

POVERTY MONITOR 2019

Technical Report

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New Zealand Child and Youth Epidemiology Service (NZCYES)

University of Otago

Dunedin

www.otago.ac.nz/nzcyes

[@NZCYES](#)

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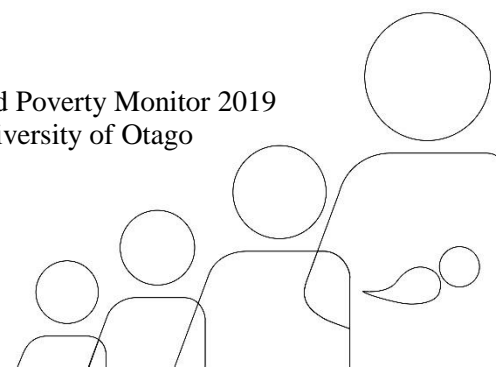


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Introduction

Children in Aotearoa New Zealand should be supported to live lives in which there are resources available for them to thrive, where they are experiencing wellbeing and opportunities to work towards fulfilling their potential, and where the environment surrounding them is enriching and safe.

Children and young people in Aotearoa want to be accepted, valued and respected and have their place within their whānau and community recognised and supported.¹ We want all children to have the opportunities, choices and support they need to live a life of purpose, securely connected with families, whānau and communities where they can thrive. Each and every child has the right to grow up to be healthy, strong, well-educated and capable of contributing to their community and wider society, as demonstrated in every international agreement to recognise and protect children's rights.² In 1993 Aotearoa ratified the United Nations Convention on the Rights of the Child, recognising, among other things, the right of every child to a standard of living adequate for the child's physical, mental, spiritual, moral and social development. Aotearoa is a signatory to the United Nations Agenda 2030 for Sustainable Development that came into effect in January 2016.³ The sustainable development goals (SDGs) apply to all countries and recognise that ensuring healthy lives and promoting wellbeing at all ages is essential to sustainable development.³

Poverty interferes with the capacity of children to enjoy their right to an adequate standard of living. There is strong evidence for negative effects of poverty on a wide range of children's outcomes, including cognitive development, school attainment, health, and social, emotional and behavioural development.⁴ For children in high income countries, relative poverty perpetuates cycles of disadvantage and inequity so that some children miss out on the opportunities to be educated, healthy or nourished compared with their peers.² In 2018 the New Zealand Government enacted the *Child Poverty Reduction Act* and *Children's Amendment Act* which, together, introduced an enduring commitment to reducing child poverty and improving child wellbeing.⁵ The Government also convened a Welfare Expert Advisory Group to review Aotearoa's welfare system.

This Child Poverty Monitor is the seventh consecutive annual report on implications of child poverty in Aotearoa, and updates the progress made toward a society where every child can flourish and achieve their potential.^{3,6} This report uses a variety of data sources to measure child poverty and is the first in the series to use the baseline data source recently developed by Stats NZ.⁷ This Child Poverty Monitor is comprised of three clusters of indicators.

The first group of indicators sets the baseline for measuring progress from 2019 toward substantial reduction in the number and proportion of children living in households that experience income poverty and material hardship. This section also includes information about the number of children in households that are eligible for and receive financial assistance.

The second group of indicators tracks progress toward goals to ensure healthy lives and promote wellbeing, ensuring access to sufficient and nutritious food, promoting nurture and protection within families and wider society as well as equitable, high quality education for all.

The final group of indicators provides information about the context in which the specific child-related issues arise, and is particularly relevant to goals to ensure access to adequate, safe and affordable housing, promote full and productive employment and good work for all, and to reduce inequality within and between countries.⁶

The Child Poverty Monitor comprises a partnership between the Office of the Children's Commissioner, the New Zealand Child and Youth Epidemiology Service (NZCYES) at the University of Otago, and the J R McKenzie Trust. The Child Poverty Monitor partners choose indicators each year, taking into consideration the recommendations of the Expert Advisory Group on Solutions to Child Poverty and the indicators previously included in the Children's Social Health Monitor.^{8,9} These indicators contribute to a broad picture of the scale and impact of poverty on children's lives in Aotearoa. The Child Poverty Monitor partners collectively hold hope for the future and a vision of Aotearoa as a country where childhood is characterised as a good life with opportunity to thrive and flourish in a safe environment.

Key points

Resources to thrive

Adequate income

- Adequate household financial and material resources are important for children's positive health, educational and social-behavioural outcomes.
- In 2018 there were an estimated quarter of a million children (23%) living in households with disposable equivalised income less than 50% of the median after housing costs for the 2018 financial year. This measure forms the baseline for ongoing monitoring of the 'fixed-line' primary measure of low income.
- Income poverty for New Zealand children has been consistently higher after housing costs compared with the rates before housing costs. In 2018, there were an estimated 183,000 children (17%) living in households with equivalised disposable income below 50% of the contemporary median before housing costs. This impact of housing costs on disposable equivalised household income saw an additional 71,000 children in low-income households using the 50% of the 2018 median measure after housing costs.

Access to essentials

- In 2018 there were approximately 148,000 children (13%) living in households that were unable to afford six or more essentials for a decent standard of living, while 6% of children (approximately 65,000) were living in households experiencing severe material hardship with a lack of nine or more essentials for a decent standard of living.

Achieving targets

- The Government has established child poverty reduction targets for each primary measure of child poverty. Significant acceleration in child poverty reduction is necessary for the government to meet these targets.

Wellbeing and opportunity

Good health

- Monitoring the health conditions experienced by children and young people provides an indication of how well New Zealand is demonstrating societal values of justice, fairness, and equal opportunity to thrive and fulfil potential.
- In the five years from 2014–2018, there were 345,492 all-cause hospitalisations of under-15 year olds, of which 218,681 were in those aged 0–4 years at the highest rate of 135 hospitalisations per 1,000 age-specific population.
- Hospitalisation rates for respiratory conditions for children living in areas with the highest social and material deprivation scores (NZDep2013) were three times as high as the hospitalisation rates for children living in areas with the lowest deprivation scores.

Healthy food

- Children and their families enjoy food security when they have the assured ability to acquire nutritionally adequate and safe foods that meet cultural needs in a socially acceptable way.
- The 2016 New Zealand Health Survey estimated that 19% of New Zealand children live in a household where the primary caregiver indicated the household was food-insecure.
- The proportion of households with children experiencing severe-to-moderate food insecurity was significantly higher for households with a gross income at or below \$50,000 per annum (43%) compared with 8% of households with gross income over \$50,000 per annum.
- More than half (56%) of children included in households receiving income-replacement financial assistance lived in households experiencing severe-to-moderate food insecurity. A significantly lower proportion of children where the primary caregiver was not supported by such financial assistance lived in food-insecure households (12%).

Healthy and safe environments

A place to call home

- Households that spend more than 30% of income on owner-occupied or rental accommodation meet the benchmark for having a high “outgoings-to-income” ratio or OTI. Meeting high housing costs relative to income can leave insufficient money to cover other basic needs such as food, clothing, heating, transport, medical care and education, especially for low-income households.
- From 2007–2017, over half of households with children in the lowest income quintile spent more than \$30 per \$100 income on housing costs. From 2010–2018 over 40% of households with children, with the lowest incomes, have been spending more than \$40 per \$100 income on housing costs and in 2017–2018 over 30% of these households have been spending more than half their income on housing costs.

A childhood with resources to thrive

Adequate household financial and material resources are important for children's positive health, educational and social-behavioural outcomes.¹¹ While poverty is complex and inextricably linked to the social and environmental factors in which it operates, the resources available to children and whānau provide an indication of what hardship looks like for them in day-to-day life.¹² Material and financial resources are critical for providing opportunities to children and whānau so that they may choose what they do or what they have to enjoy good lives. Where children experience a shortage of resources, those children will miss out on the opportunities their peers have, which has impacts on their wellbeing and pathways in life.¹³ The health and safety of environments in which children live can be also compromised by low available income and material hardship, as can the relationships they have with people close to them and with their communities.⁸

This section provides information on household income before and after housing costs, access to resources essential for a decent living, and government income replacement financial assistance provided to those with children.

Adequate income

Nurturing and enriching relationships are critical to children's growth into healthy adulthood^{14,15} and these can be strained in cases where families experience high financial pressure and struggle with competing demands.⁸ In response to circumstances of low income and material hardship, children can feel that their emotions and available focus and energy are negatively impacted, which subsequently impacts on their ability to participate in aspects of life that are of value to them, such as social interaction and school aspirations.⁸

The Sustainable Development Goals adopted in 2015 require governments to reduce the proportion of children in poverty, in all its dimensions, by at least half by 2030 (Goal 1.2).¹⁶ In December 2018, the Child Poverty Reduction Act was passed into law in New Zealand and three-year and ten-year targets were set with regard to reducing the proportion of children in low-income households.⁵

This section of the Child Poverty Monitor presents information on children living in households with low incomes, using the equivalised income of the household that includes the child.

Household income rates are calculated by Stats NZ using data from the Household Economic Survey (NZHES), integrated data infrastructure (IDI), and household labour force survey (HLFS). Disposable income is calculated for each household as the sum of taxable and non-taxable income, working for families' tax credits, and total rebates, less ACC earner's levy and tax payable. Disposable income is equivalised using the modified Organisation for Economic Co-operation and Development (OECD) equivalence scale which adjusts for the number of children (aged under 14 years) and adults (aged 14 and over) in the household.¹⁷

Data sources and methods

Indicators

Children in households below 50% of median income poverty threshold before housing costs (BHC)

Children in households below 60% of median income poverty threshold before housing costs (BHC)

Children in households below 40% of median income poverty threshold after housing costs (AHC)

*Children in households below 50% of median income poverty threshold after housing costs (AHC)**

Children in households below 60% of median income poverty threshold after housing costs (AHC)

*This indicator is presented by current financial year (contemporary median) and by base financial year

Definitions

Children are persons aged under 18 years.

A *household* is one person who usually resides alone or two or more people who usually reside together and share facilities (e.g. eating, cooking, bathroom and toilet, living area).

A child is a *member of a household* if they live there for four or more nights per week, or spend equal time in this and another household and were present during the survey week.

Equivalised household income is the household disposable income for the previous twelve months adjusted for household size and composition.

Disposable income is calculated for each household as the: sum of taxable income, non-taxable income, working for families' tax credits, and total rebates, less ACC earner's levy and tax payable.

Contemporary median poverty measures are set relative to the median income for the same survey year. This gives a low-income threshold that rises and falls with changes in contemporary median incomes. This type of measure is also called a moving-line or relative approach. Improvement is considered to have occurred when a poor household moves closer to the median irrespective of whether income in real terms has increased or decreased.¹⁸

Base financial year poverty measures are anchored in a reference year (in this report, the reference year is 2017/18), adjusted for inflation, and kept at a constant value in real terms over other years. This type of measure is also called a constant value or anchored approach. Because it is considered most useful for examining short to medium term change, it is necessary to re-set the reference year to continue to calculate realistic rates of poverty where there have been considerable changes in New Zealand's economy, adjusted using the consumer price index. Improvement is considered to have occurred when household income rises in real terms irrespective of what is happening to the incomes of other households.

Data source

Stats NZ Child Poverty Statistics

Additional information

The median is a more stable measure of household incomes than the mean. A few households with a very high income will shift the mean upwards, and the number of very-high-income households varies from year to year.

All dates are for year ended June 30.

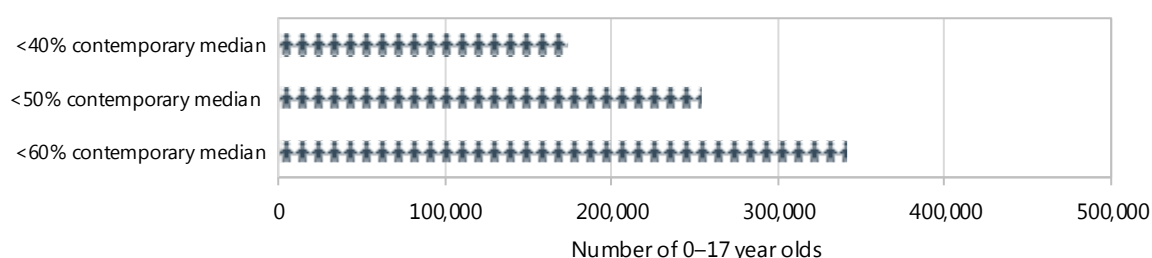
The following measures were recommended by the Expert Advisory Group on Solutions to Child Poverty report.⁸ Each measure is presented before and after housing costs. Housing costs, which include mortgage and rent payments, often make up a large proportion of household spending.¹⁸

- The *contemporary median poverty* thresholds compare incomes in a given year to the median income for all households in the same year which, in this report, are incomes below 40%, below 50%, and below 60% of the contemporary median income. It is considered most useful for assessing longer-term change. Improvement in poverty rates is considered to have occurred when the incomes of low-income households move closer to the median, irrespective of whether the incomes change in real terms.^{17,18}
- The *median base financial year* measure of poverty compares income in a given year to the median income in a reference year which, in this report, is where an after housing costs income is below 50% of the 2017/18 financial year after housing costs median. It is considered most useful for examining short to medium term change. The 2017/18 base financial year anchor point means that this measure will be most useful going forward rather than retrospectively. Improvement is considered to have occurred when household incomes rise in real terms between years - irrespective of what has happened to the incomes of other households in a given year.¹⁷

In 2018, 23% of New Zealand children (approximately 254,000) lived in households with an equivalised income below 50% of the contemporary median after housing costs (Figure 1, Table 1). Using a contemporary median measure, there was little change overall in income poverty for New Zealand children between 2007 and 2018 (Table 1, Figure 2).

Tracking of the percentage of New Zealand children who lived in households with an equivalised disposable income below 50% of the 2018 (base financial year) median after housing costs began in 2009 at 329,000 children and has since declined overall to 254,000 children (Table 1, Figure 2). Without consideration of any income changes experienced by other households, disposable incomes in some income-poor households with children have increased in real terms from 2011–2018. While the magnitude of the fall in child poverty rates between 2011 and 2018 using this fixed line measure was 8.1%, an estimated quarter of a million children lived in income-poor households using this measure in 2018 (Table 1).

Figure 1. Children in low-income households after housing costs, by income level, New Zealand 2018



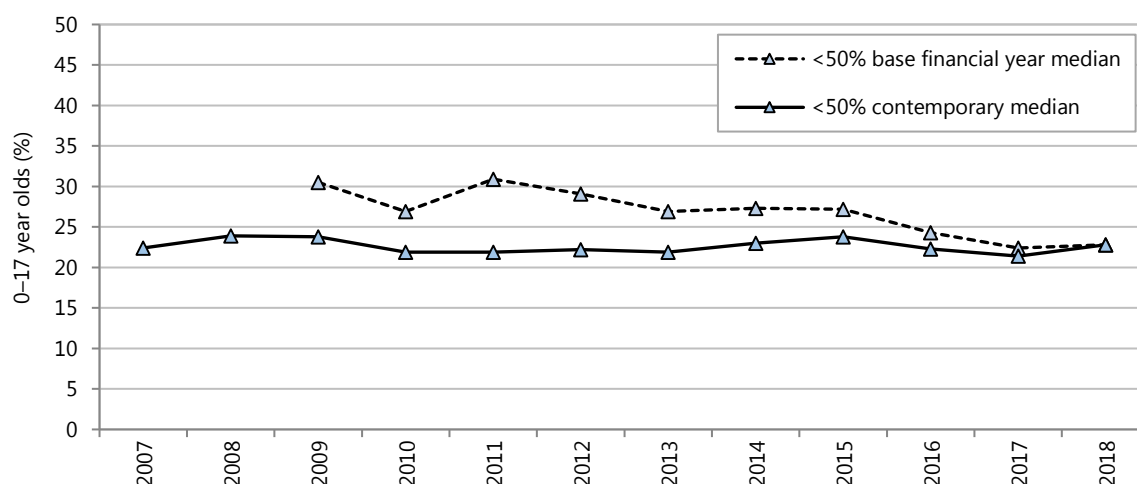
Source: Stats NZ Child Poverty Statistics. Year ended June 2018

Table 1. Children in low-income households, by selected poverty thresholds, New Zealand 2007–2018

| Year | Before housing costs | | | | After housing costs | | | | | | | |
|------|--------------------------|------|--------------------------|------|--------------------------|------|--------------------------|------|--------------------------|------|---------------------------------|------|
| | <50% contemporary median | | <60% contemporary median | | <40% contemporary median | | <50% contemporary median | | <60% contemporary median | | <50% median base financial year | |
| | <i>n</i> | % | <i>n</i> | % | <i>n</i> | % | <i>n</i> | % | <i>n</i> | % | <i>n</i> | % |
| 2007 | 151,000 | 14.0 | 257,000 | 23.9 | 164,000 | 15.3 | 240,000 | 22.4 | 314,000 | 29.3 | | |
| 2008 | 156,000 | 14.5 | 252,000 | 23.4 | 156,000 | 14.5 | 258,000 | 23.9 | 355,000 | 33.0 | | |
| 2009 | 151,000 | 14.0 | 240,000 | 22.2 | 165,000 | 15.3 | 256,000 | 23.8 | 339,000 | 31.4 | 329,000 | 30.5 |
| 2010 | 152,000 | 14.1 | 242,000 | 22.4 | 160,000 | 14.8 | 237,000 | 21.9 | 322,000 | 29.7 | 291,000 | 26.9 |
| 2011 | 162,000 | 14.9 | 253,000 | 23.3 | 175,000 | 16.1 | 238,000 | 21.9 | 328,000 | 30.2 | 335,000 | 30.9 |
| 2012 | 161,000 | 14.8 | 253,000 | 23.3 | 177,000 | 16.3 | 241,000 | 22.2 | 314,000 | 28.9 | 316,000 | 29.1 |
| 2013 | 169,000 | 15.6 | 255,000 | 23.6 | 169,000 | 15.6 | 238,000 | 21.9 | 318,000 | 29.3 | 292,000 | 26.9 |
| 2014 | 157,000 | 14.5 | 254,000 | 23.4 | 172,000 | 15.8 | 249,000 | 23.0 | 318,000 | 29.3 | 296,000 | 27.3 |
| 2015 | 177,000 | 16.3 | 268,000 | 24.6 | 168,000 | 15.5 | 259,000 | 23.8 | 331,000 | 30.5 | 296,000 | 27.2 |
| 2016 | 168,000 | 15.4 | 254,000 | 23.3 | 178,000 | 16.2 | 244,000 | 22.3 | 326,000 | 29.8 | 265,000 | 24.3 |
| 2017 | 156,000 | 14.2 | 243,000 | 22.1 | 178,000 | 16.1 | 236,000 | 21.4 | 314,000 | 28.4 | 247,000 | 22.4 |
| 2018 | 183,000 | 16.5 | 281,000 | 25.3 | 174,000 | 15.7 | 254,000 | 22.8 | 341,000 | 30.6 | 254,000 | 22.8 |

Source: Stats NZ Child Poverty Statistics; Years ended June; Base financial year is 2017/18

Figure 2. Children in low-income households, after housing costs (<50% contemporary median and <50% base financial year median), New Zealand 2007–2018

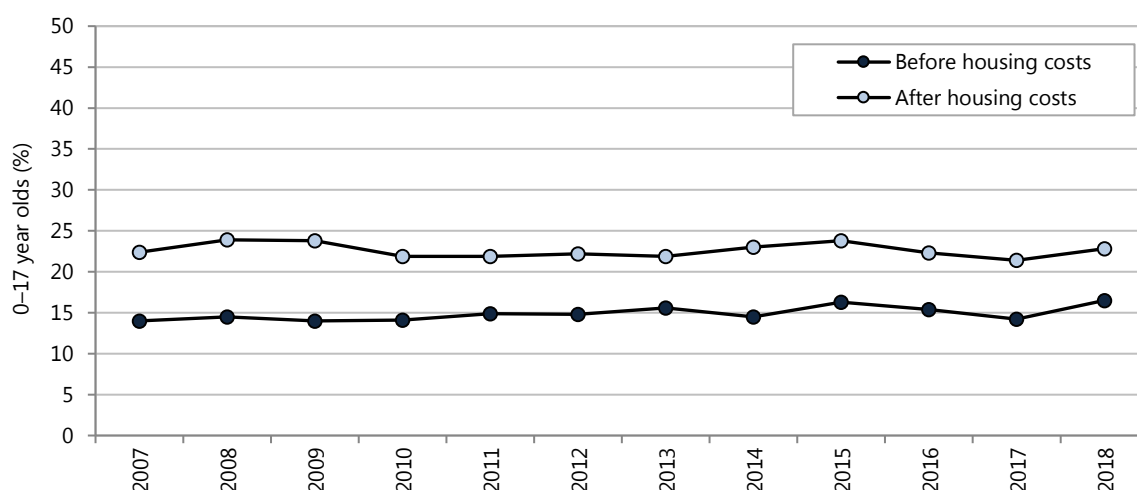


Source: Stats NZ Child Poverty Statistics. Years ended June

Housing costs, on average, make up a large proportion of household expenditure for low-income households. In 2018, 183,000 children (16%) lived in households with an equivalised disposable income below 50% of the contemporary median income before housing costs. The impact of housing costs meant that an additional 71,000 children lived in households with an equivalised disposable income below 50% of the contemporary median, after housing costs were taken into account (Table 1, Figure 3). There were an additional 60,000 children living in households with equivalised disposable income below 60% of the contemporary median income after housing costs, when compared with before housing costs (Table 1, Figure 4).

