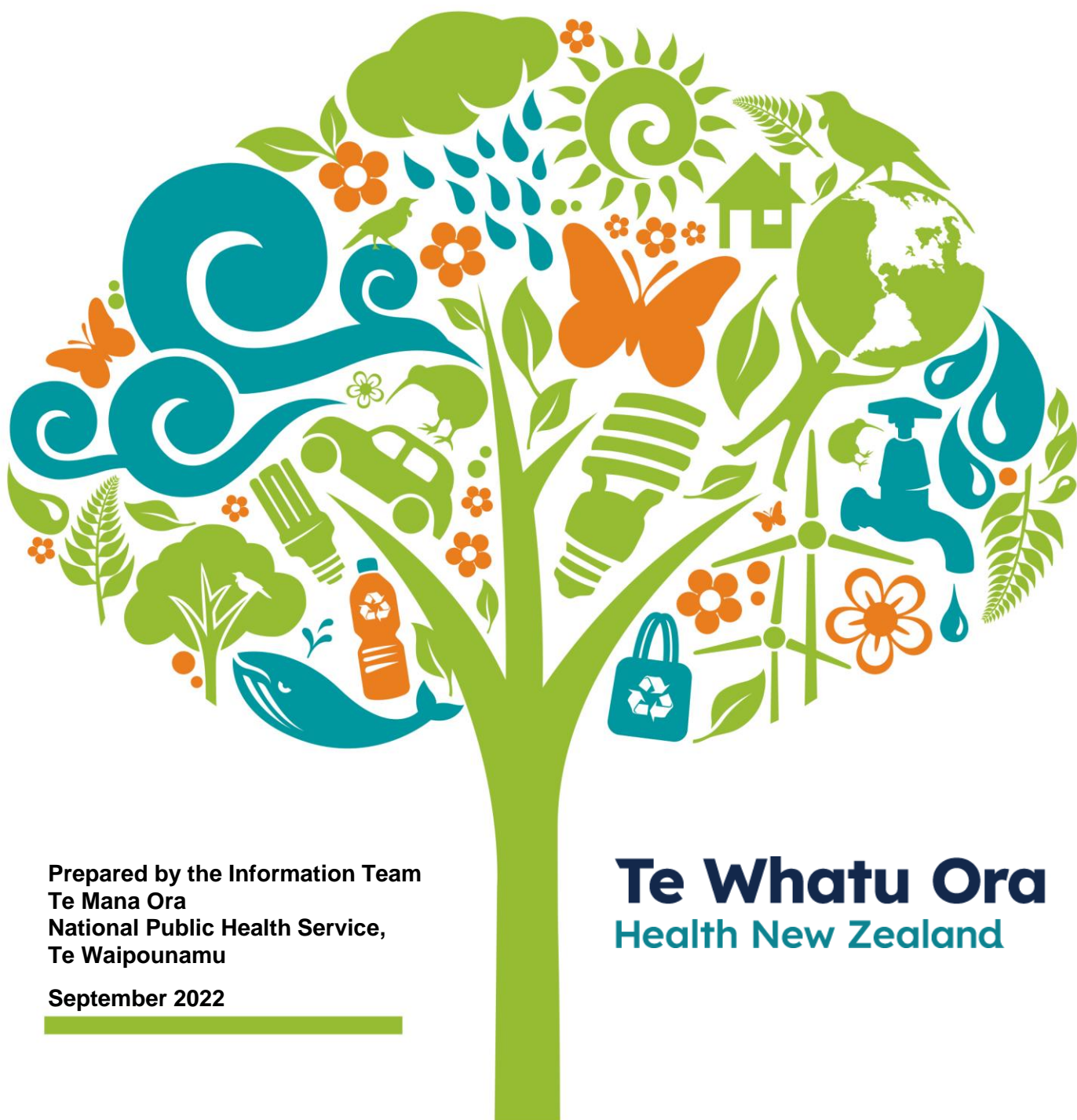


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# Exploring food insecurity in Canterbury



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insecurity among high-risk populations (Holley & Mason, 2019). No evidence of impact on child food insecurity was found for community gardening, holiday clubs, or nutrition education. However, other benefits were demonstrated, such as increases in fruit and vegetable consumption and positive community impacts, such as increased connectedness (Holley & Mason, 2019; F. McKay & Godrich, 2021).

COVID-19 and the associated nationwide lockdown presented additional challenges to low-income individuals and households, many of whom were struggling to meet basic living costs prior to the pandemic. Lockdown led to a sharp increase in emergency food distribution nationally, with demand remaining high after the initial lockdown was lifted. The Christchurch City Mission reported an increase in demand to two to three times the pre-COVID demand for food parcels (Kronast, 2020). After the initial lockdown, food banks reported that food parcel demand continued at approximately double pre-Covid-19 levels (Franks, 2020). In addition to increased demand at existing food banks, the number of organisations distributing emergency food during the COVID-19 pandemic has increased, including organisations that were not usually involved in distributing goods, for example Whānau Ora organisations (McAllister, Neuwelt-Kearns, Bain, Turner, & Wynd, 2021). The New Zealand Government response to food insecurity during COVID-19 has included an extension to the Food in Schools Programme (Robertson, 2020).

Food in Schools and food banks are important in meeting immediate need. The provision of food parcels, school breakfasts, and school lunches can alleviate those reached by these services from immediate hunger. However, effective policies are needed to adequately address food insecurity. Overall, in order to address food insecurity, the evidence indicates that a shift is needed from predominantly individual responsibility food-based responses, towards population-wide interventions at central government level that address key food insecurity determinants, such as income and housing.

