had low incomes and the dwelling was severely crowded).

Figure 3

Estimates of individuals sharing someone else's private dwelling who are considered homeless using the 2023 method, by age per 10,000 people, 2018 and 2023



In 2023 we have a higher number of people for whom we cannot determine whether they are a host in a dwelling (see 'Individuals whose severe housing deprivation status cannot be determined' section). We therefore have a higher number of people for whom we cannot determine with confidence if they are severely housing deprived.

Uninhabitable housing

The uninhabitable housing category covers dwellings that have inadequate or absent utility services (Statistics New Zealand, 2015).

This is measured for those who are not sharing someone else's private dwelling and meet the following criteria:

- They have no other address and are living in a permanent private dwelling that lacks at least one of these six basic amenities:
 - drinkable tap water
 - electricity
 - cooking facilities
 - a kitchen sink
 - a bath or shower
 - a toilet.
- Residents in the dwelling have been determined to have a low income.

Individuals whose severe housing deprivation status cannot be determined

There are a number of people for whom we don't have enough information to determine if they are severely housing deprived. In the 2023 Census, there were approximately 355,300 people for whom we could not determine if they were severely housing deprived. This compares with 457,860 people for the 2018 Census.

See table 5 for a prioritised breakdown of the different reasons severe housing deprivation could not be determined.

Table 5

Reason severe housing deprivation could not be determined using the 2023 method, by number of people, 2018 and 2023

Reason 'cannot be determined'	Description	Number of people in 2018	Number of people in 2023
No usual residence dwelling	Where people have not completed a census form, and their usual residence address cannot be determined with sufficient confidence to place them into a (usual residence) dwelling, they are admin enumerated to a meshblock (Stats NZ, 2024c) This means we do not have any information to determine whether they are severely housing deprived.	370,900	247,370
Dwelling type not known	Severe housing deprivation is calculated and categorised based on dwelling type. A very small number of these are people living in a dwelling for which the dwelling type is 'not further defined'. The majority are people residing in a dwelling that has been determined using administrative data, but there is no information as to the type of dwelling it is.	66,610	87,210
Income/benefit information missing	Income and benefit information is used as a proxy for choice – that is, whether a person, people, or family has the means to live somewhere else.	12,190	5,580

Crowding information unknown	Crowding information is used to understand if someone is sharing someone else's private dwelling.	3,540	3,500
Unknown host in a dwelling	The reference person – the person who completed the dwelling form (or online household setup form) – is used as a proxy for tenure holder in non-owner-occupied dwellings. However, if a dwelling form was not completed (either dwellings where we have census responses but no dwelling form, or the dwelling consists solely of admin enumerations), although we assign someone within the dwelling as the reference person, we cannot assume that the reference person is the tenure holder.	4,580	11,510
Access to basic amenities questions not completed	The only source of information for basic amenities, to determine the habitability of a dwelling, is the census dwelling form or household setup form.	0	0
Note: Figures in this table are mutually exclusive in order of when the information is used in the calculation algorithm (see 'Algorithm for severe housing deprivation' section). This means that while the lack of a dwelling form or household setup form was a valid reason to be categorised as 'cannot be determined', all of those without a dwelling form had already been filtered out due to another reason.			

In 2018, over 357,000 people were included in meshblocks, but not dwellings. In 2023 this figure was over 228,000 people (Stats NZ, 2024c). Due to this improvement, there are two key categories in table 5 where there have been increases in the number of people for whom severe housing deprivation cannot be determined.

The first of these is 'dwelling type not known'. This increase is due to the larger number of people for whom their dwelling was identified using administrative data in 2023, compared with 2018, so information regarding the type of dwelling was not available.

The second group is 'unknown host in a dwelling'. Being able to place more people in a dwelling in 2023 than 2018 means that we have more households that fall into the 'any other composition of people within the dwelling' group for assigning a host – the last row in table 4. Examples of these are rentals where no dwelling form has been completed and:

- several individuals live in the dwelling, all over 18 years (eg, flatmates) or all under 18 years

- there are two or more families living in the dwelling
- there is one family in the dwelling and more than one extra unrelated individual boarding with them.