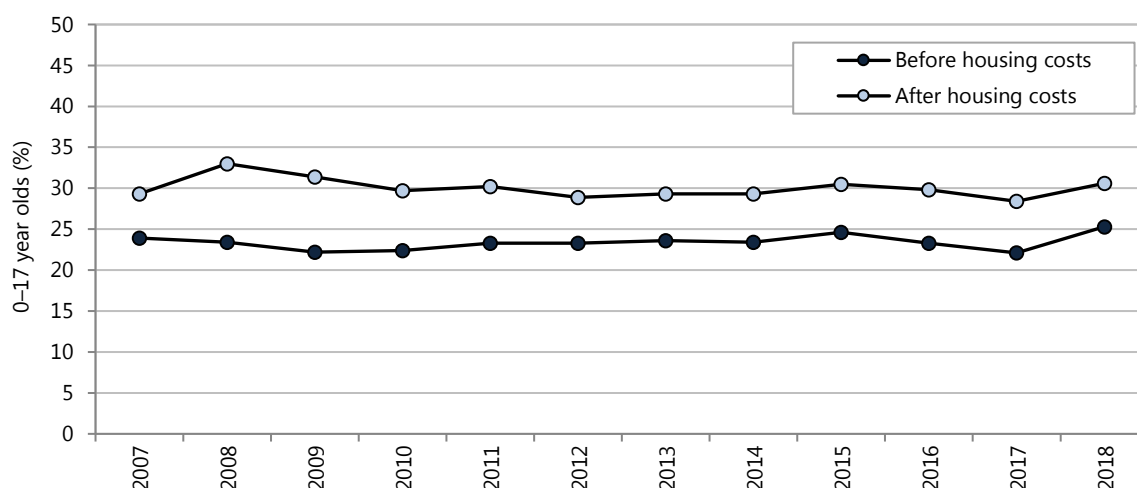
In 2018, 30.6% of New Zealand children (approximately 341,000) lived in households with an equivalised income below 60% of the contemporary median after housing costs (Figure 1, Table 1). Using a contemporary median measure, there was little change overall in income poverty for New Zealand children between 2007 and 2018 (Table 1, Figure 4).

Figure 3. Children in low-income households (<50% of contemporary median income) before and after housing costs, New Zealand 2007–2018



Source: Stats NZ Child Poverty Statistics. Years ended June

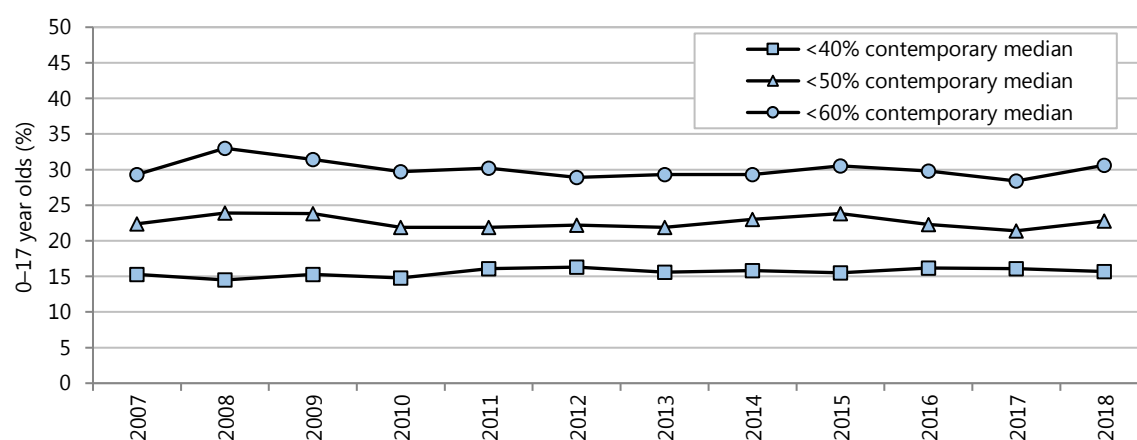
Figure 4. Children in low-income households (<60% of contemporary median income) before and after housing costs, New Zealand 2007–2018



Source: Stats NZ Child Poverty Statistics. Years ended June

Since 2007, there was little change overall in the proportion of children living in households with an equivalised income below 40%, 50%, or 60% of the contemporary median (Figure 5). No policy changes were made during 2007–2012 to help reduce net household expenditure on housing and there was no change to the maximum rates of assistance.¹⁸ Policy changes in more recent years have impacted on accommodation and income, including the Families Package announced in 2017, through which Accommodation Supplement payments were changed from April 2018.¹⁹

Figure 5. Children in low-income households after housing costs, by income level, New Zealand 2007–2018



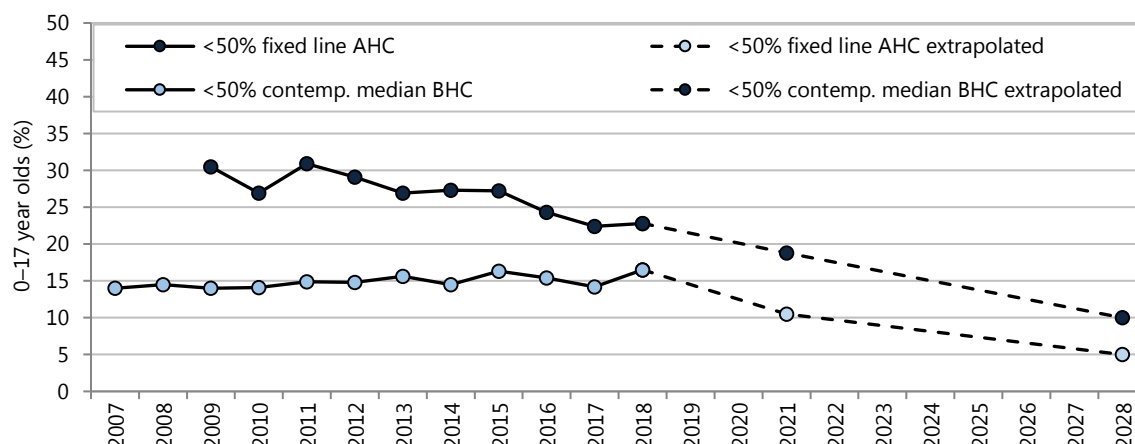
Source: Stats NZ Child Poverty Statistics. Years ended June

The New Zealand government has set three-year and ten-year targets for children living in households with equivalised income below 50% of the contemporary median before housing costs and 50% of the 2018 (base financial year) median after housing costs.⁵ Where there is no Government target, this report uses the general commitment set out in the sustainable development goals (SDGs) of reducing all forms of poverty to at least half of 2015 values by 2030,¹⁶ applied to the official measures of child poverty as set out in the Child Poverty Reduction Act 2018.

Since 2009, there has been an overall decline in the proportion of children living in households with equivalised disposable income below 50% of the base financial year (fixed-line) median income after housing costs. This measure of low income will be most relevant in coming years, and the rate of decline will need to increase to achieve the Government target (Figure 6). The rate seen for children in households below 50% of the contemporary median before housing costs has been relatively stable

since 2007 and was around 6% above its three-year Government target and 11.5% above the target set for 2028. This decline will need to accelerate to meet the Government targets.

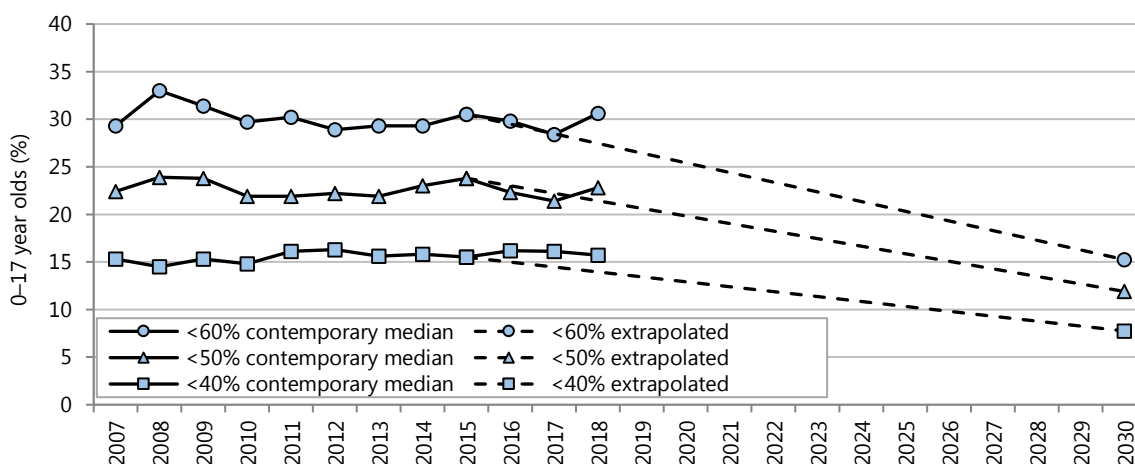
Figure 6. Children in low-income households (<50% contemporary median income before and after housing costs), New Zealand 2007–2018 extrapolated to Government targets



Source: Stats Child Poverty Statistics. Years ended June

Figure 7 presents three dimensions of poverty pertaining to contemporary median income after housing costs in relation to the targets set by the SDGs. The difference between the 2030 Sustainable Development Goal for child poverty reduction and the percentage of New Zealand children in 2018 who lived in households with an income below 50% of the contemporary median was 10.9%. The difference was smaller for those who lived in households with an income below 40% of the contemporary median, at a difference of 8.0%. The difference was larger for those who lived in households with an income below 60% of the contemporary median, at a difference of 15.4% (Figure 7). While there was an apparent fluctuation in child poverty rates in 2018 for households below 50% and 60% of the contemporary median, the magnitude and direction of the apparent change cannot be accurately estimated until the 2019 NZHES data are available.

Figure 7. Children in low-income households (<40%, <50% and <60% contemporary median income after housing costs), New Zealand 2007–2018 extrapolated to SDG 2030 targets



Source: Stats NZ Child Poverty Statistics. Years ended June

Access to essentials for a decent living

Material factors influence the day-to-day living conditions in which children are growing, learning, and playing.¹² There are items, opportunities and material conditions that most people agree are essential for children to grow with dignity in their standard of living, and essential for the people who love them to add value to their lives and development.^{12,20,21} These can include children having suitable clothes and shoes, leisure activities, a good bed, means to keep warm, and sufficient food. Essentials also include whānau with children having resources to pay utility bills on time, cope with unexpected demands on household budgets, enjoy occasional holidays, and access health services when they are needed.¹²

Children and whānau who are restricted from opportunities to have or do a number of these essentials tend to be locked in these circumstances of disadvantage for prolonged periods of time.²⁰ An *enforced lack* is where a household does not have the opportunity to have or do something because of cost.¹² When locked this state of shortage, sometimes whānau go without one essential to provide a higher priority item for their child, or they cut back on or delay paying for essentials.¹²

Internationally, the Sustainable Development Goals require that material hardship, as a dimension of poverty, be reduced by at least half between 2015 and 2030 (Goal 1.2).¹⁶ In New Zealand, material hardship is monitored as a non-income measure through a 17-item index (DEP-17) that scores households according to their objective and subjective experiences to determine whether they are missing out on essentials to live with dignity and, if so, how many essentials.¹² Child and whānau are considered to be missing out on a decent standard of living to an extent of ‘material hardship’ if they are experiencing being deprived of six or more essentials.

This section of the child poverty monitor presents information on children aged 0–17 years living in households experiencing material hardship using data gathered in the New Zealand Household Economic Surveys (NZHES) and analysed using DEP-17.

Data sources and methods

Indicator

Children in households experiencing material hardship

Definitions

Children are persons aged under 18 years

A household is one person who usually resides alone or two or more people who usually reside together and share facilities (e.g. eating, cooking, bathroom and toilet, living area).

A child is a member of a household if they live there for four or more nights per week, or spend equal time in this and another household and were present during the survey week.

Equivalised household income is the household disposable income for the previous twelve months adjusted for household size and composition.

Material hardship is an enforced lack of six or more (6+) component items.¹²

Severe material hardship is an enforced lack of six or more (9+) component items.¹²

Material hardship is an enforced lack of seven or more (6+) component items.¹²

Severe material hardship is an enforced lack of nine or more (9+) component items.¹²

Data source

Stats NZ Child Poverty Statistics

Additional information

DEP-17 is an index of material hardship or deprivation, particularly suited to capturing the living standards of those at the low end of the material living standards.

DEP-17 items

Enforced lack of essentials

Meal with meat, fish or chicken (or vegetarian equivalent) at least each 2nd day

Two pairs of shoes in good repair and suitable for everyday use

Suitable clothes for important or special occasions

Presents for family and friends on special occasions

Home contents insurance

Economised, cut back or delayed purchases 'a lot' because money was needed for other essentials

- Went without or cut back on fresh fruit and vegetables
- Bought cheaper cuts of meat or bought less than wanted
- Replacing worn out clothes
- Put up with being cold to save on heating costs
- Postponed visits to the doctor
- Postponed visits to the dentist
- Did without or cut back on trips to the shops or other local places
- Delayed repairing or replacing broken or damaged appliances

In arrears more than once in last 12 months, because of shortage of cash at the time, not through forgetting

- Rates, electricity, water
- Vehicle registration, insurance or warrant of fitness

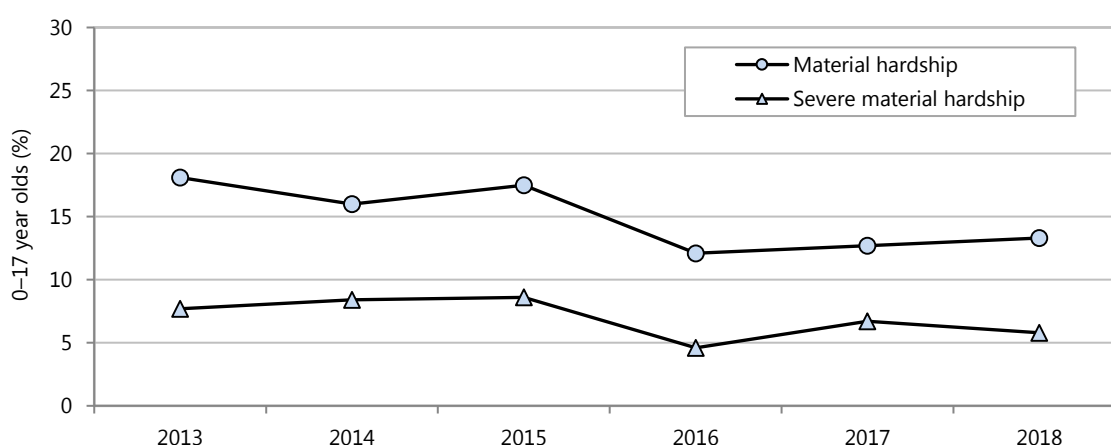
Financial stress and vulnerability

- Borrowed from friends or family more than once in last 12 months to cover everyday expenses
- Feel 'very limited' by the money available when thinking about purchase of clothes or shoes for self
- Could not pay an unexpected and unavoidable bill of \$500 within a month without borrowing

In 2018, 13% of New Zealand children (approximately 148,000) were in households that cannot afford six or more specific consumption items that most people regard as essential. Examples included in the index are where the respondent does not have two pairs of good shoes, puts off a visit to the doctor, or the household is not able to pay the electricity or gas bills on time. In 2018, 6% of children (approximately 65,000) were living in households experiencing severe material hardship by missing out on nine or more essentials for a decent standard of living (Figure 8). From 2013–2018 there was a decline in the proportion of children in households experiencing material hardship and severe material hardship, with 48,000 fewer children living in households missing out on six or more essentials (Figure 8).

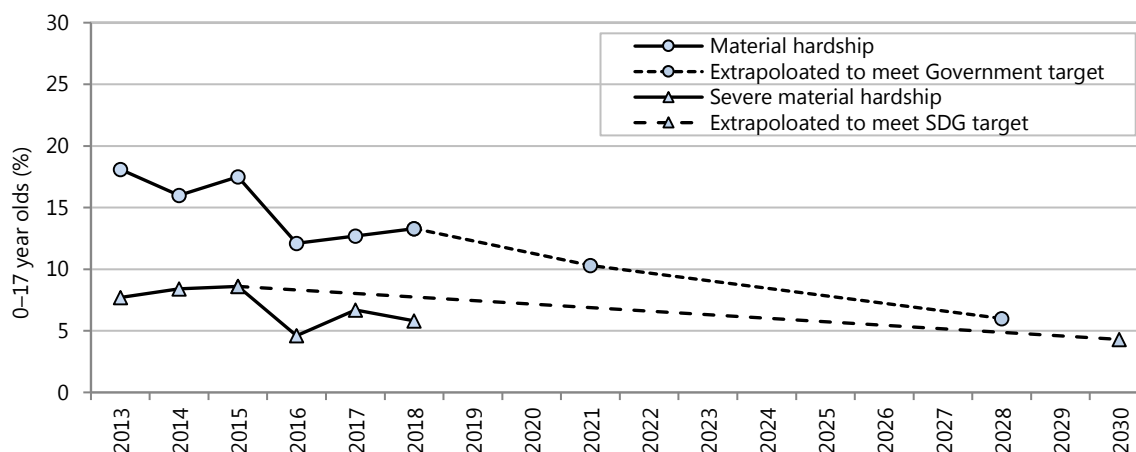
When compared to the New Zealand government targets for children in material hardship, the percentage of children in material hardship is 3% from the 3-year target and 7% from the 2028 target (Figure 9). In the case of severe material hardship, where there is no Government target, this report has chosen to use the official child poverty measures with the sustainable development goal of reducing this form of poverty by at least half the 2015 value before 2030.⁵ To reach the SDG goal, the gap for severe material hardship needs to be closed by at least a further 1.5% from the rate in 2018. Change in parallel with the government target for material hardship would require greater reduction in levels of severe material hardship to negligible levels for New Zealand households with children.

Figure 8. Children in households living in material hardship, by hardship level, 0–17 year olds New Zealand 2013–2018



Source: Stats NZ Child Poverty Statistics. Years ended June

Figure 9. Children in households living in material hardship, by hardship level, 0–17 year olds New Zealand 2013–2018 extrapolated to SDG 2030 and Government targets



Source: Stats NZ Child Poverty Statistics. Years ended June

Combined measures

Households vary not just with regard to available income and material opportunities, but also any support and goods they receive from their communities, any assistance for food they are provided, any assets they possess, any debts and debt-related servicing requirements they have, any health- and disability-related costs, and any role they have with assisting others and contributing to people's lives beyond their immediate household.²² To better take into account the varying experiences of households, measures of poverty that are multidimensional can illuminate nuances in the day-to-day living conditions for households.

The Expert Advisory Group on Solutions to Child Poverty emphasised the need for monitoring poverty in a multidimensional way to identify situations of severe and persistent poverty and thus identify over time their long term implications for those children and whānau living in those impossible conditions.⁸ Monitoring severe and persistent poverty is critical to understanding how New Zealand compares with the 2030 Sustainable Development Goal 1.2 of reducing the proportion of children in poverty in all its dimensions by at least half.¹⁶

Situations of income poverty and material hardship are conceptualised as existing on a continuum of less to more severe.¹⁸ Severity of resource restriction can be gauged from very high material hardship scores (for example more than 9 lacks on DEP-17), very low incomes (less than 40% or less than 50% of median incomes), or the experience of both low income and material hardship.²²

Where both available income and material opportunities are taken into account, households can fit into one of four categories, as listed below:

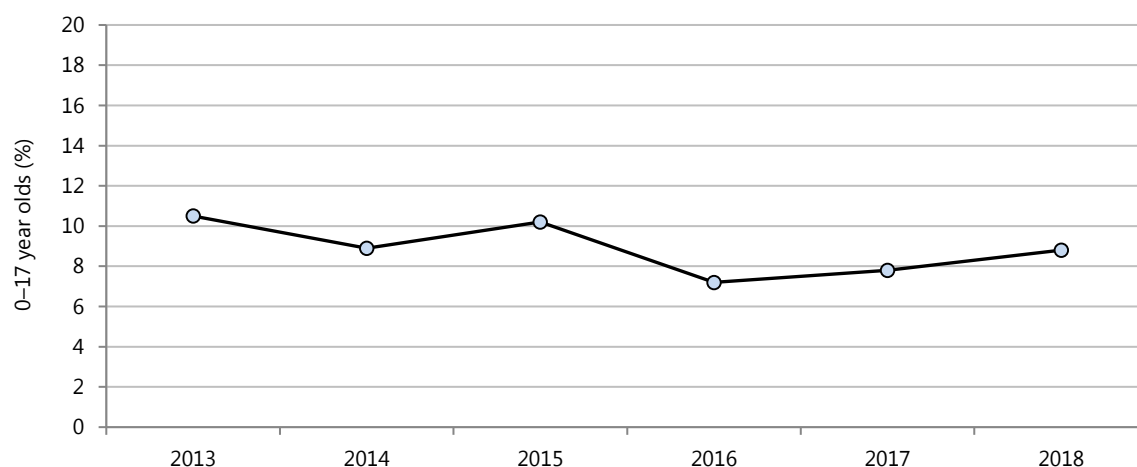
- Not experiencing either low income nor material hardship
- Experiencing material hardship but not low income
- Experiencing low income but not material hardship
- Experiencing both low income and material hardship

It is for those households that are situated in the last group, where experiences of both income poverty and material hardship (6+ lacks) intersect, that stress and need is likely to be the greatest.²²

In 2018, 9% of New Zealand children (approximately 98,000) were members of households with equivalised incomes below 60% of the contemporary median income after housing costs and who were also lacking six or more essentials for a decent standard of living. Since 2015, there has been an overall decline in the proportion of children in households experiencing both material hardship and income poverty, with an estimated 48,000 fewer children in these circumstances (Figure 10). This

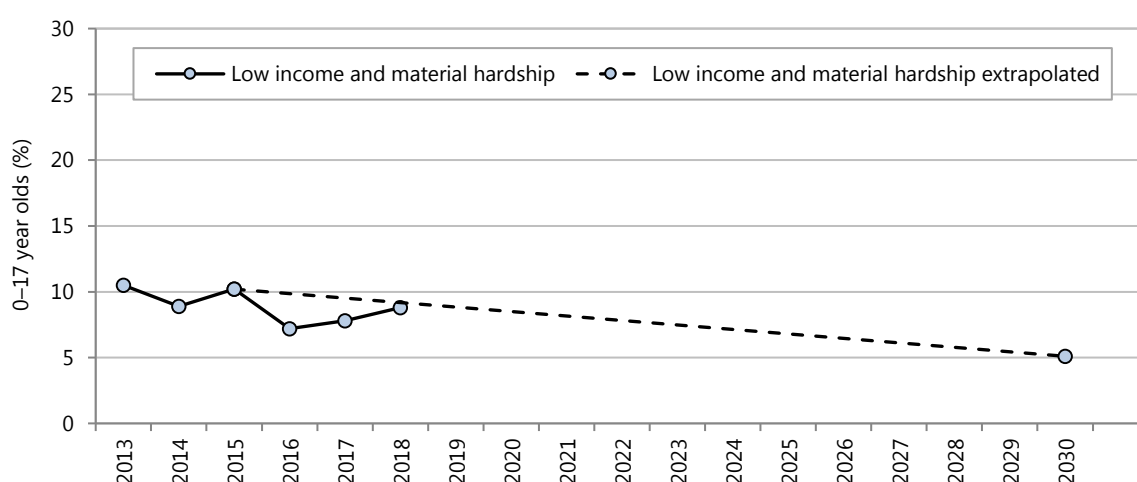
overall decline will need to be sustained in order to at least meet the SDG target of halving this measure of poverty for New Zealand children by 2030 (Figure 11).