# What is food insecurity?

Food insecurity is defined as a limited or uncertain availability of nutritionally adequate and safe foods or limited ability to acquire personally acceptable foods that meet cultural needs in a socially acceptable way (Holben, 2010). Although food insecurity is often discussed in the context of broader definitions of food security, household food insecurity is indicative of a state of hardship that goes beyond problems of access to food. The inability to afford such a basic need is closely associated with other financial hardships (R. Loopstra & Tarasuk, 2013). Although food insecurity was initially understood to be a food problem, with more research it has become clear that the deprivation experienced by households that are food insecure is not confined to food. Food-insecure households compromise spending across a broad range of necessities including housing (Fafard St Germain & Tarasuk, 2018).

## Context

### Underlying causes of food insecurity

In New Zealand, food insecurity is largely the result of a lack of sufficient money for food (rather than due to poor access to food) (Ministry of Health, 2019). Food insecurity often co-occurs with a number of risk factors, particularly those associated with other aspects of poverty and material hardship. Access to adequate food, and freedom from hunger, are important components of a range of international conventions and commitments regarding human rights (Ministry of Health, 2019). Food insecurity has been increasing in New Zealand as the cost of living escalates. Income inequalities increased as a result of neo-liberal economic reforms and benefit cuts of the late 1980s and 1990s (Perry, 2013) and there was a parallel rise in the number of charitable food banks to support those experiencing food insecurity (Rashbrooke, 2013). More recently, food banks have reported that food parcel demand being at approximately double pre-Covid-19 levels (Franks, 2020).

### Effects of food insecurity

While a comprehensive review of the health outcomes associated with food insecurity is beyond the scope of this review, there are important health consequences of food insecurity. Household food insecurity has significant health implications for both adults and children, with food insecurity having the potential to increase existing health inequalities (Nolan et al., 2006).

Food insecurity has been associated with poor physical health and multiple diet-related chronic conditions, such as diabetes, cardiovascular disease, and obesity (D'Andrea, Sharma, Zelechowski, & Spinazzola, 2011; Rasmusson, Lydecker, Coffino, White, & Grilo, 2019; Seligman & Schillinger, 2010). Food insecurity often leads to periods of fasting and bingeing, and the consumption of lower cost, lower nutrition food rather than higher cost, higher energy food. This can result in, for example, weight loss or, becoming over weight (Ramsey, Giskes, Turrell, & Gallegos, 2012). People who are food insecure are more likely not to meet other basic needs, such as medical care, due to prioritising feeding their families over meeting their own medical needs (Hecht, Biehl, Buzogany, & Neff, 2018).

Evidence presented in a recent systematic review suggests that food insecurity has a strong association with the likelihood of being stressed or depressed (Pourmotabbed et al., 2020). Subgroup analysis by age showed that food insecurity for adults over 65 years was associated with a higher risk of depression (Odds Ratio = 1.75; 95% CI: 1.20, 2.56) than for younger participants (<18–65 years) (Odds Ratio = 1.34; 95% CI: 1.20, 1.50).

Deterioration in mental health has been associated with transition into food insecurity, that is, as a cause, rather than effect, of food insecurity (Heflin, Corcoran, & Siefert, 2007). In addition, food insecurity has been demonstrated to precede depression (Heflin, Siefert, & Williams, 2005). Families experiencing food insecurity face restricted food choices, discrimination, and social exclusion, and are more likely to drain social networks quickly due to needing to ask for help often, or not being able to host others (Graham, Stolte, Hodgetts, & Chamberlain, 2018).

Children who are food insecure are at an increased risk of a range of negative health outcomes, including obesity (Gundersen & Kreider, 2009; Metallinos-Katsaras, Must, & K., 2012). Food insecure children are also at higher risk of developmental problems, such as lower psychosocial function and educational achievement, compared with food secure children (Cook & Frank, 2008; Nord, 2009). In addition, reduced regularity, quality, range, and amount of foods eaten may have an adverse effect on children's mental health (Burke, Martini, Çayır E, Hartline-Grafton, & Meade, 2016). Qualitative research indicates that children can identify and experience the stress of food insecurity, even when parents try to protect them from knowing about their struggles (Fram et al., 2011).

# Who is food insecure in New Zealand?

## Methods of measuring food insecurity in New Zealand

A number of different methods have been used to measure food insecurity in New Zealand. These methods are summarised in this section. The majority of food insecurity data for New Zealand is from the New Zealand Health Survey 2012/13 through to 2020/21 (Ministry of Health, 2021b).

The food insecurity questionnaire used in the New Zealand Health Survey has established internal and external validity, meaning that its findings both can be considered a true representation of the food security status of the survey respondents and can be considered generalisable to the wider population (Ministry of Health, 2021b; Parnell, 2005). The questionnaire consists of eight statements, or items:

- being able to afford to eat properly
- running out of basic food, such as potatoes and bread, due to lack of money
- eating less because of lack of money
- eating less variety of food due to lack of money
- relying on others to provide food and/or money for food due to not having enough money
- making use of food grants or food banks when there was not enough money for food
- feeling stressed because of not having enough money for food, and
- feeling stressed because of not being able to provide the food wanted for special occasions.

Measurement software was used in the New Zealand Health Survey to generate a measure of food insecurity for each participant based on their responses to the 8 items. Households were assigned to the following three categories on the basis of participants' responses: fully/almost fully food secure; moderate food security; and low food security. This food insecurity questionnaire has been used in the child New Zealand Health Survey for 2012/13, 2014/15, 2015/16, and 2020/21. The questionnaire was also used in

both the adult and child New Zealand Health Survey for 2019/20. Further back in time, it was used in the 1997 National Nutrition Survey, the 2002 National Children's Nutrition Survey, and the 2008/09 New Zealand Adult Nutrition Survey.