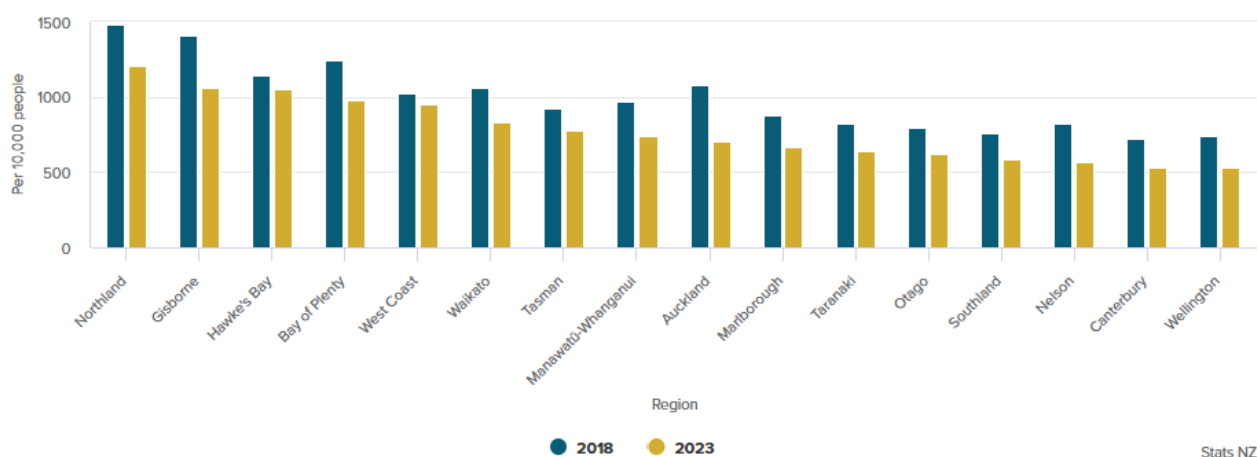
Income information was better in 2023, so we can see that a higher number of people in dwellings with an unknown host are likely to have been filtered out through missing income information in 2018.

Of those for whom severe housing deprivation could not be determined in 2023, over half were male (55.0 percent, or 196,041 people), and Māori made up almost one-third of the total (32.7 percent, or 116,757 people). Young people aged 15 to 29 years made up nearly one-quarter (24.5 percent, or 87,555 people) of those for whom severe housing deprivation could not be determined.

Higher proportions of people were categorised as ‘severely housing deprived – cannot be determined’ in the Northland, Gisborne, Hawke’s Bay, Bay of Plenty, and West Coast regions (see figure 4), with larger decreases since 2018 in the Auckland, Gisborne, Northland, and Bay of Plenty regions.

Figure 4

Proportion of people for whom severe housing deprivation cannot be determined using the 2023 method, by region per 10,000 people, 2018 and 2023



Changes in method for 2023

The table below lists key changes affecting the 2023 estimates of severe housing deprivation. Two of these have resulted in updates to the 2018 estimates when the 2023 method is applied:

- host assignment in permanent private dwellings (see table 4 above)
- confirmation of night shelters.

Appendix 2 has a comparison of the 2018 figures before and after these changes were made.

Table 6

Key changes affecting the 2023 estimates of severe housing deprivation

Change	Description	Potential impact(s) on size of estimates
How someone is determined to be a temporary resident for analysing whether they are classified as sharing someone else's dwelling (this information is used as well as income and crowding, see 'Sharing someone else's private dwelling' section).	This method has been adjusted to remove the assumption that if it is unknown whether a person or family are owner-occupants or the reference person (person who completed the dwelling form) or their family, then they are determined to be temporary residents. This updated method makes other assumptions. For example, where there is one person or family in the dwelling, they are assumed to be the host. See 'Sharing someone else's private dwelling' section for more information.	Decrease – sharing someone else's private dwelling.
Emergency and transitional housing address data provided by the Ministry of Social Development (MSD) and HUD to determine 'other accommodation for homeless people (emergency and	Estimates from 2013 and prior were based on surveying providers. For 2018, administrative data was supplied by HUD, but this did not include individual information such as ethnicity.	Increase – temporary accommodation.