Figure 10. Children in low income households (<60% contemporary median income after housing costs) and in material hardship, New Zealand 2013–2018



Source: Stats NZ Child Poverty Statistics. Years ended June

Figure 11. Children in low income households (<60% contemporary median income after housing costs) experiencing material hardship, New Zealand 2013–2018 extrapolated to SDG 2030 target



Source: Source: Stats NZ Child Poverty Statistics. Years ended June

Children receiving financial assistance

The Government's vision for the New Zealand social security system is that it include an adequate income and standard of living for people and families, that people be treated with and can live in dignity, and that people be able to participate meaningfully in their communities.⁴ Children included in households that receive financial assistance are more likely than other children to live in income-poor households and to experience material deprivation.²³ Kia Piki Ake (the Welfare Expert Advisory Group) found evidence that the current levels of main benefits are well below the level necessary for an adequate standard of living, and do not meet the level required for even modest participation in society.⁴ Even modest levels of spending on essential items like food, electricity and housing leave many households receiving income-support with total expenditure greater than their income entitlements.⁴ Government policies in areas such as access to, and value of, income support benefits have substantial effects on household incomes for families dependent on benefit payments.⁸ Kia Piki Ake stated in their report:

The Government must urgently increase the incomes of people in receipt of a benefit and in low-wage work and maintain these increases over time so that they keep pace with the incomes of the rest of the community. It must also reduce the barriers to people accessing this support and commit to a social security system where people are treated with dignity.^{4(page 8)}

The following section uses data from the Ministry of Social Development to review the proportion of children included in recipients of financial assistance.

Data sources and methods

Indicator

Number of 0–17 year olds included in recipients of financial assistance, by type of assistance

Data sources

Numerator: SWIFTT Database: Number of 0–17 year olds included in recipients of financial assistance

Denominator: NZCYES Estimated Resident Population

Definitions

Main benefits (up to June 2013) include: Domestic Purposes Benefit (DPB)-Care of Sick and Infirm, DPB- Woman Alone, Emergency Benefit, Independent Youth Benefit, Youth Payment, Young Parent Payment, Unemployment Benefit Training and Unemployment Benefit Training Hardship, Unemployment Benefit Student Hardship, Widow's Benefit.

Main benefits (from June 2014 onwards) include: Jobseeker Support, Sole Parent Support, and Supported Living Payment

Other benefits (from June 2014 onwards) include: Emergency Benefit, Youth Payment, Young Parent Payment, and Jobseeker Support Student Hardship.

Non-benefit financial assistance is assistance provided to those who are not beneficiaries, such as accommodation supplements.

Additional information

The SWIFTT database provides information on the recipients of financial assistance through Work and Income (WINZ).

All figures are as at the end of June. The number of children in recipients of financial assistance as at the end of June provides no information on the number receiving assistance at other times of the year.

The data count children, not clients. An adult client who has more than one child included in their financial assistance will have their financial assistance counted more than once.

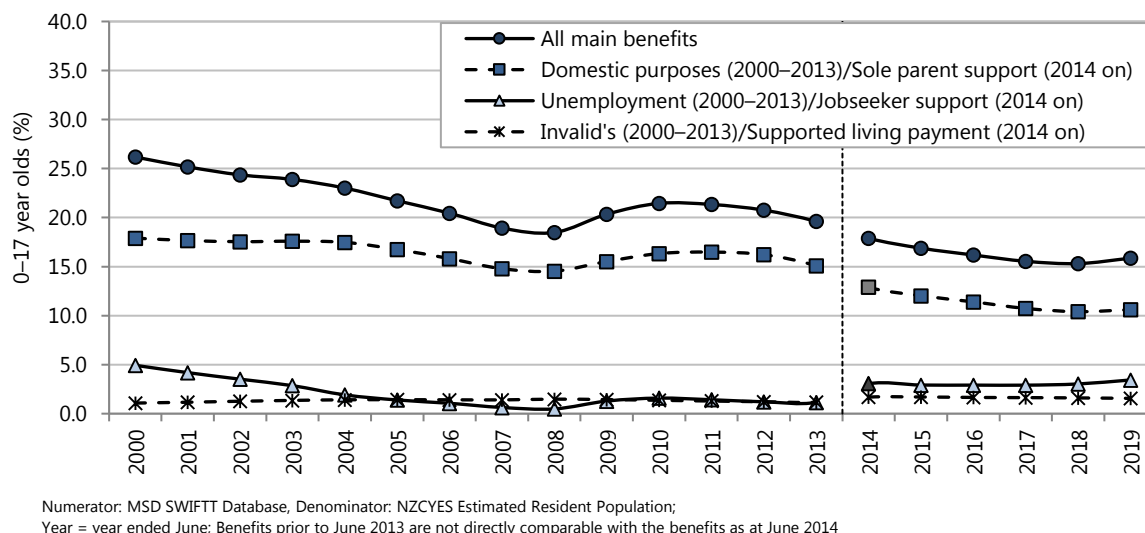
Three new benefits were introduced in a welfare reform and implemented from July 2013, which replaced many of the previously existing benefits, and changed the eligibility criteria for financial assistance. The benefits up to data as of June 2013 are not directly comparable with the benefits on and after June 2014. The welfare reform changes have been described at <https://www.msd.govt.nz/about-msd-and-our-work/publications-resources/statistics/benefit/benefit-factsheet-changes-2013.html>.

To be eligible for financial assistance, clients must have insufficient income from all sources to support themselves and any dependents, and meet specific eligibility criteria. Information about current eligibility criteria can be found at <https://www.workandincome.govt.nz/online-services/eligibility/index.html>.

The Ministry of Social Development provides financial assistance to eligible households through income replacement benefits, non-benefit financial assistance (e.g. Working for Families tax credits) and through emergency payments or grants. This section focuses on those 0–17 year olds who are included as recipients of non-emergency financial assistance.

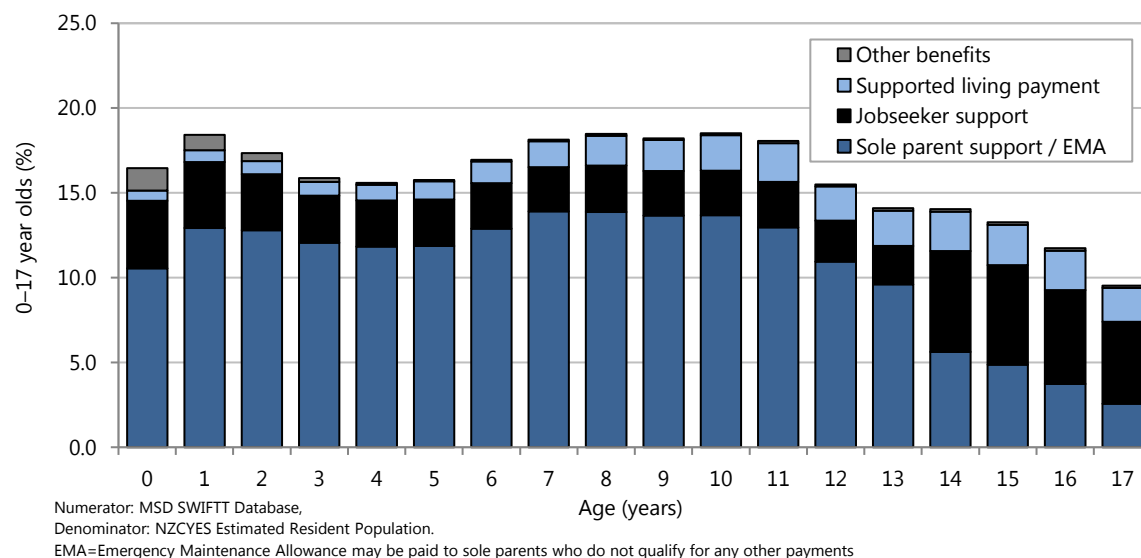
The number and percentage of 0–17 year olds who were included in recipients of income replacement benefits declined from 271,463 (26% of all children in this age group) in June 2000 to 175,555 (16% of all children in this age group) in June 2019 (Figure 12). In June 2019, most (67%) of 0–17 year olds receiving income replacement benefits were living with a recipient of sole parent support, with the remainder living with recipients of jobseeker support (22%), supported living payments (10%) or other benefits (less than 2%).

Figure 12. Children aged 0–17 years included in recipients of income replacement benefits, by benefit type, New Zealand as at end of June 2000–2019



The percentage of 0–17 year olds who were included in recipients of income replacement benefits reduced with increasing age, from 18% of children aged one year to fewer than 10% of children aged 17 years. The percentage of children in households receiving sole parent support declined from around 13% of 1–8 year olds to fewer than 5% of 15–17 year olds. For 15–17 year olds, the percentage of children reliant on a recipient of sole parent support was lower than the percentage of children reliant on recipients of jobseeker support (Figure 13).

Figure 13. Children aged 0–17 years included in recipients of income replacement benefits, by age and benefit type, New Zealand as at end of June 2019



There are times when parents can't care for a child, due to family breakdown or serious long-term health conditions, and times when parents have died or can't be found. In these circumstances the child may be included as a recipient of the unsupported child's benefit or orphan's benefit which is paid to adults who are caring for someone else's children. These benefits are not income-tested; a child could be included in both an income replacement benefit (above) and orphan's benefit/unsupported child's benefit. Although these benefits make up a very small proportion of financial assistance, there has been an increase in the number and percentage of 0–17 year olds included in recipients of orphan's benefit and unsupported child's benefit from 7,419 (less than 1% of children in this age group) in 2000 to 17,729 (2% of children in this age group) in 2019.

At 30 June 2019 there were 74,691 children aged under 18 years included in recipients of non-beneficiary financial assistance. These children lived in households not eligible for main benefits because one or more adults in the household were employed. The household income was below the income threshold for supplementary assistance such as Accommodation Supplement, Disability Allowance or Child care subsidy. Since 2007 between 6% and 7% of 0–17 year olds have been included in recipients of non-beneficiary financial assistance each year.

A childhood of wellbeing and opportunity

New Zealand's children and young people want to be healthy, feel safe, and have more of a say about what happens to them.¹ An important foundation for children's journeys towards lifelong health is responsive and nurturing parenting that provides children with opportunities for skill-building.^{24,25} The flow-on effects of children and young people incorporating healthier behaviours into their lives and feeling safe can be felt in their increased enjoyment from social activities,^{26,27} improved mental wellbeing²⁶⁻²⁸ and ability to learn²⁶ and stay in school,²⁹ reduced risk of disease,²⁷ as well as future adult and population health.^{15,24,29,30} Secondary education provides important foundations for young people's continuing education, their employment, their health and for having a better quality of life.³¹ Child maltreatment in a community can compromise children's senses of belonging³² and have flow-on effects on their educational and health outcomes as well as their trajectory into adulthood.²⁹ Care and protection work from the government provides an indication of what safeguards are being utilised to make contexts around children safer and healthier for them to grow up in.

Social, financial, and environmental factors are critical to ensuring children and whānau can live in ways that are good for their wellbeing and learning,³³⁻³⁶ such as through behaviours or the physical spaces they grow, travel, and play in. These external factors can include the availability of affordable vegetables and fruits³⁷⁻³⁹ or access to community food production,^{20,24} school environments that are welcoming uplifting and culturally respectful while also safe from harm,¹ affordable and safe modes of transport,^{1,40,41} access to child-rearing programmes and organisations supporting child development,²⁴ and healthy houses to live in.⁴²

The extent to which governments make accessible, affordable, and convenient opportunities for children and whānau to live in ways that are good for them reflects a state-level commitment to empower every child and young person to thrive. The health experiences, adverse experiences, and educational outcomes of a population are some indicators through which it can be monitored how well a government is supporting those behaviours and spaces that are in accordance with ultimate goals of good wellbeing and fulfilling potential. Persistent inequity in wellbeing outcomes are fully avoidable and unjust.⁴³ The failure of the health system to deliver equitable outcomes for Māori has been determined to be a breach of te Tiriti o Waitangi (the Treaty of Waitangi).⁴⁴ New Zealand requires much greater ongoing commitment and focus to achieve health equity for Māori tamariki and rangatahi, including an explicit challenge to the persistent and systemic biases within our society that produce and tolerate unfair health outcomes.⁴³ Legislative change to include an explicit commitment to health equity for Māori is a key recommendation of the Health Services and Outcomes Kaupapa Inquiry.⁴⁴

The poverty-related indicators in this section include access to healthy nutritious food, educational outcomes, hospitalisations for medical conditions and injuries, deaths of all under-15 year olds and of infants, and indicators of child safety.

Good health

New Zealand culture values notions of justice, fairness, and children having equal opportunity to thrive and fulfil their potential.⁴⁵ Monitoring the health conditions experienced by children and young people provides an indication of how well New Zealand is working in accordance with these notions of fairness held by society. Health conditions and early death illuminate how environmental socioeconomic and historical features have profound effects on how babies, children, young people, and current and future whānau realise their potential.^{46,47} It can be the case that the social world relates to children's socioeconomic positions and identities (for example, ethnicity, gender, and indigeneity) in ways that compromise their access to equal opportunity.

Some children can experience higher clinical need due to their environment and can also experience compromised access to health care, which can be due to those services being too far away, not culturally responsive, or incurring high out-of-pocket cost.⁴⁸ Key factors that impact on the chances of survival by infants, children, and young people include the availability and equitable distribution of resources within a society.⁴⁹ Society's youngest population can be protected through supportive social policy and redistributive fiscal measures.⁴⁹ Children should be able to grow, learn, and add value to the world with the help of society, not in spite of it.

Where health is progressively worse the higher the degree of social disadvantage, it is termed *social gradient* (or, conversely, where health is progressively better the lower the degree of social disadvantage). The concept of *inequity* in health, as in the case of a social gradient, is where health inequalities between groups are avoidable and thus unjust.^{46,48} Analysis of the deaths and hospitalisations of children is important to increase understanding of why children are not adequately protected and helps identify how society can better prevent death and hospitalisation in the future.⁵⁰

The NZ index of deprivation (NZDep2013) indicates the socioeconomic disadvantage of small areas and thus provides an opportunity to understand health conditions by neighbourhood deprivation as a proxy of individual socioeconomic deprivation. The Index combines variables of both material deprivation (involving goods, services, resources, amenities, and physical environment) and social deprivation (involving roles, relationships, functions, customs, rights and responsibilities of membership of society) to generate a score representing the average degree of deprivation experienced by people living in that area.⁵¹ A state of *deprivation*, is where a person is experiencing observable and demonstrable disadvantage relative to the local community or the wider society or nation to which they belong.⁵²

This section presents health inequities experienced by under-15 year olds as they pertain to hospitalisations and early deaths, analysed by NZDep2013 index of deprivation score and ethnicity, using the National Minimum Dataset. The sub-section pertaining to early deaths can be read alongside reports by the Child and Youth Mortality Review Committee.⁴³

Data sources and methods

Indicators

All cause hospitalisations of children aged 28 days to 14 years

All cause early death of children aged 28 days to 14 years

Definitions

Hospitalisations for medical conditions and injuries of 0–14 year olds, excluding neonates

Deaths of 0–14 year olds, excluding neonates

Data sources

Numerator(s): Hospitalisations: National Minimum Dataset

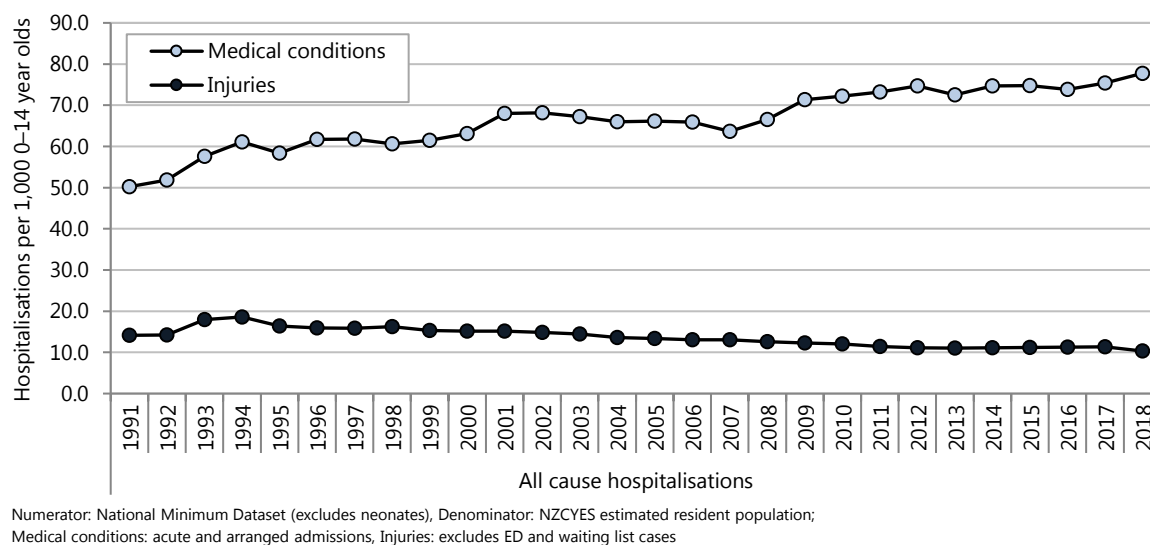
Deaths: National Mortality Collection

Denominator: NZCYES Estimated Resident Population (with intercensal extrapolation)

Hospitalisations

Hospitalisation rates of under-15 year olds for medical causes have risen from 50.2 hospitalisations per 1,000 age-specific population in 1991 to 77.8 hospitalisations per 1,000 age-specific population in 2018. Hospitalisation rates for injury in this age group rose between 1991 and 1994 (from 14.1 to 18.6 hospitalisations per 1,000 age-specific population) and have since fallen to 10.3 hospitalisations per 1,000 age-specific population in 2017 (Figure 14).

Figure 14. All-cause hospitalisations in 0–14 year olds (excluding neonates), New Zealand 1991–2018



There was a social gradient in all-cause hospitalisation rates (medical causes and injury) in under-15 year olds from 2000–2018, with hospitalisation rates increasing with increasing NZDep scores (Figure 15).

Since 2000, the gap for medical condition hospitalisations has been widening between under-15 year olds living in areas with the highest deprivation scores (quintile 5) and those in areas lower deprivation scores (Figure 16). Children in all quintiles have seen an overall increase in medical condition hospitalisations since 2008.

There was an overall decline in injury hospitalisation rates for under-15 year olds and the gap between children in quintile 1 (least deprived) and those in quintiles 2–5 (more deprived) has been narrowing (Figure 16).

Figure 15. All-cause hospitalisation rates in 0–14 year olds, by deprivation score, New Zealand 2000–2018

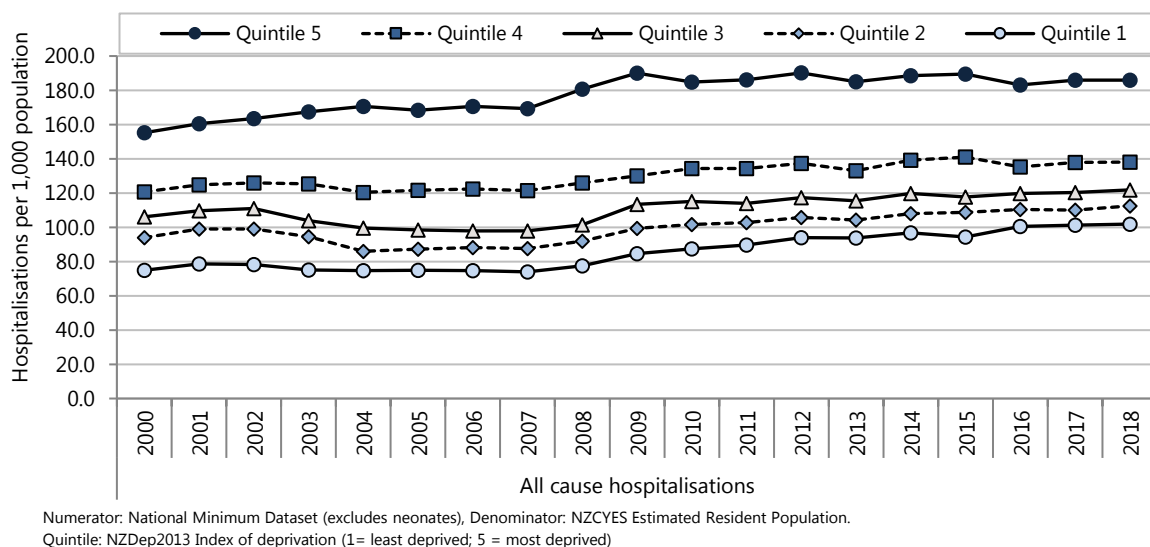
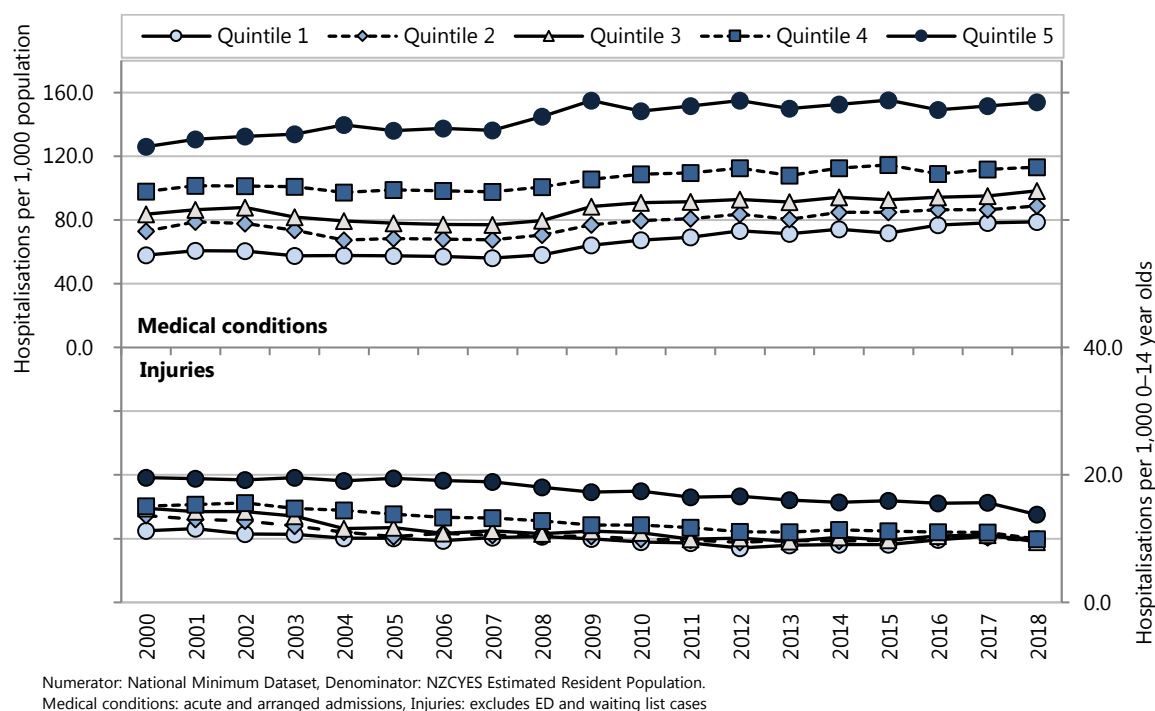


Figure 16. Hospitalisation rates in 0–14 year olds (excluding neonates), by category and deprivation score, New Zealand 2000–2018



From 2000, Pacific children experienced consistently higher hospitalisation rates for medical conditions when compared to their peers of other ethnic groups (Figure 18) which is reflected in the higher rate of all-cause hospitalisation for this group of children (Figure 17). Since 2000, all-cause hospitalisation rates have widened overall, particularly when comparing hospitalisation rates for Māori and Pacific children with those of European/Other ethnicity (Figure 17).