The Food Hardship and Early Childhood study (Gerritsen et al., 2020) used three questions from the Growing Up in New Zealand study as indicators of food hardship, which were asked at face-to-face interviews with the primary caregiver at 9 months and 54 months. The three questions were:

- In the past 12 months have you personally made use of special food grants or food banks because you did not have enough money for food? (yes/no)
- In the past 12 months have you personally been forced to buy cheaper food so that you could pay for other things you needed? (yes/no)
- In the past 12 months have you personally gone without fresh fruit and vegetables often so that you could pay for other things you needed? (yes/no)

These questions are part of the 8-question NZiDep scale, a validated tool used to measure socioeconomic deprivation for individuals (Salmond, Crampton, King, & Waldegrave, 2006). They are not considered a comprehensive measure of food insecurity, as they do not measure whether the household had food available for cultural needs, such as being able to provide food for guests at special occasions.

The longitudinal Survey of Families, Income and Employment (SoFIE, an 8-year, nationally representative in-person survey of adults, exploring the association between socioeconomic position and health, n=18,950) (Carter et al., 2010) classified respondents as food insecure if they answered yes to any of the above three NZiDep questions.

The Canterbury Wellbeing Survey (Community and Public Health, 2020) is a population-based survey of approximately 2,500 adults in greater Christchurch (Christchurch City and Selwyn and Waimakariri Districts). The Survey has measured the wellbeing of residents of greater Christchurch at least annually since 2012, with 2020 being the first year that food security questions were asked. The Canterbury Wellbeing Survey used the same methodology to determine if respondents were food insecure as the Survey of Families, Income and Employment (Carter et al., 2010).

## Canterbury and New Zealand food insecurity data

### Key data sources

The primary source for food insecurity data in New Zealand is the **New Zealand Health Survey** 2012/13 through to 2020/21 (Ministry of Health, 2021b). The New Zealand Health Survey report "Household Food Insecurity Among Children" (Ministry of Health, 2019) is a key document from this survey, and includes a summary index which provides an estimate of the severity of food insecurity experienced by the household. Thresholds were developed to categorise respondents based on this summary index as either mostly to fully food-secure, moderately food-insecure, or severely food-insecure.

The 2008/09 New Zealand **Adult Nutrition Survey** (n=4,721 adults aged 15 and over who were selected from dwellings from 607 meshblocks) included an assessment of household food security status in which households' were classified as low, moderate, or fully/almost fully food secure using the same methodology as described above for the New Zealand Health Survey (University of Otago & Ministry of Health, 2011).

The **Food Hardship and Early Childhood Nutrition study** (Gerritsen et al., 2020) sought to understand the relationship between household food hardship and early childhood nutrition. This study used data from a longitudinal cohort study that followed 6,000 children from their birth in 2009/10.



For Canterbury-specific data the **Canterbury Wellbeing Survey** (Community and Public Health, 2020) was a key data source. As noted above, respondents were classified as food insecure if they answered yes to any of three NZiDep questions.

## Latest food insecurity data

### New Zealand food insecurity data

The 2020/21 New Zealand Health Survey provides the most recent food insecurity data. This survey found that 14.9% of children lived in households where food runs out 'sometimes' or 'often'; 13.7% of children lived in households where they 'sometimes' or 'often' eat less because of lack of money for food; and 12.2% of children lived in households that 'sometimes' or 'often' use food banks (Table 1).

Children living in the most deprived areas (quintile 5) were at least six times as likely to experience food insecurity as children living in the least deprived areas (quintile 1) (Ministry of Health, 2021a). The New Zealand Health Survey 2020/21 found that 8.5% of households struggled to pay for basic living costs such as food or accommodation (Ministry of Health, 2021c).

The prevalence of food insecurity is markedly different by ethnic group (Table 1), with Māori and Pacific children more likely to live in households where food runs out 'often' or 'sometimes', which 'often' or 'sometimes' eat less because of lack of money, and which 'often' or 'sometimes' use food grants or food banks because of lack of money.

*Table 1. Population group comparisons of food insecurity indicators 2020/21 New Zealand Health Survey (Ministry of Health, 2021b)*

| Indicator  | Population group      | Total (%)   |
|--|-----------------------|-------------|
| Children living in households where food runs out often or sometimes in past year (0-14 years)   | <b>Total</b>          | <b>14.9</b> |
|  | <b>Māori</b>          | <b>26.4</b> |
|  | <b>Pacific</b>        | <b>37.3</b> |
|  | <b>Asian</b>          | <b>7.1</b>  |
|  | <b>European/other</b> | <b>10.9</b> |
| Children living in households which eat less because of lack of money often or sometimes in past year (0-14 years)                                   | <b>Total</b>          | <b>13.7</b> |
|  | <b>Māori</b>          | <b>22.0</b> |
|  | <b>Pacific</b>        | <b>29.1</b> |
|  | <b>Asian</b>          | <b>6.8</b>  |
|  | <b>European/other</b> | <b>11.2</b> |
| Children living in households which use food grants or food banks because of lack of money for food often or sometimes in the past year (0-14 years) | <b>Total</b>          | <b>12.2</b> |
|  | <b>Māori</b>          | <b>21.7</b> |
|  | <b>Pacific</b>        | <b>32.8</b> |
|  | <b>Asian</b>          | <b>4.8</b>  |
|  | <b>European/other</b> | <b>8.4</b>  |

## Comparison of Canterbury and national results

Comparison of Canterbury DHB region and national New Zealand Health Survey results (Table 2) indicates that childhood food insecurity status is broadly similar in Canterbury and in New Zealand overall (Ministry of Health, 2022). For example, in Canterbury 3.2% of children were living in households where food ran out 'often' compared with 3.6% for New Zealand overall. In Canterbury, 9.1% of children were living in households which used food grants or food banks because of lack of money for food 'often' or 'sometimes', compared with 11.7% for New Zealand overall. Similarly, 3.3% of Canterbury children were living in households that eat less because of lack of money 'often', compared with 2.6% of children nationwide. Note that none of these differences were statistically significant, with the exception of children living in households which eat less because of lack of money 'sometimes', which was significantly higher for New Zealand than Canterbury (13.3% and 7.4%, respectively). Note that the relatively small sample size for Canterbury (n=439) contributes to wide confidence intervals, making significant differences less likely.