Change	Description	Potential impact(s) on size of estimates
transitional)', which is a sub-category of temporary accommodation.	While there are limitations to the 2023 data (eg, there is other emergency and transitional housing that is not funded by these agencies), it is the most comprehensive yet for estimating severe housing deprivation.	
Online household setup forms and paper dwelling forms used for private dwellings at non-private dwellings – ie, emergency and transitional housing identified as funded by MSD and HUD. Providing data regarding the estimate of children in 'other accommodation for homeless people (emergency and transitional)', which is a sub-category of temporary accommodation.	Census data includes private dwellings at non-private dwellings, where a unit within a non-private dwelling complex is a private residence. In 2023 this was extended to include emergency and transitional housing using address data supplied by MSD and HUD. This meant that a household setup form and dwelling form were completed. Collection of this data allows a better understanding of the children living in this housing. The Pro-rata allocation of children in non-private dwellings section describes how the number of children living in non-private dwellings is estimated where family information is not available.	Minimal change to size – improvement in data, especially breakdowns for temporary accommodation.
Use of XGBoost model to probabilistically determine someone's address from admin data.	For admin enumerations in 2018, an individual's address was determined by the most recent administrative address record. In 2023 an XGBoost model was used to estimate the probability of being correct for each address, based on information such as the source of the address, the recency and consistency of the report, the number of addresses	Increase – sharing someone else's private dwelling and uninhabitable housing. In 2018, over 357,000 people were included in meshblocks, but not dwellings. In 2023, the

Change	Description	Potential impact(s) on size of estimates
	reported for that person, the person's age, and whether the address actually contains a dwelling (Stats NZ, 2024b). It is unknown how suitable or effective this model is for those living in insecure housing situations.	figure was over 228,000.
Field collection strategies and communications and engagement.	2023 Census field collection strategies allowed Stats NZ to tailor the collections approach to individual dwellings and communities. Stats NZ directed more resources to geographic areas with a higher proportion of groups that have historically been underrepresented in census data, particularly Māori and Pacific peoples (Stats NZ, 2022). 'Assist and deliver' approaches provided face-to-face contact, assistance, dedicated communications, and community-driven activities. Non-private dwelling and transient populations approaches included a core pool of dedicated staff for standard, large, and complex non-private dwellings. On and around census day, collection activities were largely focused on transient populations and supporting census-form completions at community events. Transient populations include people experiencing homelessness, and people living in places like marinas and mobile dwellings, or who are freedom camping.	Slight increase – sharing someone else's private dwelling and uninhabitable housing, due to targeting of areas that have historically been underrepresented. Slight increase – temporary accommodation, due to dedicated staff focused on non-private dwellings and working directly with local agencies. Slight increase – without shelter, due to a focus on transient populations on and around census day.

Change	Description	Potential impact(s) on size of estimates
	Because people may not remain in the same location for long, field staff made one visit, with no follow-up, and in a shorter timeframe than other collection activities. Iwi-led collections took place in three locations: • Ōhūa iwi collective – involving approximately 10,000 dwellings in the Far North • Toitū Tairāwhiti iwi collective – involving approximately 10,000 dwellings in the Gisborne urban area • Te Whānau ā Apanui – involving approximately 1,100 dwellings in the Eastern Bay of Plenty. An assist-flex approach was undertaken by Te Ahu Kauawhi taskforce in response to Cyclone Gabrielle. The taskforce’s mission was to safely resume census operations and deliver as high a response rate as possible by 30 June 2023. For more information, see: • Field collection strategies and operations for the 2023 Census • Communications, marketing, and engagement strategies for the 2023 Census.	
Confirmation of night shelters, a sub-category of temporary accommodation.	For previously published estimates of severe housing deprivation from 2001 to 2018, night shelter information has been included based on surveys of night shelters. For the 2023	Minimal increase in temporary accommodation.

Change	Description	Potential impact(s) on size of estimates
	Census, every effort was made to confirm night shelter addresses. Those staying in night shelters are in a precarious situation, and completing a census form may not be a priority for them. However, census data is now considered the most comprehensive and is used for the 2023 and updated 2018 estimates.	
Using gender rather than sex for the calculation of Canadian National Occupancy Standard (CNOS).	This reflects the introduction of gender in the 2023 Census, with gender recommended as the standard to follow (rather than sex). Another gender was included and treated in the same way as male and female. Household crowding index – 2023 Census – DataInfo+ has more information.	Increase – likely minimal in sharing someone else's private dwelling.

Considerations for estimates of severe housing deprivation regarding weather impacts on 2023 Census

In 2023, there were two major weather-related events in New Zealand prior to census day, 7 March 2023. Heavy rainfall on 27 January 2023 caused catastrophic floods in the upper North Island, and Cyclone Gabrielle moved through the North Island from 12 to 16 February 2023. The flooding and cyclone damaged thousands of homes, roads, bridges, and telecommunications.