With the exception of children of European/Other ethnicity, who saw the most stable medical condition hospitalisation rates of around 60 hospitalisations per 1,000 age-group-specific population between 2000 and 2018, children of all other ethnicities experienced increasing hospitalisation rates during the same period (Figure 17, Figure 18). With the exception of children of Asian/Indian ethnicity, children of all other ethnicities saw injury hospitalisation rates decrease during 2000–2018 (Figure 17, Figure 18).

Figure 17. All-cause hospitalisation rates in 0–14 year olds (excluding neonates), by ethnicity, New Zealand 2000–2018

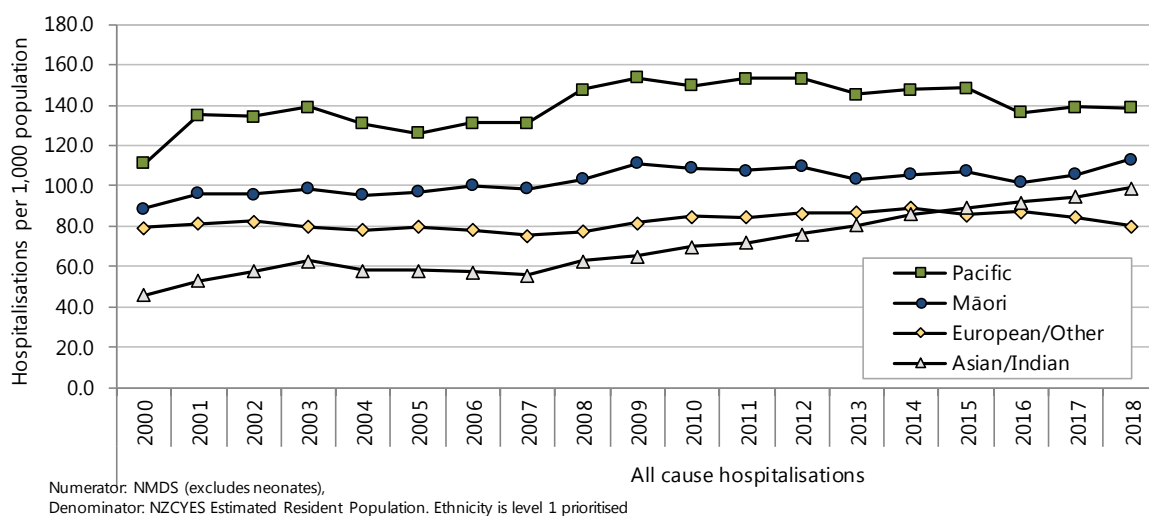
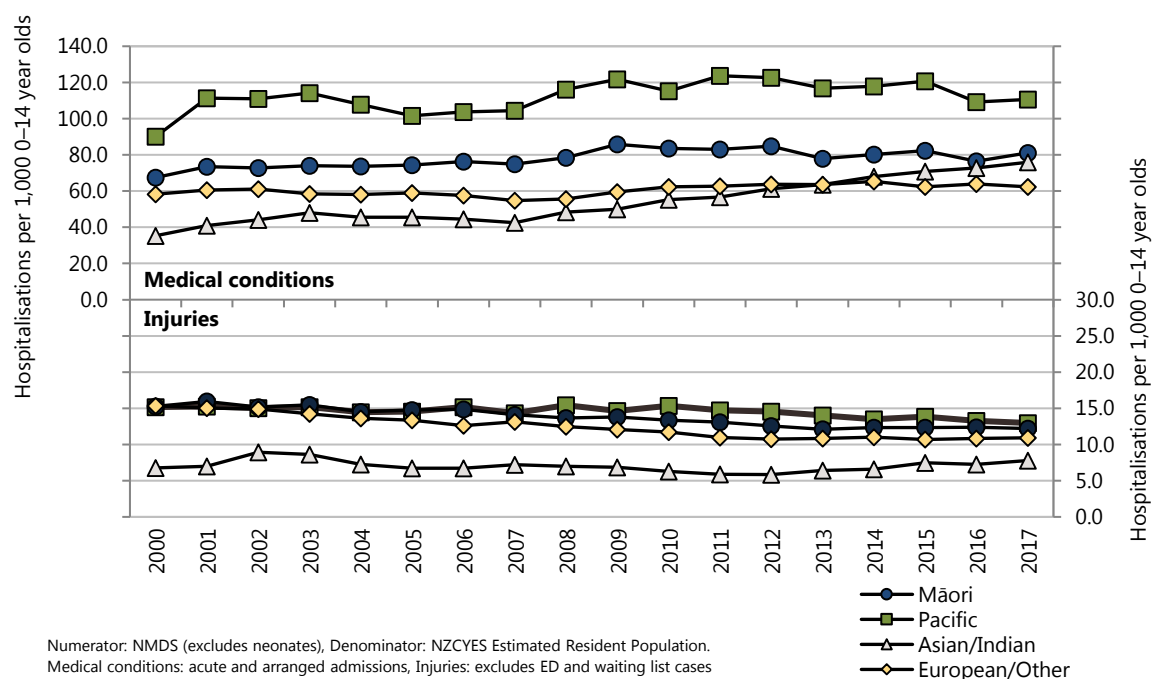


Figure 18. Hospitalisations in 0–14 year olds (excluding neonates), by category and by ethnicity, New Zealand 2000–2018



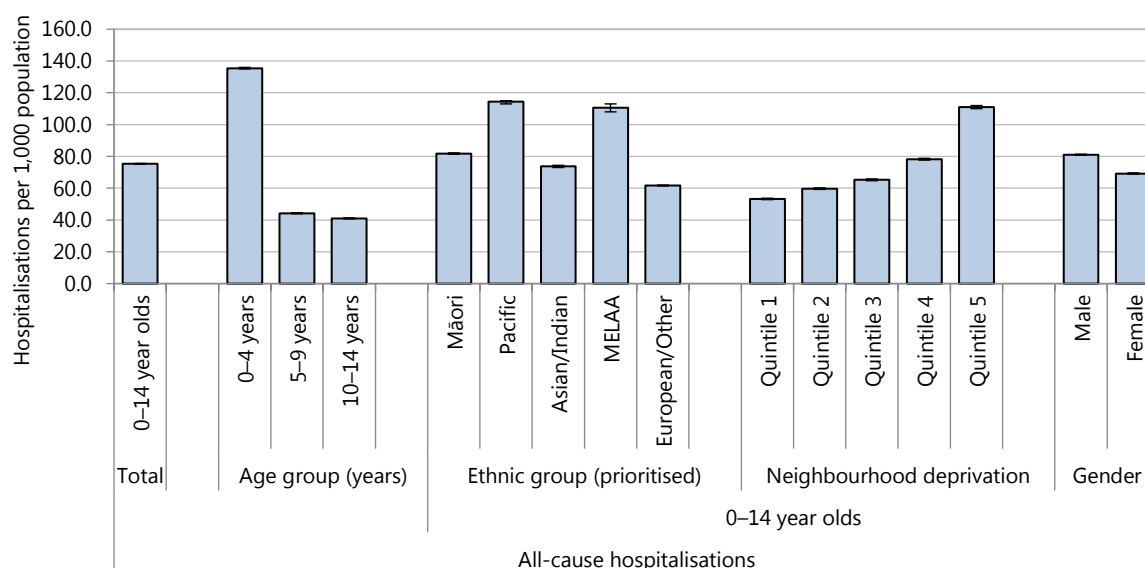
In the five years from 2014–2018, there were 345,492 all-cause hospitalisations of under-15 year olds, of which 218,681 were in those aged 0–4 years at a rate of 135 per 1,000 population (Figure 19).

Children of Pacific and Middle Eastern, Latin American and African (MELAA) ethnic groups experienced significantly higher hospitalisation rates when compared to other ethnic groups, while European/Other children had the lowest of all groups.

All-cause hospitalisation rates were significantly different by deprivation score, with under-15 year olds living in areas with the highest deprivation scores (most deprived, quintile 5) experiencing twice the hospitalisation rate of those living in areas with the lowest deprivation score (quintile 1).

This univariate analysis is not able to quantify the independent effect of each demographic factor.

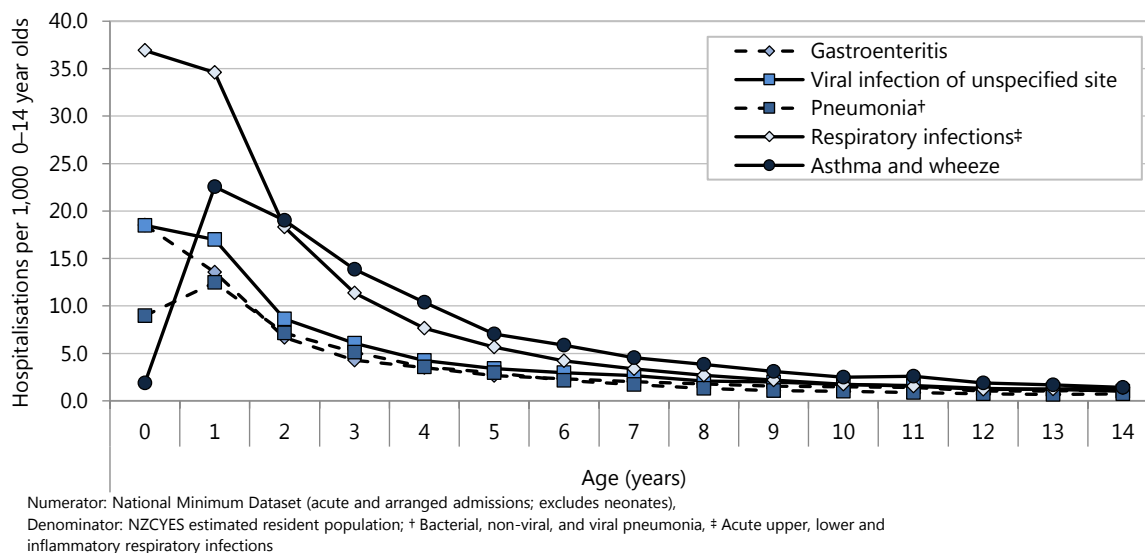
Figure 19. All-cause hospitalisations in 0–14 year olds, by demographic factor, New Zealand 2014–2018



Numerator: National Minimum Dataset (excluding neonates), Denominator: NZCYES Estimated Resident Population.
 Medical conditions: acute and arranged admissions, Injuries: excludes ED and waiting list cases

From the five years between 2014 and 2018, hospitalisation rates for selected respiratory and communicable diseases with a social gradient were highest for the youngest children (aged under one year) and declined steeply for children over the age of one before a gradual decline with increasing age (Figure 20). Respiratory infections had the highest hospitalisation rates in 0–1 year olds and asthma and wheeze contributed to the highest rates among children aged two years and older.

Figure 20. Hospitalisations for select conditions with a social gradient in 0–14 year olds, by age, New Zealand 2014–2018



Respiratory system diseases saw the steepest social gradient by deprivation score of all medical conditions and injuries (Figure 21, Figure 22), with 13.6 hospitalisations per 100,000 for children in areas with the lowest deprivation scores (quintile 1) compared to 42.2 hospitalisations per 100,000 for children in areas with the highest deprivation scores (quintile 5). The hospitalisation rate for respiratory conditions was three times as high for children in areas with the highest deprivation scores compared with those living in areas with the lowest deprivation scores (quintile 5). There were also significant social gradients by deprivation score for infectious and parasitic diseases, falls, and inanimate mechanical forces, with hospitalisation rates higher for children in areas with the highest deprivation scores (quintiles 4 and 5) when compared to quintile 1. Higher injury rates for children living in areas with high deprivation scores may be associated with unsafe housing, poorly enforced tenant protection laws, less access to safe spaces to play, and poor maintenance of recreational facilities.⁵³⁻⁵⁵

Figure 21. Hospitalisation rate for medical conditions in 0–14 year olds, by ICD chapter and deprivation score, New Zealand 2014–2018

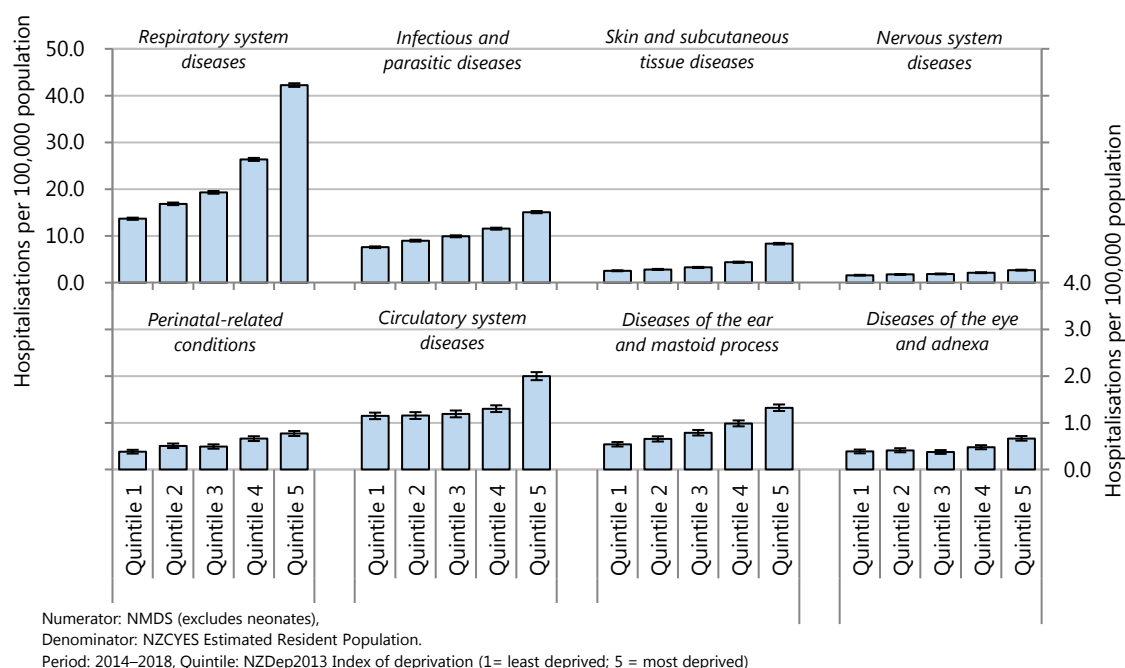
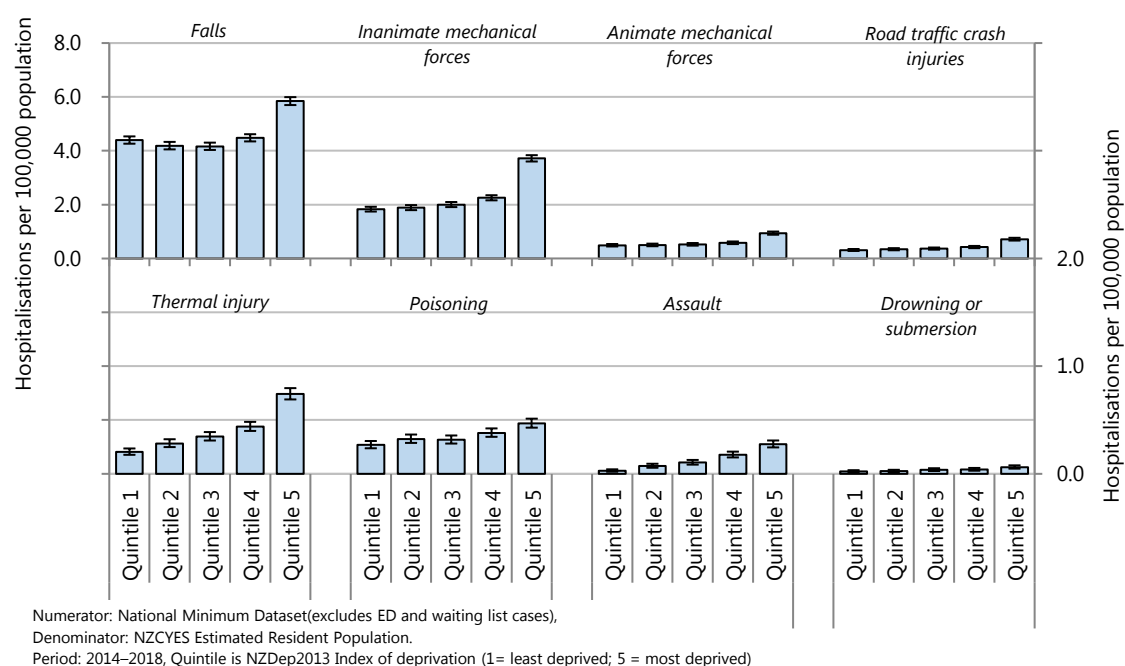


Figure 22. Hospitalisation rate for injuries in 0–14 year olds, by ICD chapter and deprivation score, New Zealand 2014–2018



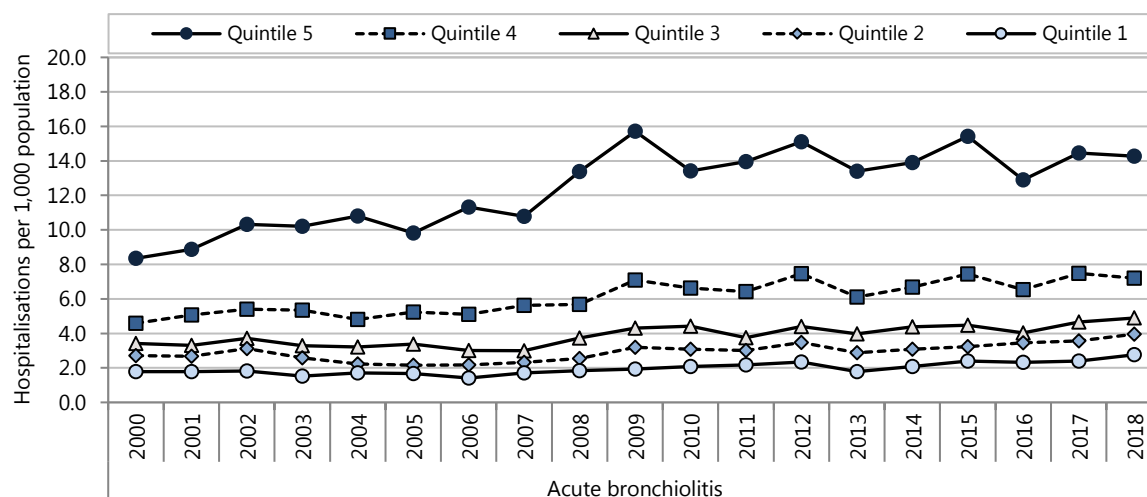
Of the respiratory system diseases, bronchiolitis had the largest equity gap between children in the most deprived areas (quintile 5) compared to children in the least deprived areas (quintile 1), with quintile 5 experiencing rates of hospitalisation nearly five times of those in quintile 1 in 2018, a difference which has been widening since 2000 (Figure 23).

Rates for asthma and wheeze have been increasing overall for each quintile from 2000–2018, with the gap between children in the most deprived area (quintile 5) and all other quintiles widening over time (Figure 24). Rates for asthma and wheeze in children living in the most deprived areas are over two times the rates seen in the least deprived areas.

The gap in hospitalisation rates for pneumonia between children in the most deprived areas (quintile 5) and all other quintiles narrowed marginally from 2000–2018; however children in quintiles 1–4 continue to experience much lower hospitalisation than those in quintile 5 (Figure 25).