*Table 2. Canterbury and New Zealand comparisons of food insecurity indicators 2019/20 and 2020/21 New Zealand Health Survey (Ministry of Health, 2022)<sup>1</sup>*

| Indicator   | Region               | Total (%) | 95% CI    |
|---|----------------------|-----------|-----------|
| Children living in households where food runs out often in past year (0-14 years)   | Canterbury (n=439)   | 3.2       | 1.4-6.0   |
|   | New Zealand (n=6233) | 3.6       | 3.1-4.2   |
| Children living in households where food runs out sometimes in past year (0-14 years)   | Canterbury (n=439)   | 10.5      | 7.3-14.6  |
|   | New Zealand (n=6233) | 13.8      | 12.7-14.9 |
| Children living in households where food runs out sometimes or often in past year (0-14 years)  | Canterbury (n=439)   | 13.7      | 9.3-19.3  |
|   | New Zealand (n=6233) | 17.4      | 16.1-18.8 |
| Children living in households which eat less because of lack of money often in past year (0-14 years)                                   | Canterbury (n=439)   | 3.3       | 1.5-6.2   |
|   | New Zealand (n=6234) | 2.6       | 2.1-3.2   |
| Children living in households which eat less because of lack of money sometimes (0-14 years)  | Canterbury (n=439)   | 7.4       | 4.9-10.7  |
|   | New Zealand (n=6234) | 13.3      | 12.2-14.5 |
| Children living in households which eat less because of lack of money often or sometimes in past year (0-14 years)                      | Canterbury (n=439)   | 10.7      | 6.9-15.6  |
|   | New Zealand (n=6224) | 15.9      | 14.7-17.2 |
| Children living in households which use food grants or food banks because of lack of money for food often in the past year (0-14 years) | Canterbury (n=439)   | 1.1       | 0.3-2.7   |
|   | New Zealand (n=6225) | 1.6       | 1.3-2.0   |
| Children living in households which use food grants or food banks   | Canterbury (n=439)   | 7.9       | 3.9-14    |
|   | New Zealand (n=6225) | 10.1      | 9.2-11    |

<sup>1</sup> The 2019/20 data was collected from July 2019 until March 2020, covering the 9 months immediately before COVID-19 arrived in New Zealand and the first time New Zealand went into Alert Level 4. The 2020-21 data was collected from August 2020 to September 2021, between returning to Alert Level 2 and New Zealand going back into Alert Level 4 for the Delta outbreak centred in Auckland.

|  |                      |      |           |
|--|----------------------|------|-----------|
| because of lack of money for food sometimes in the past year (0-14 years)  |                      |      |           |
| Children living in households which use food grants or food banks because of lack of money for food often or sometimes in the past year (0-14 years) | Canterbury (n=439)   | 9.1  | 4.7-15.4  |
|  | New Zealand (n=6225) | 11.7 | 10.6-12.7 |

The Canterbury Wellbeing Survey (Community and Public Health, 2020) key findings include (Table 3):

- Almost a third of respondents were identified as food insecure (27%).
- Almost half (49%) of respondents with a reported household income of less than \$30,000 were identified as food insecure compared with 14% of households with a household income of over \$100,000.
- Māori were more likely to be food insecure than respondents of other ethnicities, with 43% of Māori respondents being identified as food insecure compared with 26% of European and 32% of Pacific/Asian/Indian respondents.
- Food insecurity decreased with increasing age, with a third of 18-49-year olds identified as food insecure (33%), compared to just over one fifth of 50-64-year olds (22%), 19% of 65-74 year olds and 14% of those aged 75 years and over.

Table 3. Canterbury Wellbeing Survey 2020: food insecurity

|                                 | Proportion of respondents identified as food insecure (%) <sup>2</sup> | 95% CI    |
|---------------------------------|--|-----------|
| Total                           | 27.4   | 25.7-29.1 |
| Gender                          |  |           |
| Female                          | 31.5   | 29.2-33.8 |
| Male                            | 23.7   | 21.3-26.1 |
| Age (years)                     |  |           |
| 18-24                           | 33.1   | 28.3-37.9 |
| 25-34                           | 35.4   | 30.7-40.1 |
| 35-49                           | 33.4   | 30.2-36.6 |
| 50-64                           | 22.2   | 18.9-25.5 |
| 65-74                           | 18.7   | 14.5-22.9 |
| 75+                             | 13.8   | 9.3-18.4  |
| Ethnicity                       |  |           |
| NZ/European                     | 26.2   | 24.4-28.0 |
| Māori                           | 43.3   | 37.3-49.3 |
| Pacific/Asian/Indian            | 31.8   | 26.0-37.6 |
| Household income                |  |           |
| <\$30,000                       | 49.2   | 43.7-54.7 |
| \$30,000-\$60,000               | 33.8   | 29.6-38.0 |
| \$60,001-\$100,000              | 31.5   | 27.7-35.3 |
| \$100,000+                      | 13.7   | 11.5-15.9 |
| Long term health and disability |  |           |
| Yes                             | 42.2   | 37.8-46.6 |
| No                              | 24.5   | 22.7-26.3 |

## Key patterns in food insecurity data

### Household income

There is a clear association between household income and socio-economic deprivation and food insecurity. The relatively high prevalence of food insecurity in the \$100,000+ household income group in the Canterbury Wellbeing Survey is of note and may reflect the relatively sensitive nature of the measure used (that is, a 'yes' to any of the three relevant NZiDep questions meant that the respondent was classified as food insecure).