Information about how the 2023 Census team responded to these events can be found here:

- [Field collection strategies and operations for the 2023 Census](#)
- [Communications, marketing, and engagement strategies for the 2023 Census.](#)

Where people were displaced from their homes, they tended to stay in the region with friends or whānau nearby, or in places like marae, community halls, and other temporary or emergency housing. As the census collection for these areas was delayed, it is likely that the population of those living rough on census night has been undercounted.

Stats NZ developed and distributed special materials to guide residents in Hawke's Bay and Tairāwhiti on completing the census questions (see Appendix 1 for relevant guidance). Not all displaced people would have received this information, and it's unclear to what extent guidance was followed.

Stats NZ used a minimum-data-capture approach as a last resort for collecting data from people. This involved census collectors asking six questions to help with linking people to admin data sources:

- name
- date of birth
- usual residence address
- Māori descent
- iwi affiliation
- languages spoken.

Where minimum data capture has been used, it means we have better information in terms of, for example, where people were living and their income over the prior 12 months. However, if we're missing a dwelling form, we cannot determine access to basic amenities, which can affect the comprehensiveness of severe housing deprivation estimates for these areas.

While people may have been displaced by severe weather events, the income proxy for lack of access to minimally adequate housing (see 'Lack of access to housing that meets the minimum adequacy standard' section) means that only those with no adequate housing and a low income have been categorised as severely housing deprived.

Conclusion

2023 Census severe housing deprivation estimates are the latest-released data around homelessness. These estimates are the result of research to classify homelessness using mostly census data. With each production of severe housing deprivation estimates, the methods have been reviewed and updated to adjust for any changes to how the census is undertaken and produced, as well as improved on the breadth of data included to inform the measurement.

Improved collection strategies and partnering with other agencies mean census data was able to be used for more types of severe housing deprivation than in 2018. As a result, severe housing deprivation status 'could not be determined' for 100,000 fewer people in 2023 than in 2018. The inclusion of information around basic amenities in 2018 Census allowed for broader measurement than in 2013, 2006, and 2001 Censuses. This made the 2023 severe housing deprivation estimates more complete than previous estimates, although some data gaps remain. There are still over 350,000 people for whom there isn't enough information to estimate if they are experiencing severe housing deprivation.

Severe housing deprivation estimates continue to provide valuable insights regarding homelessness across Aotearoa New Zealand for different populations.

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Appendix 1: Guidance provided to those in Hawke's Bay and Tairāwhiti on completing the census questions

Below is guidance relevant to the calculation of severe housing deprivation.

Dwelling form

Staying in a campervan, caravan, tent, or garage

Question: I am currently living in a campervan, caravan, tent, or garage because my home has been damaged by the cyclone or floods. How should I answer the dwelling form?

Answer: If you are living in accommodation like a campervan, caravan, tent, or garage and are fully self-contained, please count this as your dwelling and answer the dwelling-form questions accordingly.

If you are using a campervan, caravan, tent, or garage as well as some of the rooms in your damaged home, please count the damaged home and the alternative accommodation together as your dwelling.

If you are staying in a campervan, caravan, tent, or garage at someone else's house and sharing their facilities (such as the kitchen and bathroom) then you do not need to complete a separate dwelling form and should be included on their dwelling form.

Number of census night occupants

Question: We have people staying with us who have been displaced due to the cyclone or floods. Do we include them in the count of people staying here on census night?

Answer: If they are sharing facilities with you, such as kitchen and bathroom, please include all people staying or living at this dwelling on the night of the census, 7 March 2023. If they are living in accommodation that is completely self-contained, they should complete their own, separate dwelling form.

Tenure of household

Question: What if I own a dwelling that I am not currently living in due to Cyclone Gabrielle and recent flooding?

Answer: If you are completing the census on a paper form, please answer this question for the dwelling address you gave at question 1.

If you are completing the census on the online form, please answer this question for the address shown at the top of the page.

Question: I am/my household is currently living in a moveable dwelling such as a caravan, boat, tent, or motorhome – how should I answer this question?

Answer: Select 'own' if:

- you/your household own the moveable dwelling you are currently living in, even if you bought it under hire purchase or some other financial loan agreement.

Select 'neither of these, eg renting' if:

- you/your household do not own it, for example if it is borrowed from family or friends, rented, or if it is provided as emergency accommodation.

Number of rooms

Question: Should I count rooms that are unusable because of damage?