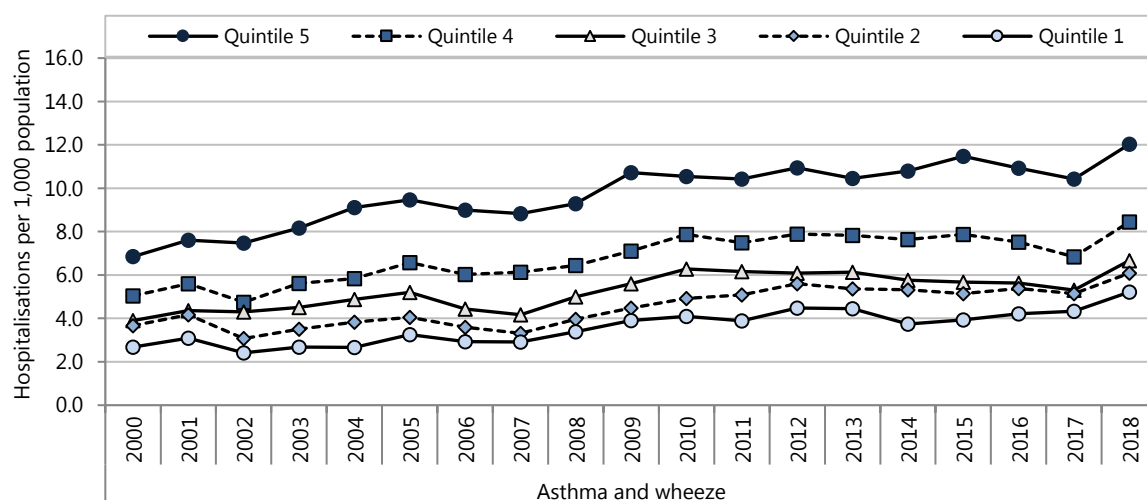
Hospitalisation rates for other acute respiratory infections were overall stable from 2000 until 2008, when rates began increasing for children in every quintile while increasing most steeply for those in more deprived areas (quintiles 4–5) (Figure 26).

Figure 23. Hospitalisation rates for bronchiolitis in 0–14 year olds, by deprivation score, New Zealand 2000–2018



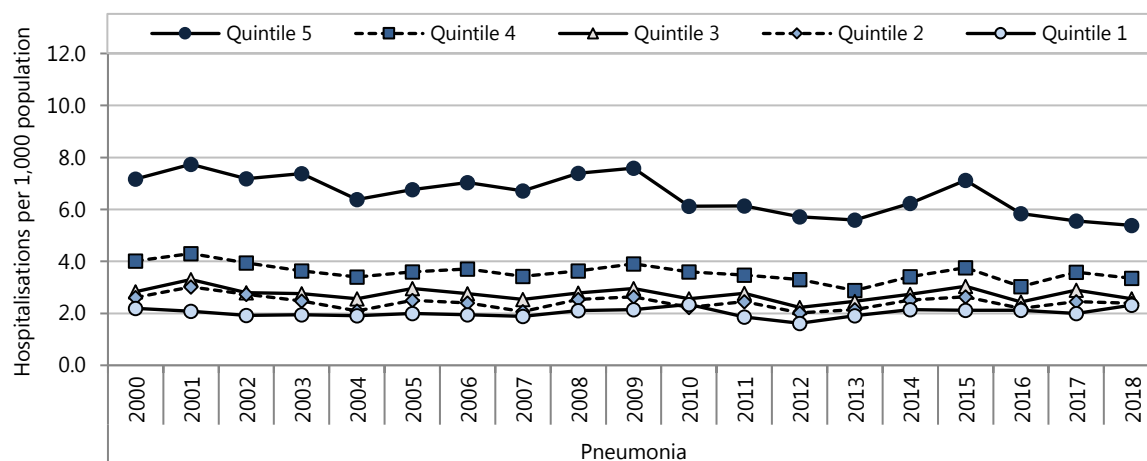
Numerator: National Minimum Dataset (acute and arranged admissions; excludes neonates),
Denominator: NZCYES Estimated Resident Population.
Quintile: NZDep2013 Index of deprivation (1= least deprived; 5 = most deprived)

Figure 24. Hospitalisation rates for asthma and wheeze in 0–14 year olds, by deprivation score, New Zealand 2000–2018



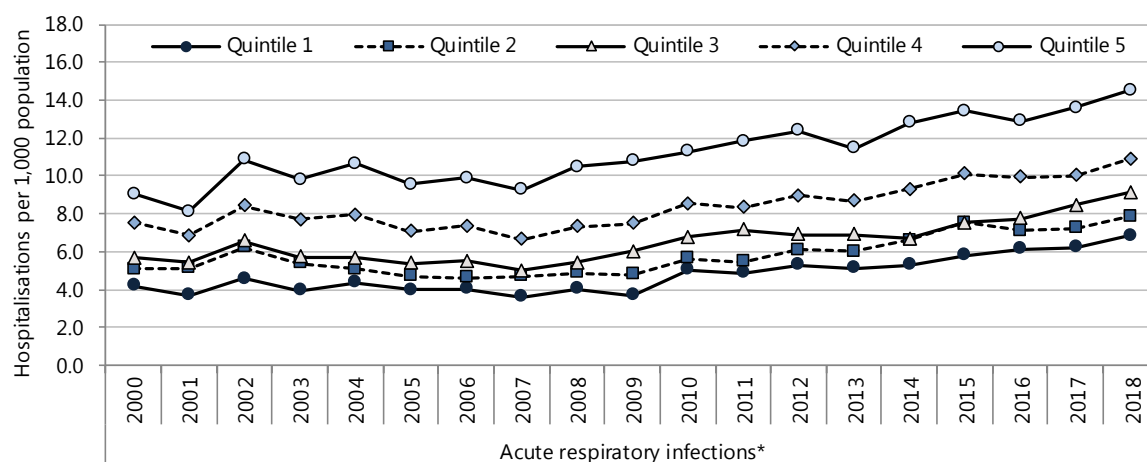
Numerator: National Minimum Dataset (acute and arranged admissions; excludes neonates),
Denominator: NZCYES Estimated Resident Population.
Quintile: NZDep2013 Index of deprivation (1= least deprived; 5 = most deprived)

Figure 25. Hospitalisation rates for pneumonia in 0–14 year olds, by deprivation score, New Zealand 2000–2018



Numerator: National Minimum Dataset (acute and arranged admissions; excludes neonates),
Denominator: NZCYES Estimated Resident Population.
Quintile: NZDep2013 Index of deprivation (1= least deprived; 5 = most deprived)

Figure 26. Hospitalisation rates for other acute respiratory infections in 0–14 year olds, by deprivation score, New Zealand 2000–2018



Numerator: National Minimum Dataset (acute and arranged admissions; excludes neonates), Denominator: NZCYES Estimated Resident Population. Quintile: NZDep2013 (1= least deprived; 5 = most deprived); *acute upper and other acute lower respiratory infection

Hospitalisation rates for gastroenteritis have seen a narrowing of the equity gap by quintile since 2014, when a rotavirus vaccine was introduced in the routine childhood immunisation programme (Figure 27).

Hospitalisation rates for viral infections have been increasing from 2000–2018 with gaps between quintiles widening marginally (Figure 28).

Figure 27. Hospitalisation rates for gastroenteritis in 0–14 year olds, by deprivation score, New Zealand 2000–2018

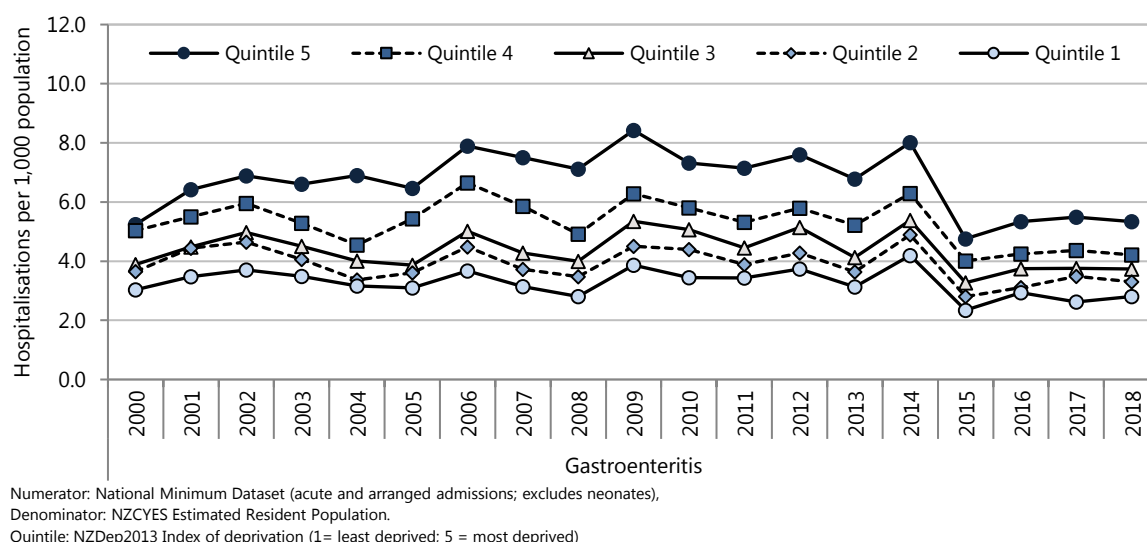
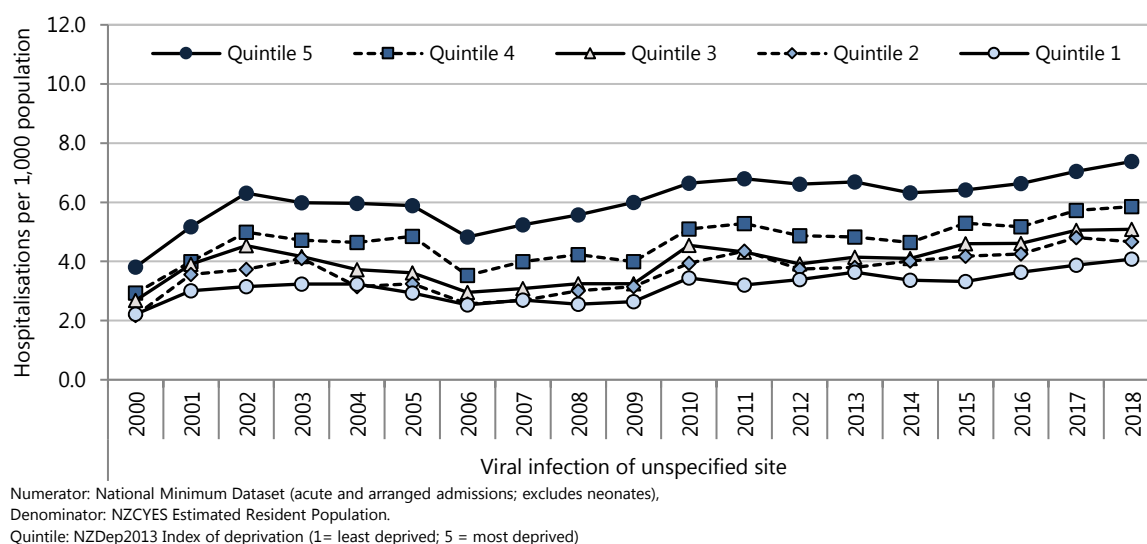


Figure 28. Hospitalisation rates for viral infections of unspecified sites in 0–14 year olds, by deprivation score, New Zealand 2000–2018



Early deaths

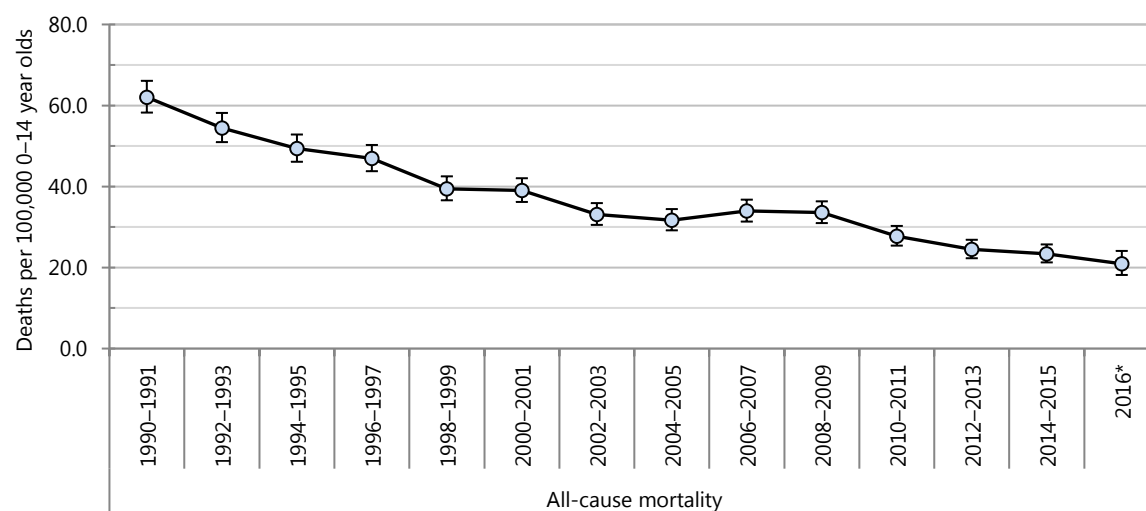
The all-cause mortality rate for under-15 year olds declined from 62.0 to 20.9 deaths per 100,000 age-specific population between 1990–91 and 2016 (Figure 29). Because of delays in recording causes of deaths under coronial investigation, there is a lag in the release of New Zealand mortality data (2016 data were released in 2019).

In the five years from 2012–2016 there were 1,063 deaths of 0–14 year olds (excluding neonates). Of these deaths, 618 were as a result of medical conditions (an annual average of 124), 259 as a result of injury (annual average: 52) and 185 sudden unexpected deaths in infancy (SUDI) at an annual average of 37 (Table 2). The most common main underlying medical causes of death were congenital anomalies and perinatal-related conditions, and cancers (neoplasms). The most common modes of fatal injury were motor vehicle traffic, suffocation, and drowning.

From 2012–2016, the mortality rate was highest in the first year of life, reflecting the predominance of SUDI and of perinatal conditions and congenital anomalies in the main underlying causes of death. Māori and for Pacific under-15 year olds experienced a significantly higher mortality rate compared with the rates for other ethnic groups (Figure 30). Children living in neighbourhoods with the least neighbourhood deprivation (NZDep2013 score of quintile 1) experienced a significantly lower

mortality rate than children in other quintiles. The mortality rate for children living in neighbourhoods with the highest NZDep2013 scores (greatest deprivation, quintile 5) was just over three times as high as the mortality rate in quintile 1. Children in quintile 4 also experienced a significantly higher mortality rate than children in quintile 1.

Figure 29. All-cause mortality rate in 0–14 year olds (excluding neonates) New Zealand 1990–2016



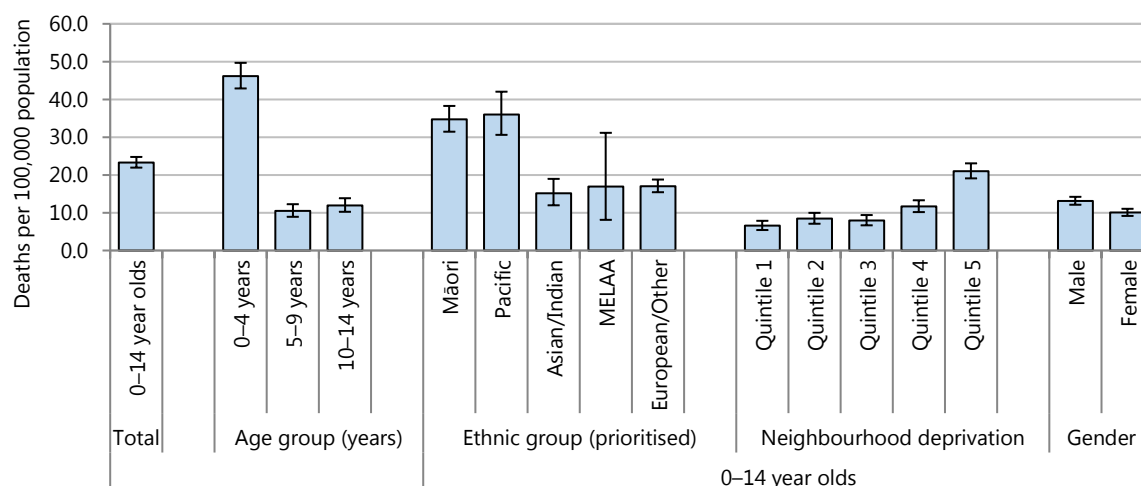
Numerator: National Mortality Collection (excluding neonates), Denominator: NZCYES Estimated Resident Population

Table 2. All-cause mortality in 0–14 year olds (excluding neonates), by cause of death category, New Zealand 2012–2016

| Cause of death | 2012–2016 (n) | Annual average (n) | Rate per 100 population | 95% CI | % |
|---------------------|---------------|--------------------|-------------------------|-------------|-------|
| New Zealand | | | | | |
| All-cause mortality | | | | | |
| Medical conditions | 618 | 124 | 13.56 | 12.51–14.67 | 58.1 |
| Injury | 259 | 52 | 5.68 | 5.01–6.42 | 24.4 |
| SUDI | 185 | 37 | 4.06 | 3.49–4.69 | 17.4 |
| Total | 1,063 | 213 | 23.32 | 21.94–24.76 | 100.0 |

Numerator: National Mortality Collection (excluding neonates), Denominator: NZCYES Estimated Resident Population. SUDI = Sudden Unexpected Death in Infancy

Figure 30. All-cause mortality in 0–14 year olds (excluding neonates), by demographic factor, New Zealand 2012–2016



Numerator: National Mortality Collection (excluding neonates), Denominator: NZCYES Estimated Resident Population.
Period: 2012–2016, Quintile is NZDep2013 Index of deprivation (1= least deprived; 5 = most deprived)

There was a social gradient in all-cause mortality rates in under-15 year olds from 1990–2016, with rates increasing with increasing NZDep2013 scores (Figure 31).

In 2016, mortality rates in under-15 year olds living in areas with the highest deprivation score (quintile 5) were nearly two and a half times those of children living in areas with the lowest deprivation score (quintile 1). The gap between the rates of those in lower deprivation areas and those in the highest deprivation has narrowed since 1990–91, while rates for all quintiles have overall declined (Figure 31). The mortality rates for children in quintile 5 (highest deprivation) are close to a third of what they were in 1990–91.

Since 1996–97, there has been a decrease in mortality rates for children of all ethnic groups, with the steepest decline for rates in Māori children (Figure 32). The mortality rate for Māori children in 2016 was half that of the rate for Māori children in 1996–97. Mortality rates have been consistently higher for Māori and Pacific children when compared to European/Other and Asian/Indian children.

Figure 31. Mortality rates in 0–14 year olds (excluding neonates), by area deprivation score, New Zealand 1990–2016

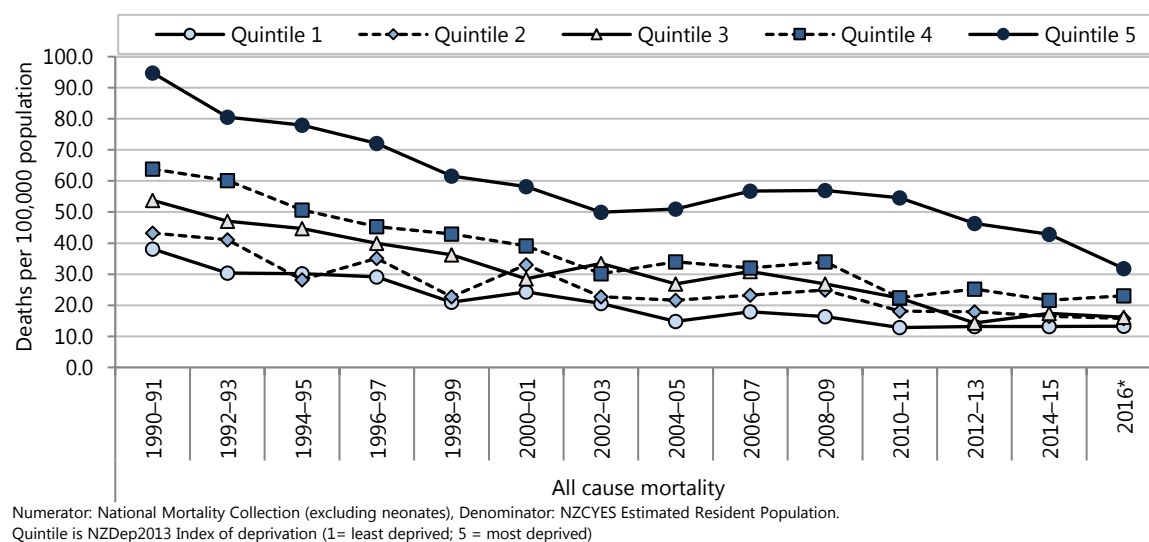
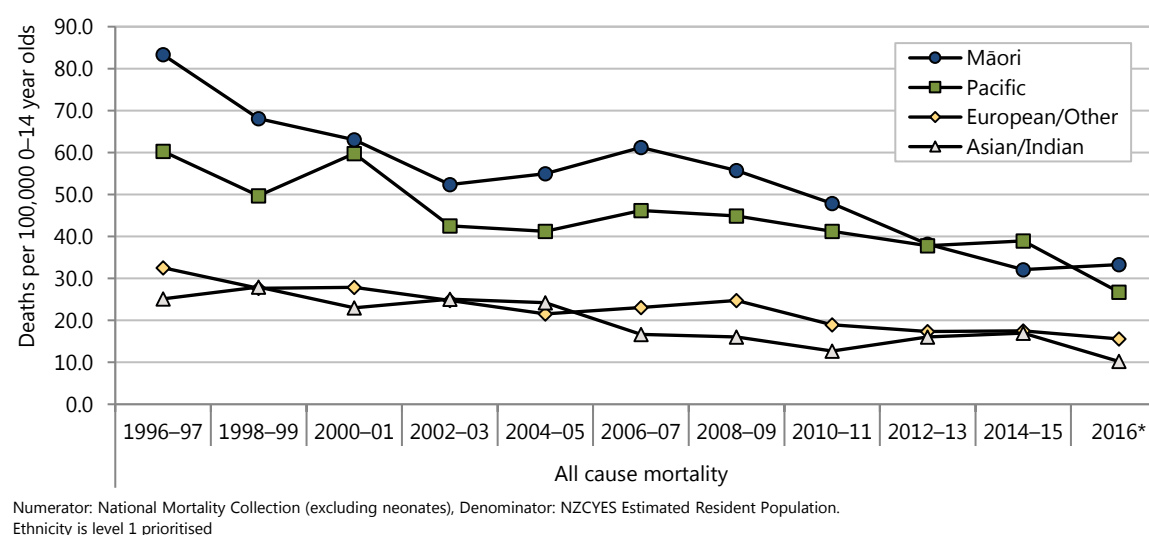