This key finding is in line with other data sources. Low household income has been identified as the major determinant of food insecurity (Gerritsen et al., 2020; Ministry of Health, 2019). Overall, the proportion of households in New Zealand classified as having low food security increases with increasing neighbourhood deprivation, after adjusting for age, sex and ethnic group (University of Otago & Ministry of Health, 2011).

### Ethnicity

Māori and Pacific have higher prevalence of food insecurity both in New Zealand (Ministry of Health, 2021b) and Canterbury (Community and Public Health, 2020). Note that the Canterbury Wellbeing Survey ethnicity data are unadjusted so do not account for age, gender or household composition. Ethnicity comparisons in the New Zealand Health Survey are adjusted for age and gender (Ministry of Health, 2021b).

<sup>2</sup> If a respondent answered yes to any of the three questions below, they were classified as food insecure:

In the past 12 months have you personally made use of special food grants or food banks because you did not have enough money for food? (yes/no)

In the past 12 months have you personally been forced to buy cheaper food so that you could pay for other things you needed? (yes/no)

In the past 12 months have you personally gone without fresh fruit and vegetables often so that you could pay for other things you needed? (yes/no)

This key finding is in line with earlier data from the New Zealand Health Survey. Combining the results from the New Zealand Health Survey child component 2012/13, 2014/15 and 2015/16 showed that the prevalence of food insecurity in New Zealand was markedly different by ethnic group, with Māori and Pacific children more likely to live in households experiencing moderate to severe food insecurity; and this has been largely attributed to low household income and household structure (Ministry of Health, 2019).

### **Canterbury compared to New Zealand overall**

The patterns shown for food insecurity in Canterbury were similar to national patterns. As noted above New Zealand Health Survey data indicate few statistically significant differences between Canterbury and National data. The Canterbury Wellbeing Survey is a regional survey and so does not provide national data for comparison.

# Policies to reduce food insecurity

Although food insecurity has been strongly linked with socioeconomic status, less is known about sensitivity of food insecurity to specific policy interventions. Food security interventions, including those with a policy focus, are most developed in Canada. There is limited evidence of population responses to food insecurity in Australia, and the effectiveness of the existing responses remains limited (Yii, 2020).

## Canada

The Canada Child Benefit, the Ontario Child Benefit, and the one-time increase in social assistance in British Columbia have all been associated with a reduction in food insecurity (Brown & Tarasuk, 2019; Li et al., 2016; V. Tarasuk, Na, et al., 2019). The Rental Assistance Program in British Columbia showed no effect on food insecurity (Li et al., 2016).

### Canada Child Benefit

The Child Tax Benefit provides financial assistance to households with children under 18. The annual benefit is a maximum of \$6997 per child under 6, and \$5903 per child between 6 and 17<sup>3</sup>. The exact amount paid is determined by the household income and the number of children. Research in Canada has shown that the introduction of the Canada Child Tax Benefit<sup>4</sup> disproportionately benefited families most at risk of food insecurity (Brown & Tarasuk, 2019). The data source for this study was the Canadian Community Health Survey 2015–2018. Food security over the previous 12 months was measured using an adapted version of the United States Department of Agriculture's 18-item Household Food Security Survey Module<sup>5</sup>. This research indicated that food insecurity may be impacted by even modest changes to economic circumstances. The authors concluded that the documented reduction in food insecurity is noteworthy because severe food insecurity is associated with the greatest negative impacts on health. This research demonstrated that household food insecurity can be impacted by policy decisions. In keeping with other research, this study found that sensitivity was greatest at the lowest household income, where the risk of food insecurity is most severe.

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<sup>3</sup> <https://ativa.com/canada-child-benefit-calculator/>

<sup>4</sup> In 2016 the Canadian government replaced a Child Tax Benefit and Universal Child Care Benefit with a more substantial, income-tested programme called the Canada Child Benefit.

<sup>5</sup> <https://www.ers.usda.gov/topics/food-nutrition-assistance/food-security-in-the-u-s/survey-tools/>

## Ontario Child Benefit

The Ontario Child Benefit provides low to moderate income families up to \$1509 annually per child under 18, paid monthly. Research exploring the effect of the introduction of the Ontario Child Benefit in 2007 (V. Tarasuk, Na, et al., 2019), analysed data from five cycles of the Canadian Community Health Survey covering 2005 to 2014. The authors assessed changes in household food insecurity (food security over the previous 12 months was measured using an adapted version of the United States Department of Agriculture's 18-item Household Food Security Survey Module) in Ontario after the 2007 introduction of the Ontario Child Benefit and the 2008 implementation of the province's poverty reduction strategy. Although the overall prevalence of food insecurity in Ontario remained relatively stable, food insecurity declined significantly among families who received the Ontario Child Benefit in 2009–2010 and 2011–2012 compared with 2005. The findings suggest that household food insecurity can be reduced by modest income increases, however more deliberate intervention is required to have a substantial, sustained impact on food insecurity (V. Tarasuk, Na, et al., 2019). The Ontario Child Benefit was designed to reach very low-income families reliant on employment incomes, rather than solely families on benefits. Almost one-third of families eligible for the benefit were food insecure in the year prior to the introduction of the child benefit. At its peak, the odd ratios of food insecurity among eligible families fell by as much as one-third with the benefit. However, one in four recipient families remained food insecure. One possible reason that there was not a stronger effect of the child benefit on the food insecurity status of eligible families is that the benefit yielded a relatively small increase in income.