Answer: If the unusable rooms will be repaired, count them. If the unusable rooms will not be repaired, or you don't know whether they will be repaired, do not count them.

Access to basic amenities

Question: I do not have electricity/tap water or cannot use my cooking facilities (or other basic amenities) because of the cyclone/floods. How should I answer?

Answer: If it will be available again soon, include it in your answer. If it is likely to remain unavailable for several weeks or more, do not include it in your answer.

Individual form

Usual residence

Question: How should I answer if my address has been affected by the floods/cyclone?

Answer: If you think you will be moving back to your flood/cyclone-affected address, then give that address.

If you are unsure if you will be moving back to your flood/cyclone-affected address, or are unable to, use the address you are currently living at.

Census night address

Question: How should I answer if I don't know where I will be on census night?

Answer: If you don't know where you'll be on census night, try to complete the census form as close as possible to census day. If you are not completing the form on census day, give the address where you are most likely to be staying on census day.

Question: How should I answer if I am completing my census forms after census night, 7 March 2023?

Answer: Please give us the address where you were on census night, 7 March 2023.

Living arrangements

Question: How should I answer if I am not at my usual residence?

Answer: Please only include people you live with, at the address you gave earlier as your usual address (question 5).

Total personal income

Question: Should I include financial assistance given because of the recent flooding/cyclone events?

Answer: **Do not** count one-off financial payments received as a result of the recent events/flooding. But **do** include any regular income-protection insurance payments under 'other sources of income'.

Individual home ownership

Question: What if I own a dwelling that I am not currently living in due to the recent flooding?

Answer: Please answer this question for the dwelling at the address you gave as your usual address, even if you own another dwelling that you are not currently living in.

Question: I am currently living in a moveable dwelling such as a caravan, boat, tent, or motorhome – how should I answer this question?

Answer: Select 'own' if:

- you own the moveable dwelling you are currently living in, even if you bought it under hire purchase or some other financial loan agreement.

Select 'neither of these, eg renting' if:

- you do not own it, for example if it is borrowed from family or friends, rented, or provided as emergency accommodation.

Appendix 2: Updates to the 2018 severe housing deprivation estimates

While analysing the 2023 Census, changes to the method resulted in changes to the 2018 estimates (for more information see 'Changes in method for 2023' section). Table A1 provides a comparison of the 2018 figures before and after these changes were made.

Table A1

Number of severely housing deprived people using 2018 and 2023 methods, 2018

New Zealand definition of homelessness category		Specific living situation	2023 method		2018 method		Change in number of people
			Number of people	Prevalence rate per 10,000 people	Number of people	Prevalence rate per 10,000 people	
Without shelter		Roofless/rough sleeper	207	0.4	207	0.4	0
		Improvised dwelling	1347	2.9	1347	2.9	0
		Mobile dwelling	2070	4.5	2070	4.4	0
		Subtotal	3,624	7.8	3,624	7.7	0
Temporary accommodation	Emergency and transitional accommodation (NGO-run)	Night shelter	90	0.2	69	0.1	+21
		Women's Refuge	96	0.2	96	0.2	0
		Other accommodation for homeless people	1530	3.3	1530	3.3	0
		Subtotal	1,716	3.7	1,695	3.6	+21

New Zealand definition of homelessness category	Specific living situation	2023 method		2018 method		Change in number of people	
		Number of people	Prevalence rate per 10,000 people	Number of people	Prevalence rate per 10,000 people		
	Commercial accommodation	Camping ground/motor camp	1521	3.3	1521	3.2	0
		Boarding houses, hotels, motels, vessels	4668	10.1	4,668	9.9	0
		Subtotal	6,189	13.3	6,189	13.2	0
	Marae		45	0.1	45	0.1	0
	Subtotal (temporary accommodation)		7,950	17.1	7,929	16.9	+21
	Sharing accommodation (temporary resident in a severely crowded private dwelling)		27,426	59.1	30,171	64.2	-2,745
Uninhabitable housing (housing that lacks one or more basic amenities)		60,462	130.3	60,399	128.5	+63	
Total severely housing deprived		99,462	214.4	102,123	217.3	-2,661	
Note: Due to rounding, individual figures may not always sum to the stated total(s). The prevalence rates for the 2018 method were calculated using the total census usually resident population of 4,699,755. The prevalence rates for the 2023 method were calculated using this population minus those who have been excluded from the calculation of severe housing deprivation – a total of 4,638,579 people.							