Figure 32. Mortality rate of 0–14 year olds (excluding neonates), by ethnicity, New Zealand 1996–2016

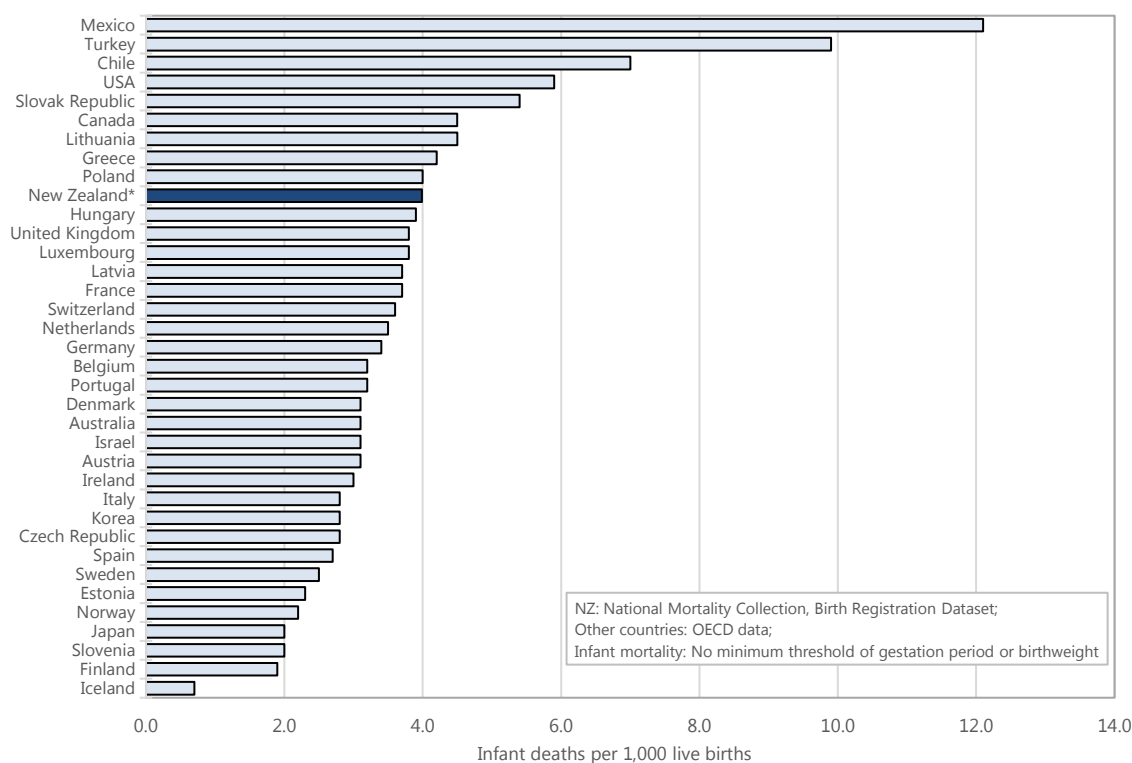


Infant deaths

Health inequities (avoidable inequalities) in infants' chances of survival are impacted by both the characteristics and effectiveness of health systems as well as the associated factors of household income, living conditions, indigeneity, and parent education status.⁵⁶⁻⁵⁸ The resources and choices available to whānau for preventing infant death are often contingent on factors outside their control.⁵⁹ Differences in infant survival within high-income countries reflect commitment to support the flourishing of every parent-to-be, pregnancy, whānau and baby by means of good system capacity, appropriate allocated resources, and responsive service delivery.⁶⁰

Infant mortality rates in most high-income countries are less than 10 infant deaths per thousand live births.⁶⁰ The infant mortality rate in New Zealand is higher than the OECD average.⁶¹ The 2016 infant mortality rate for New Zealand was similar to the rates in Poland and Hungary, higher than Australia and more than twice the rates in Finland and Iceland (Figure 33).⁶² Some of the international variation in infant mortality rates is due to variations among countries in registering practices for premature infants. The United States and Canada register a much higher proportion of babies weighing less than 500g, with low odds of survival, resulting in higher reported infant mortality. In Europe, several countries apply a minimum gestational age of 22 weeks (or a birth weight threshold of 500g) for babies to be registered as live births and thus infant mortality rates may be lower.⁶²

Figure 33. Deaths of children aged under one year, per 1,000 live births, OECD 2016



This section reviews infant deaths, including sudden unexpected death in infancy (SUDI), using information from the National Mortality Collection and the Birth Registration Dataset.

Data sources and methods

Indicators

Infant mortality rate

Sudden Unexpected Death in Infancy (SUDI) rates

Data sources

Numerator: National Mortality Collection

Denominator: Birth Registration Dataset (live births only)

Other countries: OECD (via OECD data)

Definitions

Infant death: Death of a liveborn infant prior to 365 days of life.

Infant mortality rate: Death of a liveborn infant prior to 365 days of life per 1,000 live births

Sudden unexpected death in infancy (SUDI): Death of a liveborn infant prior to 365 days of life, where the cause of death was sudden infant death syndrome (SIDS), accidental suffocation or strangulation in bed, inhalation of gastric contents or food, or ill-defined or unspecified causes

SUDI rate: SUDI per 1,000 live births

SIDS: Refers to the sudden, unexpected death in an infant that is unexplained, even after a complete death scene investigation, thorough post-mortem (autopsy) and review of the infant's clinical history.

Additional information

Cause of death is the main underlying cause of death. Refer to Appendix 1 for relevant codes.

Infant mortality rates fell overall from 1990 to 2016, with most of that decrease occurring during the 1990s followed by a more gradual decline from 2000 to 2007 (Figure 34). Infant mortality rates have been fairly stable from 2006–2015 with an apparent decrease in 2016 for the single year of data.

Infant mortality in New Zealand has significantly decreased since 1990 (Figure 34). Infants of Māori, Pacific and European/Other ethnic groups saw a lower mortality rate in 2016 when compared to 1996. The rates of infant mortality among Māori, Pacific and European/Other ethnic groups were lower in 2016 when compared to 1996. Māori and Pacific infants experienced persistent inequity during this time period, with mortality rates in their European/Other peers lower in comparison.

During 2012–2016, infants experienced inequitable likelihood of surviving the first year of life according to neighbourhood socioeconomic deprivation (NZDep2013), maternal age, ethnicity and gender as shown by Figure 35. The mortality rate for infants born in areas with the highest socioeconomic deprivation scores (quintile 5) was almost two and a half times as high as the mortality rate for infants born in areas with the lowest deprivation scores (quintile 1).

When compared to European/Other infants, Māori infants experienced a mortality rate that was 1.5 times as high, and Pacific infants experienced a mortality rate 1.8 as high. Compared with infants born to mothers aged 30–34 years, the mortality rate for infants born to mothers aged younger than 20 years was almost three times as high, while the rate for infants born to mothers aged 20–24 years was 1.8 times as high. The mortality rate for male infants was significantly higher than the rate for female infants.

Infant deaths that occurred around the time of birth commonly resulted from congenital anomalies, extreme prematurity and other perinatal conditions (Table 3). Sudden unexpected death in infancy (SUDI) was the most common cause of death for infants aged from 28 days to one year.

Figure 34. Infant mortality rates by ethnicity, New Zealand 1990–2016

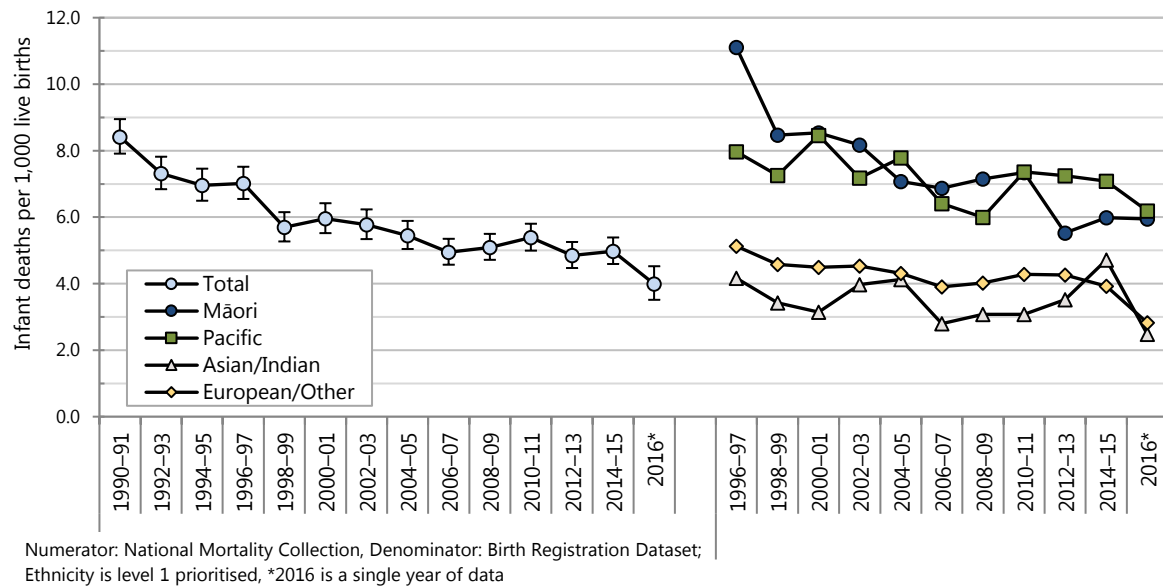


Figure 35. Infant mortality, comparison by demographic factor, New Zealand 2012–2016

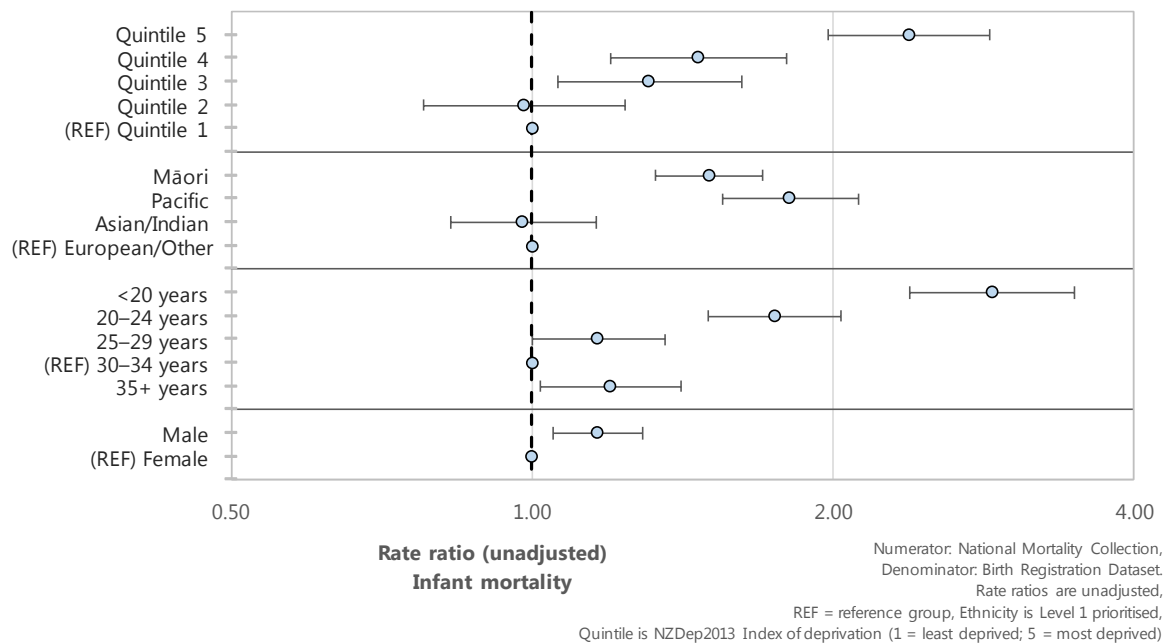


Table 3. Infant mortality by main underlying cause of death, New Zealand 2012–2016

| Cause of death | 2012–2016 (n) | Annual average (n) | Rate per 1,000 live births | % |
|---|---------------|--------------------|----------------------------|-------|
| New Zealand | | | | |
| Infant mortality | | | | |
| Congenital anomalies | 335 | 67 | 1.11 | 23.4 |
| Extreme prematurity | 291 | 58 | 0.96 | 20.3 |
| Other perinatal conditions | 419 | 84 | 1.38 | 29.3 |
| SUDI: SIDS | 88 | 18 | 0.29 | 6.2 |
| SUDI: suffocation or strangulation in bed | 107 | 21 | 0.35 | 7.5 |
| SUDI: all other types | 14 | 3 | 0.05 | 1.0 |
| Injury or poisoning | 26 | 5 | 0.09 | 1.8 |
| Intrauterine hypoxia or birth asphyxia | 12 | 2 | 0.04 | 0.8 |
| Other causes | 138 | 28 | 0.46 | 9.7 |
| Total | 1,430 | 286 | 4.73 | 100.0 |

Numerator: National Mortality Collection, Denominator: Birth Registration Dataset; SUDI = Sudden Unexpected Death in Infancy, SIDS = Sudden Infant Death Syndrome

Sudden unexpected death in infancy

Sudden unexpected death in infancy (SUDI) is the leading cause of death for New Zealand infants aged from 28–364 days and usually occurs in otherwise healthy infants.⁵⁹ Protection against this potentially avoidable tragic death is influenced by the support provided to whānau with regard to accessing: basic health services and transport to reach those services, appropriate and engaging health resources, adequate housing and safe places for infants to sleep, sufficient heating and financial resources, and effective smoking cessation interventions.⁵⁹

The rate of SUDI in New Zealand has significantly decreased since 1990 (Figure 36). Some of this decrease has been attributed to initiatives that occurred during the 1990s designed to make health messages more accessible (for example about appropriate sleeping positions for babies).⁵⁹ From 2012–2016, half of the cases of SUDI occurred when the infant was in bed and had their airway blocked so they couldn't breathe (Table 3).

Infants of Māori ethnicity saw the largest decrease in SUDI since 1996 when compared to their peers of other ethnicities, while the rate for Pacific infants has fluctuated. Persistent avoidable inequities remain for Māori and Pacific infants when compared to their European/Other peers at a rate of SUDI three to four times higher (Figure 37).

During 2012–2016, SUDI was experienced inequitably according to neighbourhood socioeconomic deprivation (NZDep2013), maternal age, ethnicity, gender and gestational age at birth and as shown by Figure 37. The mortality rate for infants born in areas with the highest socioeconomic deprivation scores (quintile 5) was almost seven times as high as the mortality rate for infants born in areas with the lowest deprivation scores (quintile 1). The SUDI rate for infants born to mothers aged under 20 years was almost seven times as high as the rate for infants born to mothers aged 30 years or older, while for those born to mothers aged 20–25 years it was more than four times higher. The SUDI rate for infants born before 37 weeks gestation was just over three times as high as the SUDI rate for infants born at or after 37 weeks gestation.

Figure 36. Trends in sudden unexpected death in infancy (SUDI) by ethnicity, New Zealand 1990–2016

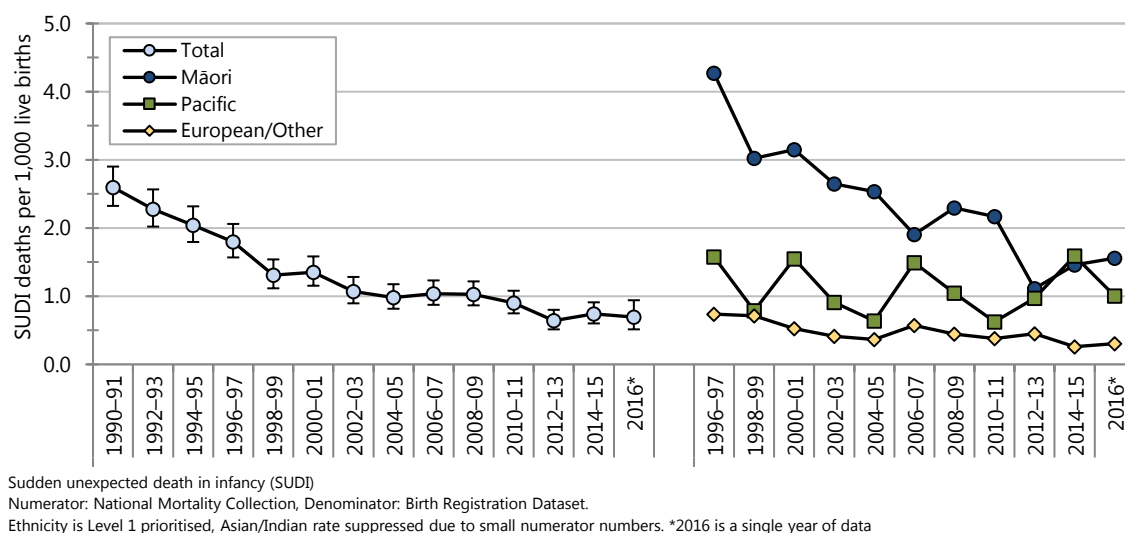
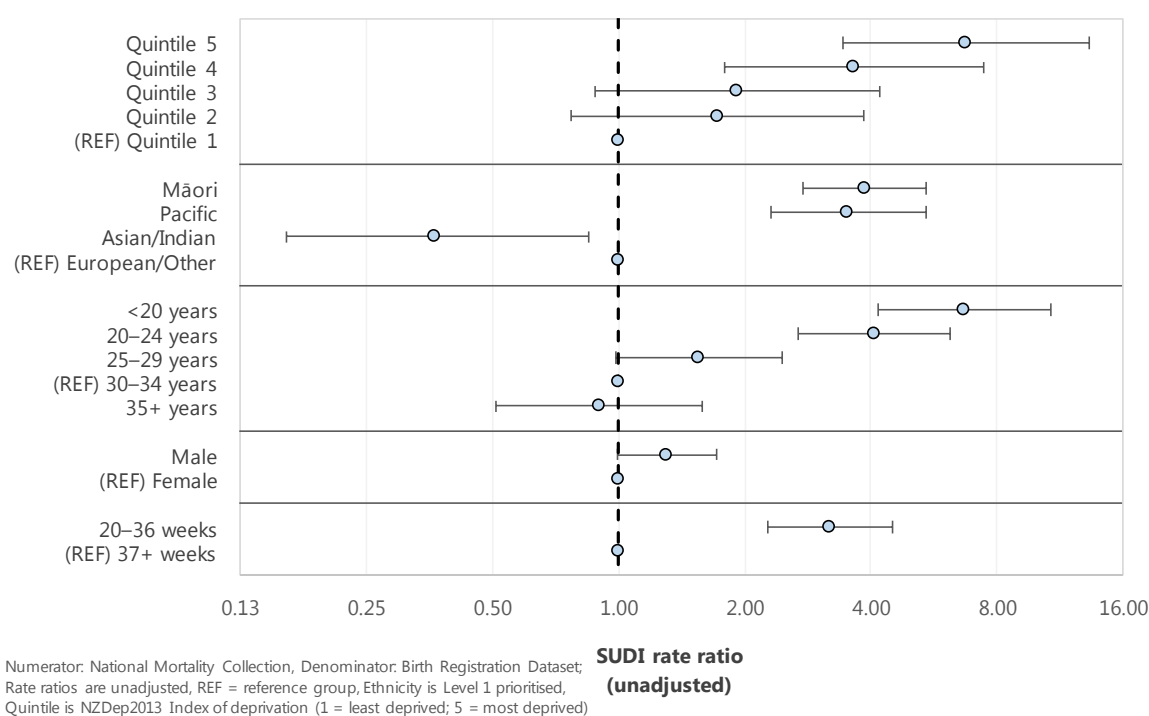


Figure 37. Sudden unexpected death in infancy, comparison by demographic factor, New Zealand 2012–2016



Healthy food

Children and their families enjoy food security when they have the assured ability to acquire nutritionally adequate and safe foods that meet cultural needs in a socially acceptable way.⁶³ Low food security exists in household situations with limited resources.⁶⁴ Households reporting low food security spend less on food overall than households with moderate food security, and particularly spend less on fruit, vegetables and cereals and tend to spend less on milk.^{63,64} In New Zealand, food insecurity is driven mainly by a lack of sufficient money for food.¹⁰

The 2015/16 New Zealand Health Survey estimated that 19% of New Zealand children live in a household where the primary caregiver indicated the household was food-insecure. This may not directly translate to the experience of individual children, as caregivers may shield children from the full effects of food insecurity by restricting their own intake.¹⁰

Household income and income source were strongly associated with the likelihood of food insecurity. In households including children, with a gross income at or below \$50,000 per annum, 42.8% reported severe-to-moderate food insecurity, compared with 8.3% of households with gross income over \$50,000 per annum.¹⁰ More than half (56%) of children included in households receiving income-replacement financial assistance lived in households experiencing severe-to-moderate food insecurity. A significantly lower proportion of children where the primary caregiver was not supported by such financial assistance lived in food-insecure households (12%).¹⁰ Over half (52%) of the children living in households experiencing food insecurity were in households where the primary caregiver received an income-replacement welfare entitlement.¹⁰

Hardship assistance is available for people with insufficient income and assets, who have immediate and specific needs that cannot be met by their own resources.⁶⁵ Across all ages, the number of hardship assistance grants for food has increased from 84,492 in the June 2014 quarter, to 229,132 in the June 2019 quarter. It is not clear if this increase is driven by rising need or an easier application process. Analysis of earlier data suggested that the number of hardship grants per household has increased, rather than the number of households requiring hardship assistance for food.²²

Food security is a child poverty related indicator that will be reported annually from early 2020.⁵ Robust data, comparable from year to year, will provide an opportunity to describe in more detail the effects of policy changes on access to health nutritious food for children in New Zealand.