## Increase in social assistance in British Columbia

Research exploring the impact of an increase in social assistance<sup>6</sup> and the introduction of a Rental Assistance Program<sup>7</sup> on food insecurity rates among target groups was conducted using data from the Canadian Community Health Surveys (Li et al., 2016). Food insecurity over the previous 12 months was measured using an adapted version of the United States Department of Agriculture's 18-item Household Food Security Survey Module. Analyses were conducted to identify trends and to assess changes in food insecurity among subgroups broken down by main source of income and home ownership. Models were run against overall food insecurity, moderate and severe food insecurity, and severe food insecurity to explore whether the impact of policy changes differed by severity of food insecurity. Overall food insecurity rose significantly among households in British Columbia between 2005 and 2012. Following the increase in social assistance benefits, overall food insecurity and moderate and severe food insecurity declined among households on social assistance, but severe food insecurity remained unchanged. No effect of the Rental Assistance Programme was found on any measure of food insecurity among households who rented their home. It is possible that the programme helped to prevent even greater increases in food insecurity among people who rent their homes, however this study could not assess this. These findings illustrate the sensitivity of food insecurity among social assistance recipients to improvements in income, and highlight the importance of examining severity of food insecurity when assessing the effects of policy interventions.

### Key finding

When social assistance recipients receive additional income, they spend it in ways that improve their food security.

Interventions that provide a modest increase in income can go a long way in addressing food insecurity in Canada (PROOF, 2020a).

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<sup>6</sup> Increase of welfare benefits from 2005 to 2007, with incomes rising by as much as 11.7% among single parent households

<sup>7</sup> The Rental Assistance Program was introduced in 2006 to provide support to low-income families in private market rental accommodation

# Australia

A scoping review of population-based food insecurity interventions in Australia (Yii, 2020), concluded that there is limited evidence of population responses to food insecurity in Australia, and the effectiveness of the existing responses remains limited. There were relatively few national interventions, indicating a limited coordinated and coherent national response to food insecurity. Determinants related to living and working environments, food availability, and food utilisation were most frequently addressed in the interventions. In addition, a significant proportion of interventions did not appear to be associated with any robust evaluation. These findings emphasise the limited interventions that focus on the key determinant of food insecurity, income, and policy responses to address adequate income.

## Community-based food security interventions

### Limitations of community-based food security interventions

#### Food banks

A food bank is a place where individuals can go to receive groceries free of charge. Common features of food banks in high income countries include that they : rely on donated food, rely largely on a volunteer workforce, and are run by Non-Government Organisations (R. Loopstra, 2018).

While food banks feed many people living in poverty, the general consensus is that they are at best a "band-aid" for much larger structural problems (Poppendieck, 1998). Overall, research on food banks from high income countries suggests that food banks are limited in their ability to meet the needs of those experiencing food insecurity, and at a population level, have had little impact on the problem (R. Loopstra, 2018). It is argued that interventions are needed to address the underlying causes of household food insecurity (V. Tarasuk, Fafard St-Germain, & Loopstra, 2019).

Food banks are well established in New Zealand and other high-income nations such as Canada, Australia and the United Kingdom. The core problem with food banks as a response to food insecurity has been identified as allowing people that experience food insecurity to be fed without addressing the causes of poverty (Poppendieck, 1998). A number of problems associated with food banks have been identified including:

- food banks and other community food programmes perpetuate the problem of household food insecurity and allow the government to not take responsibility (Poppendieck, 1998; PROOF, 2020b)
- concerns about the quality of food donated including the nutritional value of the food, and that food may be past best before dates (Irwin, Ng, Rush, Nguyen, & He, 2007; Poppendieck, 1998; Simmet, Depa, Tinnemann, & Stroebele-Benschop, 2017)
- there is often limited food available and often the frequency that people can access food is restricted. (Long, Gonçalves, Stretesky, & Defeyter, 2020; V. Tarasuk & Eakin, 2003)
- food banks are only open on certain days and times (V. Tarasuk & Eakin, 2003)
- recipients of food parcels often have limited or no choice of food (Long et al., 2020), and
- recipients of food parcels often feel shame about using food banks (Garthwaite, 2016).



Statistics on food bank usage underestimate the prevalence of food insecurity and changes in food insecurity rates (R. Loopstra & Tarasuk, 2015). Tarasuk et al (2019) examined the relationships between food bank use and household food insecurity in Canada, using data from the Canadian Household Survey 2008 conducted by Statistics Canada (n=1606). The findings of this research included that most food insecure households delayed bill payments and sought financial help from friends and family. Of note, only one fifth (21%) of food insecure households used food banks. Food bank users had substantially lower incomes than food insecure households who did not use food banks. In keeping with the points above, the authors argued that measures are needed to address the underlying causes of household food insecurity.

## Community food programmes

In light of the limitations of food banks, alternatives or improvements to food banks have been sought. These initiatives include, for example, add-on services to food banks such as: financial advice, cooking classes, community kitchens, and community gardens. Another model is the community shop, where members make their own choices from donated food available.

A randomised study (Martin, Wu, Wolff, Colantonio, & Grady, 2013) compared food bank provision (where there was no opportunity to choose food) with a membership model where clients were able to choose their own food, much of which was fresh, and also had access to motivational interviews with a project manager and additional services and referrals (for example, with a budget advisor). Results indicated that the odds of food insecurity from the membership model were significantly reduced compared with those receiving help from the traditional food bank.

A review of research on community kitchens across high-income countries (Iacovou, Pattieson, Truby, & Palermo, 2013) has found that the main themes of an increase in reported intake of nutritious foods, increased healthy food access, increased self-reliance, improved social skills, enhanced social support, and increased skills, confidence and enjoyment from cooking. However little evaluation has occurred for these types of interventions of how community kitchens impact on household food insecurity (R. Loopstra, 2018). Community food programmes may benefit participants (Iacovou et al., 2013) however, like food banks, they only benefit the small subset of food insecure population who participate in the programmes (R. Loopstra, 2018).

A literature review (Aceves Martins, Cruickshank, Fraser, & Brazzelli, 2018) reported on the findings of the effects of food assistance programmes for children from 15 studies (14 from USA, one from New Zealand). Most of the programmes reduced food insecurity for the participants but did not eliminate it. The majority of studies lacked a detailed description of both the methodology and the intervention, which made interpreting the results difficult. The studies did not include a control intervention, with the exception of the New Zealand study (Mhurchu et al., 2013), a school breakfast programme which reported a significant decrease in children's self-reported short-term hunger during the intervention phase as compared with the control. The authors of this review (Aceves Martins et al., 2018) concluded that in high-income countries, the assessment of food assistance programmes to tackle child food insecurity is complex, because of the many factors contributing to food insecurity and also because of the complexity of country-specific public and private food assistance initiatives.

## Food Banks and Community Food Programmes- what works?

There is lack of evidence for food banks and community food programmes effectively reducing food insecurity. Even if they can have positive effects, they may not reach many of those who experience food insecurity. With that in mind, there are some best practice examples highlighted below for food banks and community food programmes:

- Food bank practices that were the best at improving food security were those that provided culturally appropriate and suitable foods in ways that recipients experienced as dignifying. Suitable



foods were those considered to be safe, nutritious and to take into account special dietary requirements (Bazerghi, McKay, & Dunn, 2016; Pascual, 2022).

- Due to the high reliance on donations for food provisions, educating staff and donors on appropriate foods to source and distribute can improve the capacity of a food bank to reduce food insecurity.
- Aspects of effective community food programmes included a membership model of a 'community shop', where members get to choose their food, with fresh food available.

Looking specifically at reducing child food insecurity, key findings about effective approaches (Aceves Martins et al., 2018; Holley & Mason, 2019) included:

- School-based food assistance, such as breakfast and lunch provision, can reduce the odds of children experiencing food insecurity among high-risk populations (Nalty, Sharkey, & Dean, 2013).
- Provision of school breakfasts can reduce the disparity in breakfast consumption between food-secure and food-insecure children and reduce children's overall food insecurity (Fletcher & Frisvold, 2017).
- A New Zealand study (Mhurchu et al., 2013), of a school breakfast programme reported a significant decrease in children's self-reported short-term hunger during the intervention phase, as compared with the control group.

No evidence of impact on child food insecurity was found for community gardening, holiday clubs, or nutrition education. However, other benefits were demonstrated such as increases in fruit and vegetable consumption and positive community impacts (Holley & Mason, 2019; F. McKay & Godrich, 2021). The authors of one review (Holley & Mason, 2019) noted that all interventions included lacked a clear theory of change<sup>8</sup>. Recommendations based on the findings of this review included that plans for interventions should document how and why the intervention will reduce food insecurity.

## New Zealand food insecurity - policy discussion

A number of countries, New Zealand included, have seen a predominance of neoliberal policies since the 1980s. As part of this political shift, there has been a reduction in government involvement in feeding the hungry (Long et al., 2020). O'Brien (2014) notes:

...given the neo-liberal frames which have dominated policy over the last three decades, individual responsibility, limited direct government involvement... and an emphasis on charitable and corporate provision, articulated frequently around a theme of partnership, have been the central features of New Zealand's responses to the evidence and experience of growing hunger (p. 107).

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<sup>8</sup> A comprehensive description and illustration of how and why a desired change is expected to happen in a particular context.

The New Zealand Government has made a commitment, by signing the United Nation's Sustainable Development Goals, to end hunger and ensure that all people, particularly the vulnerable, including infants, have access to safe, nutritious and sufficient food all year round (United Nations, 2016). Child poverty (including an indicator of food insecurity<sup>9</sup>) is now monitored regularly as defined in the Child Poverty Reduction Act. In addition, the Child and Youth Wellbeing Strategy (Department of Prime Minister and Cabinet, 2019) has identified childhood food security as an area of focus. This data will be collected via the New Zealand Health Survey

A complex environmental approach to identifying a set of comprehensive interventions to enhance food security for Māori, Pacific people, and low-income populations in New Zealand has been proposed (Signal et al., 2013). Suggested key areas for intervention include availability of money within households and reducing the cost of healthy food. Seventeen prioritised intervention areas were explored in-depth and included specific actions such as healthy food subsidies, increasing the statutory minimum wage rate and enhancing open space and connectivity in communities as well as a common focus on further research and ongoing evaluation of interventions.

## Māori focused policy responses

Rather than directly looking at food insecurity, one case study (McKerchar, Lacey, Abel, & Signal, 2021b) explored stakeholder perspectives on policy options to ensure the rights of tamariki Māori to healthy food. In line with other research (Signal et al., 2013), the conclusion of this research sought a comprehensive policy response to end child poverty and enable the right to food. Other recommendations included food provision and food policy in schools, stronger use of local government policy-making processes to improve healthy food availability, and Māori voices and values strengthened in decision-making for this issue. Although food provision within schools was strongly supported, this research (McKerchar et al., 2021b) has emphasised that a broad 'whole of government' response across multiple domains is required. As other authors have noted (King, Cormack, & Kopua, 2018), health inequities between Māori and non-Māori, including food insecurity, are evidence of the Crown's failure to uphold indigenous rights, which is a breach of the Treaty of Waitangi.