Nurturing and protecting children

Effective discipline

In New Zealand, many parents and whānau pride themselves on the care they take to nurture their children towards good morals, values, attitudes and behaviours that they can carry with them into adulthood. Children are cherished and it is widely appreciated that children need to have opportunities to be inquisitive and explore, which can sometimes lead to accidents or getting up to mischief. This knowledge is illustrated in the whakataukī (proverb), Ko te mahi a te tamariki, he wāwāhi tahā – the activities of children break calabashes.⁶⁶

When children's activities don't go to plan, whānau play an important role in safeguarding children while also helping them learn from the events that happen. Until relatively recently in New Zealand society, it was common for adults to use corrective force (physical punishment, such as smacking) in schools or in the home.⁶⁷ However, an abundance of evidence highlights that corrective force and responding to unwanted behaviour with anger are ineffective means for helping children learn desired attitudes and behaviours that may be of value to them going forward.^{68,69} The use of force in punishment has been causally associated with compromising the developmental, social and emotional potential of children as well as undermining parent-child relationships.^{67,68,70,71}

As a result, physical punishment has been prohibited in schools since 1989 and for parental use since 2007, when the Crimes Act was amended to protect all children from any assault in any context.⁶⁷ Refusing to use physical punishment for correction is of benefit to parenting as well as the ultimate goals of helping children flourish and live with dignity.⁶⁷ Practical guidance to help parents and caregivers to raise children in a positive way is available through S.K.I.P (Strategies with Kids Information for Parents)⁷² and parenting resources for those who support whānau are available through Oranga Tamariki.⁷³

This indicator presents information from the New Zealand Health Survey on the prevalence of physical punishment of 0–14 year olds by parents or primary caregivers in the 4 weeks preceding the interview.

Data sources and methods

Indicator

Children who received physical punishment in past four weeks

Numerator(s): Sum of the weights for the respondents in the group

Denominator: Sum of the weights for all respondents/population group

Definitions

Children aged between 0–14 years old have received physical punishment in the past four weeks if the child's parent or caregiver has done 'Physical punishment, such as smacking' in the past four weeks when the child misbehaved, as reported by the parent or caregiver.

Data sources

New Zealand Health Survey (NZ Health Survey)

Additional information

Relevant NZ Health Survey question: physical punishment (C3.15).

Survey data (by financial year) is referred to by the year of data beginning. For more information on the NZ Health Survey, please refer either to the Ministry of Health website (<https://www.health.govt.nz>) or to appendices in this report.

Indicator: Children who received physical punishment in past four weeks

Question C3.15: Thinking back over the past 4 weeks, when [child's name] misbehaved, which of the following, if any, have you done? Just read out the number next to the words.

Made him/her go without something or miss out on something

Yelled at him/her

Explained why he/she should not do it

Physical punishment, such as smacking

Told him/her off

Sent him/her to the bedroom or other place in the house

Ignored his/her behaviour

Something else [specify] _____

My child has not misbehaved during the past 4 weeks

Question C3.16a: Using the scale on the showcard, to what extent do you disagree or agree with the following statement? There are certain circumstances when it's alright for parents to use physical punishment, such as smacking, with children.

Strongly disagree / Disagree / Neither disagree nor agree / Agree / Strongly agree

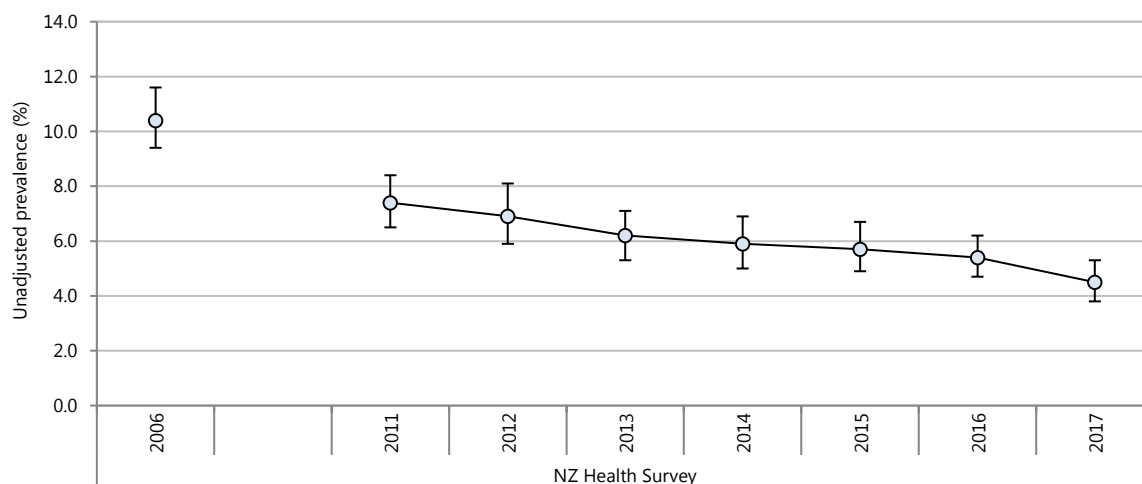
Source: New Zealand Health Survey Annual Data Explorer 2017/18

In 2017, 40.8% of parents agreed that “there are certain circumstances when it is alright for parents to use physical punishment”. Differences between those living in neighbourhoods with the highest deprivation scores compared with those in neighbourhoods with the lowest deprivation scores were not significant.

There was an overall fall in the percentage of children aged 0–14 years who received physical punishment in the past 4 weeks from 2006 to 2017 (Figure 38).

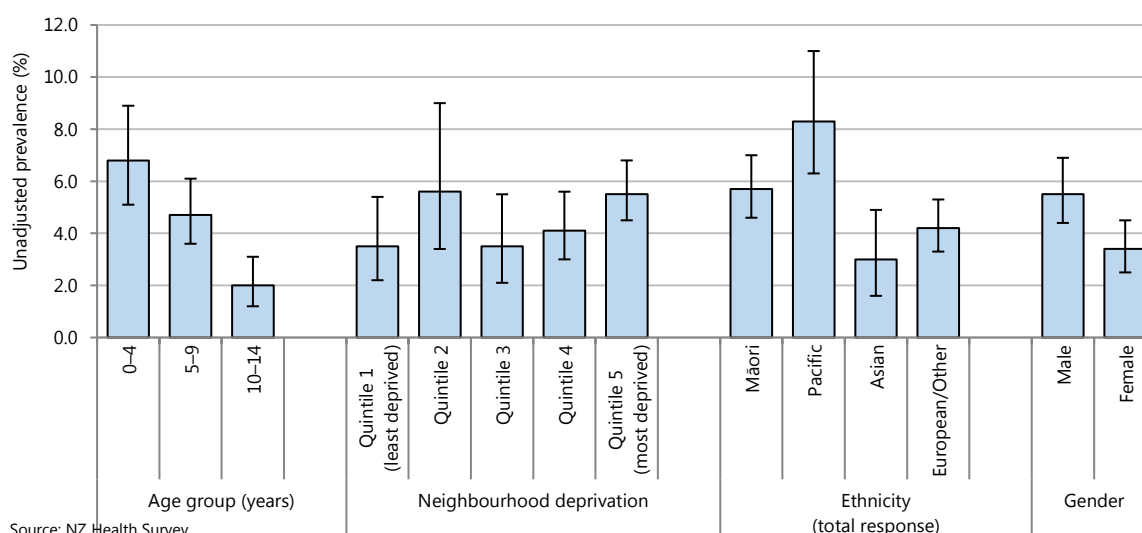
The percentages of 0–14 year olds who received physical punishment are presented as unadjusted rates by demographic factor in Figure 39 and as adjusted rates in Figure 40. Rates of physical punishment were significantly higher for under-ten year olds when compared with older children. Rates of physical punishment were significantly higher for Pacific children (2.14 times as high as non-Pacific rates) and although somewhat higher for Māori children, compared with non-Māori, the difference was not statistically significant. Factoring in confidence intervals, there was no significant difference in rates of physical punishment for 0–14 year olds by level of neighbourhood deprivation (Figure 39, Figure 40).

Figure 38. Physical punishment in 0–14 year olds, by survey year, New Zealand 2006–2017



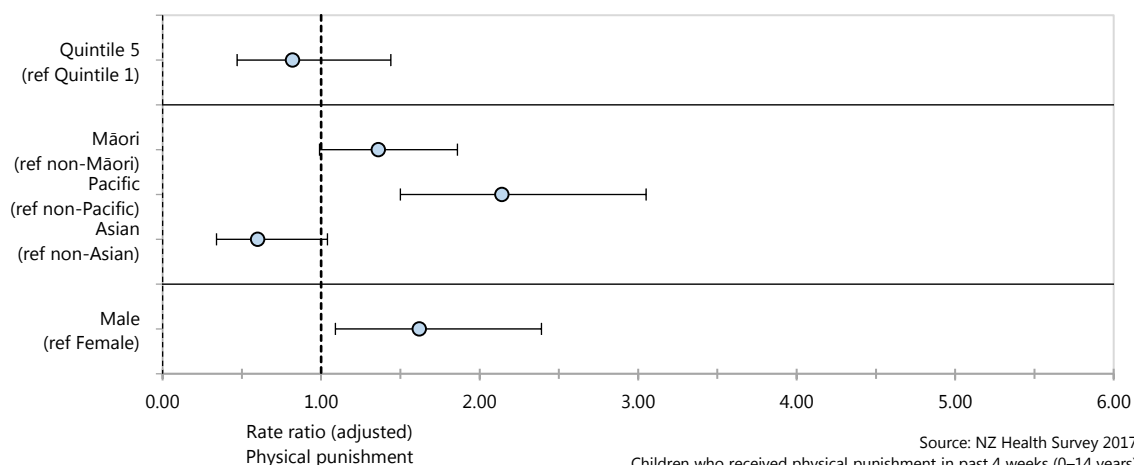
Source: NZ Health Survey;
Children who received physical punishment in past 4 weeks (0–14 years)

Figure 39. Physical punishment in 0–14 year olds, by demographic factor, New Zealand 2017



Source: NZ Health Survey.
Children who received physical punishment in past 4 weeks (0–14 years);
Quintile is NZDep2013 Index of deprivation (1 = least deprived; 5 = most deprived)

Figure 40. Physical punishment in 0–14 year olds, by demographic factor, New Zealand 2017



Source: NZ Health Survey 2017;
Children who received physical punishment in past 4 weeks (0–14 years),
Rate ratios are adjusted, Ethnicity is total response

Child safety

Children are cherished in modern New Zealand society, as they have been in long-standing traditions of Māori society.⁶⁶ Feelings of guardianship and love have been strong foundations for many parent-, whānau- and community-child relationships as people want good relationships with their children and want to protect their welfare.

It is devastating that child assault, neglect and maltreatment continue to infringe on the rights of children and are serious, international public health issues.^{74,75} A child's safety is strongly associated with factors at several different levels, including: the social, cultural and economic context; the community context; the parent and whānau context; and the individual.⁷⁶⁻⁷⁹

Poverty and inequity and their contextual drivers have a profound impact on factors that protect children from maltreatment.⁷⁶⁻⁷⁸ Systems can find it difficult to provide support that prevents relationships from resulting in child maltreatment and, when child maltreatment does happen, systems can also find it difficult to be a safety net for children and whānau⁸⁰⁻⁸² and to coordinate and deliver responsive support.^{78,82-84} People at community or whānau levels, when overburdened with the toxicity of multiple stressors while locked in what seems like an impossible situation of poverty,^{76,85,86} may find they cannot focus on monitoring and safeguarding the welfare of children as much as they want to.

Information on hospitalisations for child maltreatment are the “tip of the iceberg” and such data alone will underestimate the prevalence of how many children are experiencing maltreatment.⁸⁷ Even if a child is being cared for by a hospital, maltreatment-related injuries may be undercounted and some children may be more readily identified with suspected or real maltreatment.^{88,89} Despite these limitations, data on hospitalisations allows for the monitoring of child experiences of maltreatment in a way that can be sensitive and respectful of the privacy of children.⁸⁷

The following section reviews deaths and hospitalisations of New Zealand 0–14 year olds that involved injuries due to assault, neglect or maltreatment, using data from the National Minimum Dataset and the National Mortality Collection.

Data sources and methods

Indicators

Deaths from injuries arising from the assault, neglect, or maltreatment of 0–14 year olds

Hospitalisations for injuries arising from the assault, neglect, or maltreatment of 0–14 year olds

Definitions

Deaths in 0–14 year olds is where intentional injury is a cause of death.

*Hospitalisations** of 0–14 year olds is where there is a primary diagnosis of injury and an intentional injury (assault) external cause code in any of the first 10 external cause codes.[†]

Data sources

Numerator(s): Deaths: National Mortality Collection;
Hospitalisations: National Minimum Dataset.

Denominator: NZCYES Estimated Resident Population (with intercensal extrapolation)

Definitions

Additional information

* As outlined in Appendix 3, in order to ensure comparability over time, all hospitalisations with an emergency department specialty code on discharge were excluded, as were hospitalisations with a non-injury primary diagnosis.

† Refer to Appendix 1 for the codes included in this section.

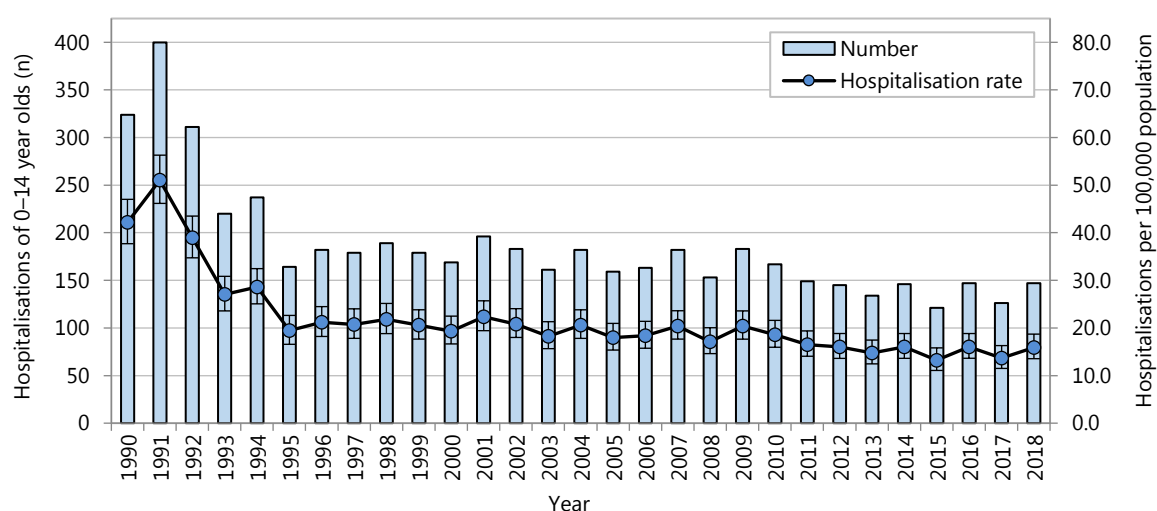
Hospitalisations due to assault, neglect or maltreatment

There was an overall fall in both the number and rate of hospitalisations for injuries arising from assault, neglect or maltreatment of New Zealand children aged 0–14 years from 2001 to 2018, following an earlier sharp decline in such hospitalisations between 1990 and 1995 (Figure 41).

In the five years from 2013–2018 there were 687 hospitalisations of 0–14 year olds for injuries arising from assault, neglect or maltreatment (Table 4), 289 hospitalisations of girls and 398 of boys. The most common injuries sustained in hospitalisations as a result of assault, neglect or maltreatment were head injuries, including 117 traumatic brain injuries (Table 4).

Age-specific hospitalisation rates for injuries arising from assault, neglect or maltreatment were highest in the first year of life (Figure 42). Compared to older age groups, the majority of hospitalisations for traumatic brain injury occurred in younger children, under-5 year olds, and younger children also comprised over three quarters of the hospitalisations for maltreatment (Table 5).

Figure 41. Hospitalisations due to injuries arising from assault, neglect, or maltreatment in 0–14 year olds, by year, New Zealand 1990–2018



Indicator: Injuries arising from the assault, neglect, or maltreatment of children
 Numerator: National Minimum Dataset (ED cases excluded), Denominator: NZCYES Estimated Resident Population

Table 4. Hospitalisations due to injuries arising from assault, neglect, or maltreatment in 0–14 year olds, by nature of injury, New Zealand 2014–2018

| Primary diagnosis | Number | Annual average | Rate per 100,000 population | % |
|---|--------|----------------|-----------------------------|-------|
| Assault, neglect, or maltreatment hospitalisations of 0–14 year olds during 2014–2018 | | | | |
| New Zealand | | | | |
| Traumatic brain injuries | 117 | 23 | 2.55 | 17.0 |
| Superficial head injury | 87 | 17 | 1.90 | 12.7 |
| Fracture skull or facial bones | 52 | 10 | 1.13 | 7.6 |
| Other head injuries | 73 | 15 | 1.59 | 10.6 |
| Injuries to thorax (including rib fractures) | 21 | 4 | 0.46 | 3.1 |
| Injuries to abdomen, lower back, and pelvis | 53 | 11 | 1.16 | 7.7 |
| Injuries to upper limb | 79 | 16 | 1.72 | 11.5 |
| Fractured femur | 9 | 2 | 0.20 | 1.3 |
| Other injuries to lower limbs | 40 | 8 | 0.87 | 5.8 |
| Maltreatment | 96 | 19 | 2.09 | 14.0 |
| Other injuries | 0 | .. | .. | .. |
| Total | 687 | 137 | 14.97 | 100.0 |

Numerator: National Minimum Dataset (ED cases excluded), Denominator: NZCYES Estimated Resident Population

Figure 42. Hospitalisations due to injuries arising from assault, neglect, or maltreatment in 0–14 year olds, by age and gender, New Zealand 2014–2018

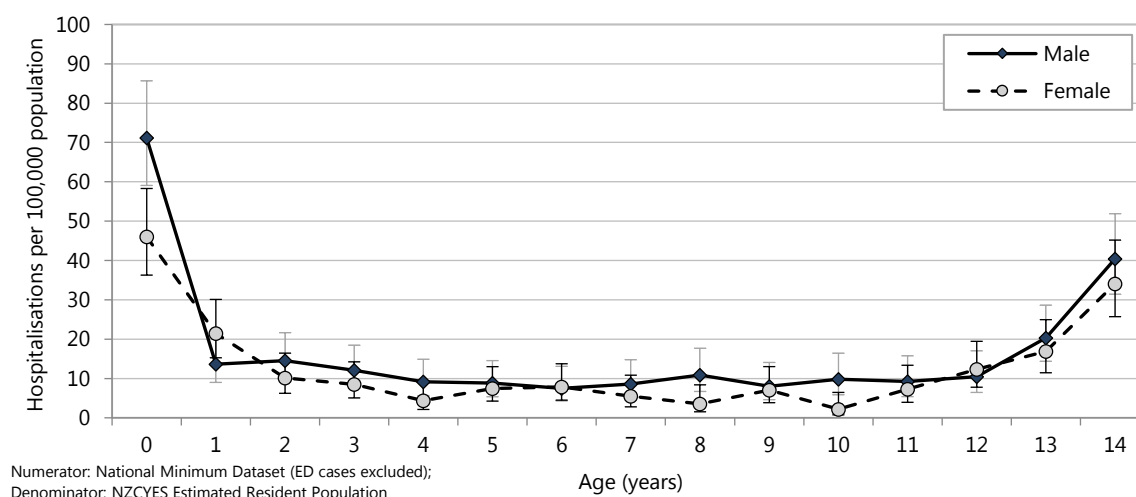


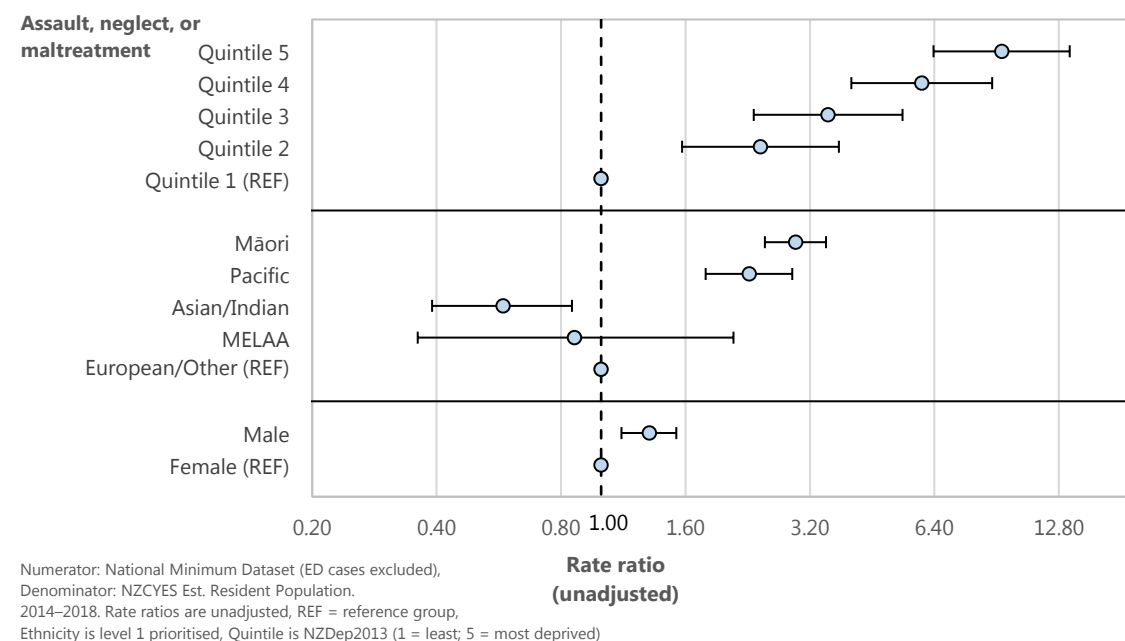
Table 5. Hospitalisations due to injuries arising from assault, neglect, or maltreatment in 0–14 year olds, by age groups and nature of injury, New Zealand 2014–2018

| Primary diagnosis | 2014–2018 (n) | Annual average | Rate per 100,000 population | % |
|--|---------------|----------------|-----------------------------|-------|
| Assault, neglect, or maltreatment hospitalisations of 0–14 year olds | | | | |
| 0–4 year olds | | | | |
| Traumatic brain injury | 74 | 15 | 4.58 | 22.3 |
| Superficial head injury | 55 | 11 | 3.40 | 16.6 |
| Fracture skull or facial bones | 9 | 2 | 0.56 | 2.7 |
| Other head injuries | 21 | 4 | 1.30 | 6.3 |
| Injuries to upper limb | 35 | 7 | 2.17 | 10.5 |
| Injuries to abdomen, lower back, and pelvis | 18 | 4 | 1.11 | 5.4 |
| (Other) Injuries to lower limbs | 11 | 2 | 0.68 | 3.3 |
| Maltreatment | 74 | 15 | 4.58 | 22.3 |
| Other injuries* | 35 | 7 | 2.17 | 10.5 |
| Total | 332 | 66 | 20.55 | 100.0 |
| 5–9 year olds | | | | |
| Superficial head injury | 12 | 2 | 0.79 | 10.4 |
| Fracture skull or facial bones | 5 | 1 | 0.33 | 4.3 |
| Traumatic brain injury | 5 | 1 | 0.33 | 4.3 |
| Other head injuries | 18 | 4 | 1.19 | 15.7 |
| Injuries to upper limb | 16 | 3 | 1.05 | 13.9 |
| Injuries to abdomen, lower back, and pelvis | 16 | 3 | 1.05 | 13.9 |
| (Other) Injuries to lower limbs | 13 | 3 | 0.86 | 11.3 |
| Maltreatment | 15 | 3 | 0.99 | 13.0 |
| Other injuries* | 15 | 3 | 0.99 | 13.0 |
| Total | 115 | 23 | 7.58 | 100.0 |
| 10–14 year olds | | | | |
| Fracture skull or facial bones | 38 | 8 | 2.61 | 15.8 |
| Traumatic brain injury | 38 | 8 | 2.61 | 15.8 |
| Superficial head injury | 20 | 4 | 1.38 | 8.3 |
| Other head injuries | 34 | 7 | 2.34 | 14.2 |
| Injuries to upper limb | 28 | 6 | 1.93 | 11.7 |
| Injuries to abdomen, lower back, and pelvis | 19 | 4 | 1.31 | 7.9 |
| (Other) Injuries to lower limbs | 16 | 3 | 1.10 | 6.7 |
| Maltreatment | 7 | 1 | 0.48 | 2.9 |
| Other injuries* | 40 | 8 | 2.75 | 16.3 |
| Total | 240 | 48 | 16.50 | 100.0 |

Numerator: National Minimum Dataset (ED cases excluded), Denominator: NZCYES Estimated Resident Population; * Other injuries includes injuries to thorax, rib fractures and femur fractures

There was a clear social gradient with increasing hospitalisation rates for children living in areas with higher scores on the NZDep2013 index of deprivation. Hospitalisation rates were over nine times higher for children who lived in areas with the highest NZDep2013 scores compared with children living in areas with the lowest scores. There was also inequity by ethnicity, with hospitalisation rates for Māori children nearly three times the hospitalisation rates of European/Other children, and with rates for Pacific children over two times (Figure 43).