A qualitative study (Beavis, McKerchar, Maaka, & Mainvil, 2019) explored food insecurity experiences in Māori households (n=4). Research results included that food insecurity, due to inadequate income, was experienced by all participating households, and that this experience had impacts on hauora. The participating families had developed strategies to reduce the severity of food insecurity, relying on support from extended family and the wider community. These strategies related to broader Māori cultural values that could positively influence hauora. Households in this study valued whānau relationships and manaakitanga, and imparted food and nutrition knowledge to whānau. They expressed these values in a holistic way that honoured traditional cultural values. In line with the research above (McKerchar, Lacey, Abel, & Signal, 2021a; Signal et al., 2013) this study concluded that advocacy was needed for structural change to remove social and health inequalities.

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<sup>9</sup> measured by the percentage of children (0-15 years) living in households reporting food runs out often or sometimes, from the New Zealand Health Survey

# Impact of COVID-19 on food insecurity in New Zealand

## Increased demand on food banks and emergency food grants

COVID-19 and the associated nationwide<sup>10</sup> lockdown, followed by repeated regional lockdowns for some regions, presented additional challenges to low-income individuals and households, many of whom were struggling to meet basic living costs prior to the pandemic. Lockdown led to a sharp increase in emergency food distribution, and demand remained high after lockdown was lifted. The Christchurch City Mission reported an increase in demand to two to three times the pre-COVID demand for food parcels (Kronast, 2020).

After the initial lockdown, food banks reported that food parcel demand continued at approximately double pre-Covid-19 levels (Franks, 2020). In addition to increased demand at existing food banks, the number of organisations distributing emergency food during the COVID-19 pandemic has increased, including organisations that were not usually involved in distributing food, for example Whānau Ora organisations (McAllister et al., 2021).

COVID-19 lockdown has been associated with an increase in demand for emergency food grants from Work and Income. During the 2020 national lockdown in the three weeks from 27 March 2020 to 17 April 2020, the number of Special Needs Grants issued for food by the Ministry of Social Development more than doubled from about 30,000 to over 67,000. This demand is almost five times that seen at the same time in 2019 (Ministry of Social Development, 2020).

## New Zealand Government response to food insecurity during COVID-19

The New Zealand Government's 2020 Budget included an extension to the Food in Schools Programme (Robertson, 2020). Funding was provided to expand the Free Healthy School Lunch Programme to 200,000 students, up from 8,000 students. Schools with the highest disadvantage using the Equity Index<sup>11</sup> are targeted. This was presented by the government as a way of helping families experiencing food insecurity.

This initiative will help cushion the blow of COVID-19 impacts on students in already socioeconomically disadvantaged households who will now be experiencing heightened financial stress, job and income losses (Robertson, 2020, p. 14)

The COVID-19 Protection Framework's welfare response came into place in November 2021. This included funding for community food providers to provide food support to people self-isolating in the community due to COVID-19. The Ministry of Social Development is leading the welfare response. The underlying assumption of the response is that most people isolating due to COVID-19 will be able to access food, however a minority will need help. The Ministry of Social Development is funding three national organisations with the aim of increasing capability and supply of surplus food for providers.

The three organisations are:

1. New Zealand Food Network distributes bulk surplus and donated food from food producers, growers, and wholesalers to food hubs around New Zealand. These food hubs then distribute the food on to local foodbanks and other community food providers.

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<sup>10</sup> New Zealand's 4-level Alert System lists the measures to be taken against COVID-19 at each level to manage and minimise risk, <https://covid19.govt.nz/alert-system/alert-system-overview/>. The system has been modified over time and allows for regional variation in alert levels, for example in the case of a localised outbreak.

<sup>11</sup> The Equity Index estimates the extent to which young people face socio-economic barriers to achieving in education. <https://www.education.govt.nz/our-work/information-releases/issue-specific-releases/equity/>

2. Kore Hiakai Zero Hunger Collective<sup>12</sup> are a collective of six social service agencies who have joined together to advise on food insecurity.
3. Aotearoa Food Rescue Alliance provides national support for local food rescue organisations to reduce food waste.

Food in Schools and food banks are important in meeting immediate and urgent need. The provision of food parcels and school lunches can alleviate the immediate stresses of hunger for those children and their families reached by these services. There has been criticism from, for example, the Child Poverty Action Group (Neuwelt-Kearns, 2020) that these measures are an unsatisfactory temporary solution and that without further policies to address income inadequacy, families will continue to be reliant on a charitable hand-outs.

## Conclusion

Food insecurity is experienced by significant numbers in Canterbury, and is a serious concern for health and wellbeing. While efforts at the community level, in the form of food banks and community food programmes, attempt to ease this problem, there is lack of evidence that these programmes effectively reduce food insecurity (R. Loopstra, 2018). In contrast, public policy interventions such as child welfare payments that increase the economic resources of low-income households have been shown to reduce food insecurity and to reach large numbers in the population (Li et al., 2016; R. Loopstra, Dachner, & Tarasuk, 2015; V. Tarasuk, Na, et al., 2019). Advocacy is needed to improve public policy interventions to reduce food insecurity. In addition, there is scope to work with food bank providers to support them to work in ways that best support those experiencing food insecurity, such as providing culturally appropriate and suitable foods in ways that recipients experience as dignifying. Although there is little evidence that community interventions such as community gardens reduce food insecurity, there is evidence of other positive outcomes such as increasing the number of fruit and vegetables consumed for those participating, and mental wellbeing benefits.

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<sup>12</sup> Includes Auckland City Mission, Wellington City Mission, Christchurch City Mission, Salvation Army, The New Zealand Council of Christian Services and Vision West Community Trust.

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