Figure 43. Hospitalisations due to injuries arising from assault, neglect, or maltreatment in 0–14 year olds, by demographic factor, New Zealand 2014–2018

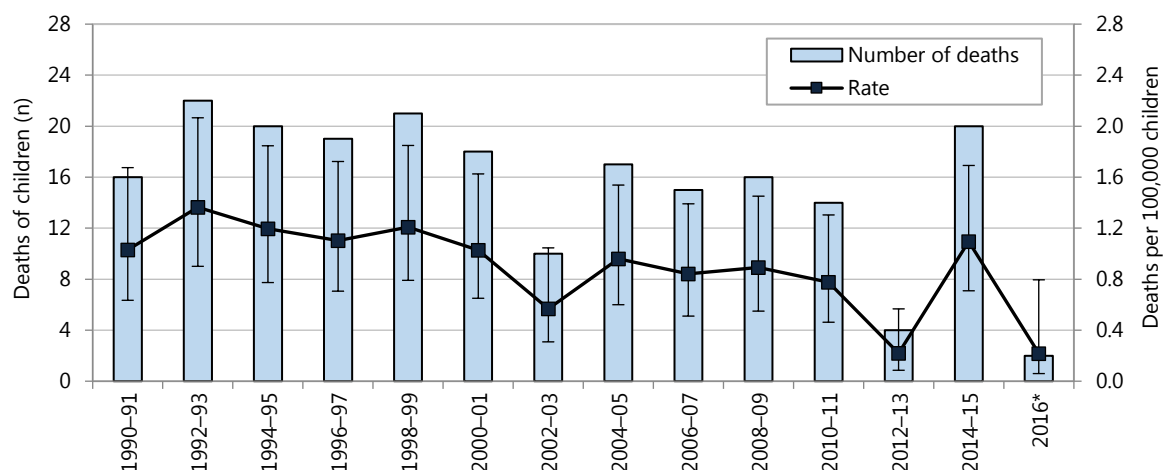


Deaths from assault, neglect or maltreatment

From 2000–2016 there were 116 children aged 0–14 years who died from injuries arising from assault, neglect, or maltreatment, a stable rate of around seven deaths per hundred thousand children per year. Lower rates in 2002–03 and 2012–13 were not statistically different from the rates in other year-pairs (Figure 44).

In the five years from 2012–2016 there were 26 deaths of 0–14 year olds as a result of assault, neglect or maltreatment. Twelve of these deaths were of female children and 14 were of male children. Ten of these deaths occurred in the first year of life, while 12 deaths were of 1–4 year olds, and four were of 5–14 year olds.

Figure 44. Deaths due to injuries arising from assault, neglect, or maltreatment of 0–14 year olds, New Zealand 1990–2016



Indicator: Injuries arising from the assault, neglect, or maltreatment of children (0–14 year olds)
 Numerator: National Mortality Collection, Denominator: NZCYES Estimated Resident Population.
 Year is year of death registration

Care and protection

The aim of Oranga Tamariki is to ensure that children and young people are in a safe home with loving whānau in which their wellbeing can thrive, underpinned by a child-centred operating model.^{90,91} One of the key functions of Oranga Tamariki is to work with children and whānau in a situation where there is current or future risk to a child or young person's welfare.⁹⁰ This includes but is not limited to: receiving notifications where there is concern that a child or young person is experiencing maltreatment; assessing which of those notifications require further action; working with whānau to build a safer environment at home; and, in cases where it is not considered possible for a child or young person to remain at home, Oranga Tamariki will organise new care arrangements for the child or young person so they can continue to grow up safely.⁹²

This section on care and protection provides information on children and young people from Oranga Tamariki data. The section reports on care and protection notifications, investigation assessment outcomes and their substantiated findings, and children and young people in the custody of the Chief Executive.

Data sources and methods

Indicators

Care and protection notifications requiring further action

Investigation assessment outcomes of children and young people notified to Oranga Tamariki

Substantiated findings of abuse in children and young people notified to Oranga Tamariki

Children and young people in the custody of the Chief Executive (CE)

Definitions

Children and young people are aged under 18 years.

Children and young people are *distinct* where they are counted once in the period.

Types of *non-abuse investigation assessment outcomes* are either Behavioural Relationship Difficulties or Self Harm Suicidal.

Data source

Oranga Tamariki

Additional information

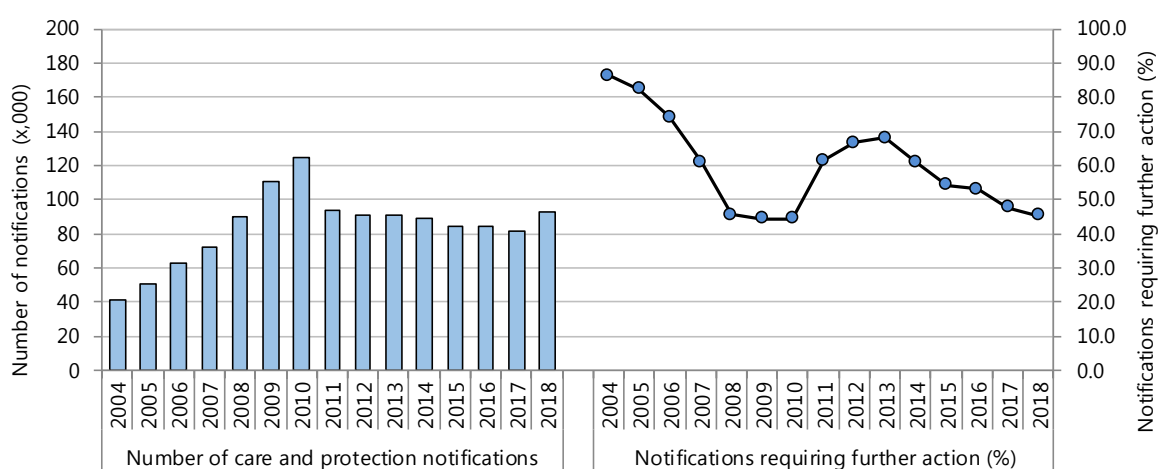
For more information on Oranga Tamariki data please refer either to the Ministry of Social Development website (<https://www.msd.govt.nz/about-msd-and-our-work/publications-resources/statistics/cyf/index.html>), the Oranga Tamariki website (<https://www.orangatamariki.govt.nz/>), or to the data source appendix in this report.

Figure 45 presents an overview of the number of care and protection notifications for children and young people from 2004 to 2018 and also presents the proportion of care and protection notifications that required further action from Oranga Tamariki, as assessed by a social worker. The total number of all notifications in 2018, including Reports of Concern (Figure 45) and Police family violence referrals, was over 191,000. A child or young person may have more than one notification for each year.

After a steep increase in care and protection notifications from 2004, Police family violence referrals were reported separately and alongside Reports of Concern information from 2011 to 2019. The year 2011 saw a total number of 57,153 Police family violence referrals⁹³ which has since increased to 99,005 in 2018.⁹⁴

The total number of Reports of Concern declined since 2011 before increasing again in 2018, at 92,250 reports for nearly 65,000 distinct children and young people (Figure 45, Figure 46). In 2019, there were 87,300 Reports of Concern for 62,700 children, or a mean of 1.4 Reports of Concern per reported child (Figure 46).

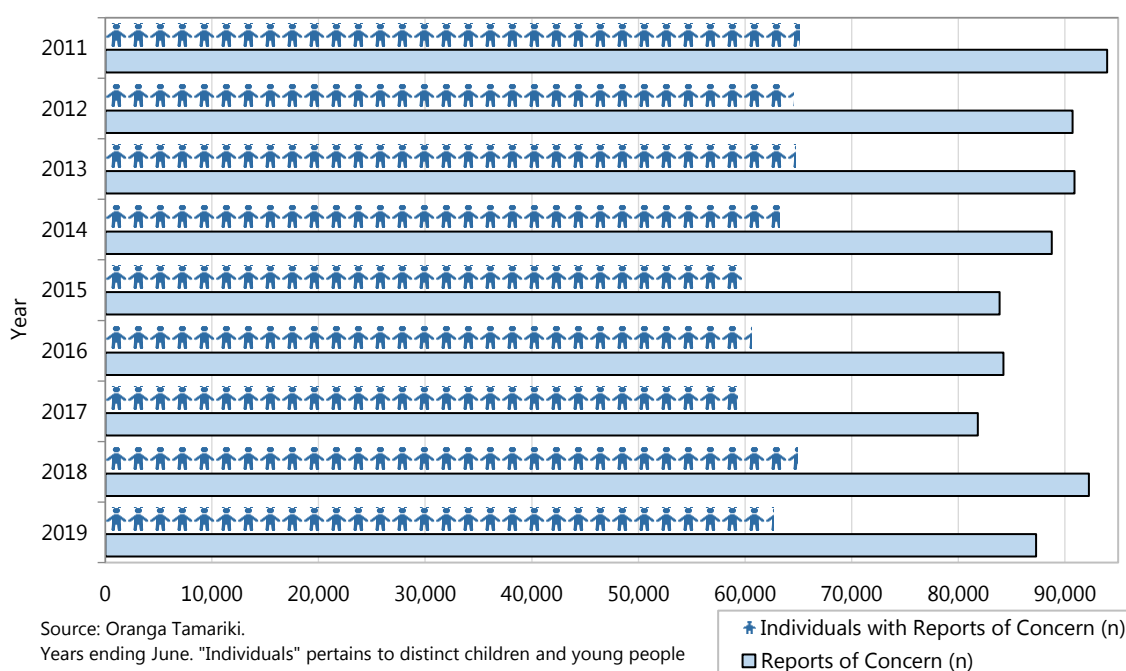
Figure 45. Care and protection notifications and proportion requiring further action, New Zealand 2004–2018



Source: Oranga Tamariki.

Years ending June. *Notifications prior to 2011 include Police family violence referrals

Figure 46. Reports of Concern and distinct children with Reports of Concern, New Zealand 2011–2019



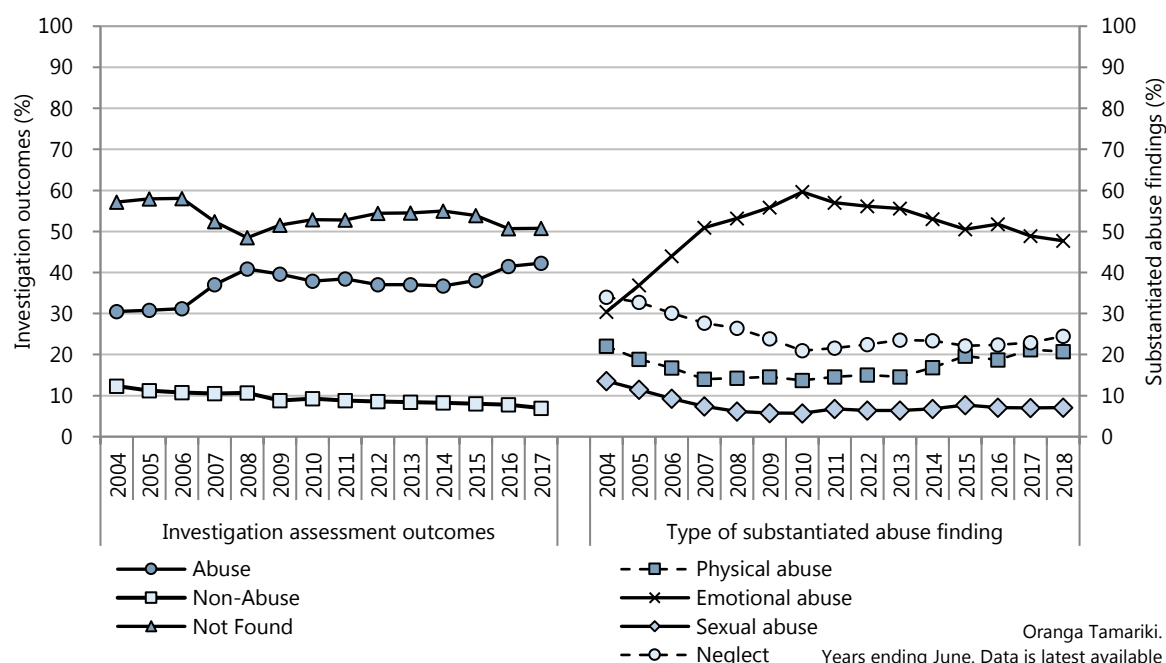
Source: Oranga Tamariki.

Years ending June. "Individuals" pertains to distinct children and young people

Figure 47 shows by year the outcomes from investigation assessments (abuse, non-abuse, and not found) and, where investigation outcomes have identified abuse, the types of substantiated findings for that outcome. Latest available data shows that around 50% of investigation assessments have been a “not found” outcome since 2007, while those identified as abuse have been increasing overall and those identified as non-abuse have been decreasing. The majority of non-abuse outcomes are findings of “Behavioural Relationship Difficulties”.

In 2018, the total number of neglect and emotional, physical, and sexual abuse findings was 14,263. The majority of identified abuse was emotional (48% or 6,810 findings). Neglect and physical abuse represented a similar percentage of findings at 24% or 3,490 and 21% or 2,953 respectively, and a smaller proportion of abuse findings were sexual (7% or 1,010 findings). Since 2010, the proportion of emotional abuse findings has been decreasing, although still higher than the proportion in 2004, while physical abuse and neglect have been increasing overall.

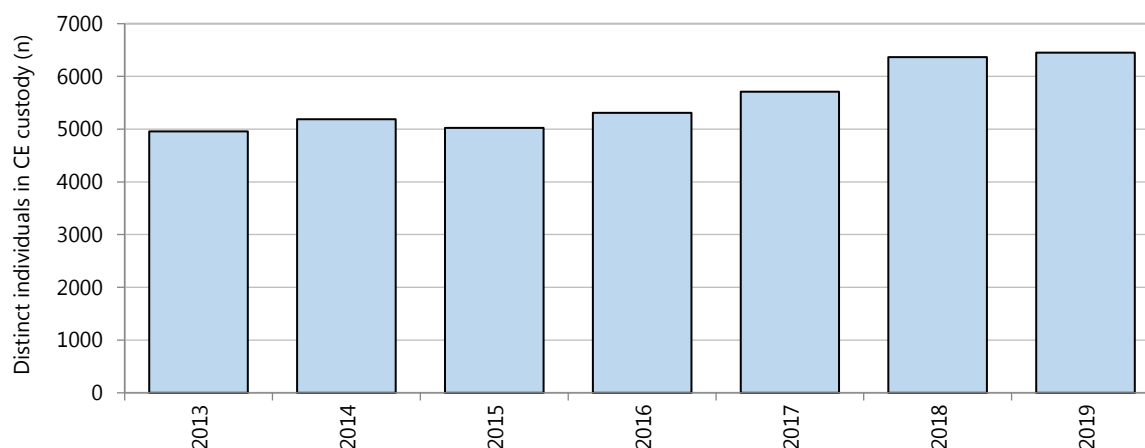
Figure 47. Investigation assessment outcomes or substantiated abuse findings by year, New Zealand 2004–2018 (or latest available)



In 2018 there were 6,365 children and young people in custody of the Chief Executive (CE), while in 2019 there were 6,450 (Figure 48). The number of children and young people in CE custody has increased since 2017, partly due to extending the age that young people can remain in care.

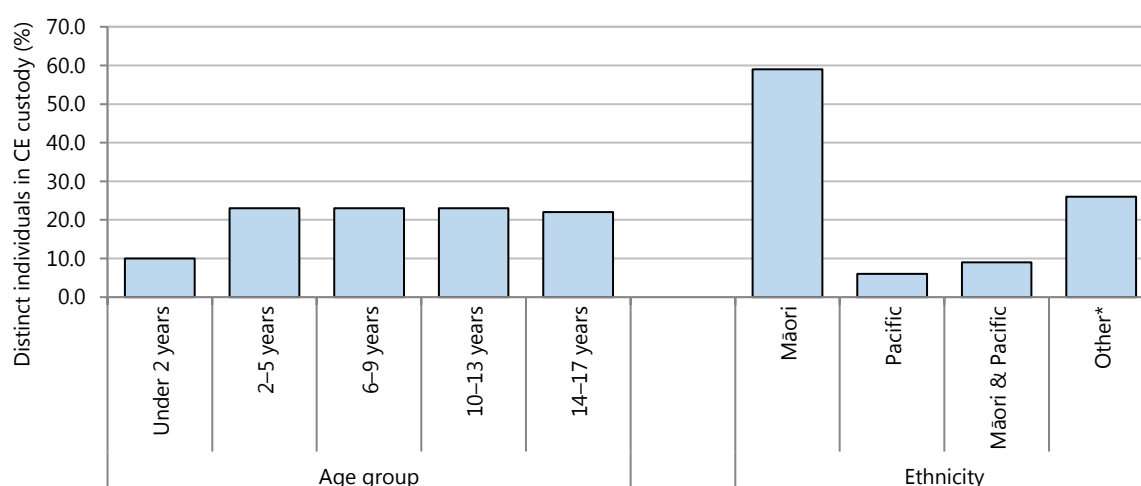
In 2019, children and young people who identified as of Māori ethnicity represented nearly 6 in 10 children and young people in CE custody, while 1 in 5 individuals did not identify Māori or Pacific as one of their ethnicities (Figure 49). Age groups between 2 and 17 years old were evenly represented, while children aged under 2 years represented 10% of individuals in care. The demographic composition of children and young people in CE custody was very similar in 2018.

Figure 48. Children and young people in the custody of the Chief Executive (CE), New Zealand 2013–2019



Source: Oranga Tamariki.
Years ending June. "Individuals" pertains to children and young people

Figure 49. Children and young people in the custody of the Chief Executive (CE), by demographic factor 2019



Source: Oranga Tamariki. Year ending June 2019.
Ethnicity is self identified primary ethnic group. *Individuals who do not identify Māori or Pacific as one of their ethnicities

Education

Children and young people want to have ‘good lives’ where they are enjoying, achieving, feeling valued, and making positive contributions to their growth and the world around them.^{1,83} Schooling is a large part of the lives of children and young people and they want to participate in education that is inclusive and a culture in which they see themselves thriving and succeeding.¹ Participation in education is a fundamental right of every child.

Many young people are not experiencing education in ways that make them feel cared about and encouraged to participate.¹ And an environment of hardship can feel draining of the mental and emotional energy that children and young people would otherwise direct towards the interests, connections, and aspirations that are of meaning to them.⁸

New Zealand’s National Certificate of Educational Achievement (NCEA) is comprised of three tiers of achievement, NCEA Levels 1, 2 and 3, while a University Entrance award is also made available as a minimum requirement for a direct pathway into tertiary education from high school.⁹⁵ For those who leave school, a Level 2 qualification continues to be the recommended educational attainment.⁹⁶ Achieving a qualification of NCEA Level 2 or higher helps develop in school leavers foundations and readiness to transition into employment and learning pathways.^{95,96} Level 1 has been retained in the

curriculum so that those who leave school with it as their highest level qualification can continue to gain value from it as a record of achievement.⁹⁶ With this in mind, work is planned so as to enhance the content and learning value of Level 1 to those young people who will leave school before obtaining other Levels.⁹⁶

The following section presents Ministry of Education information on the educational attainment of school leavers from 2009–2018.

Data sources and methods

Indicators

School leavers with no qualifications

School leavers with NCEA Level 1 or above

School leavers with NCEA Level 2 or above

School leavers with a University Entrance Standard

Data source

Ministry of Education ENROL system <http://www.educationcounts.govt.nz/>

Numerator: Number of students leaving school with no qualifications, NCEA Level 1 or higher, NCEA Level 2 or higher, or a University Entrance Standard

Denominator: Number of school leavers in a given year

Definitions

The National Certificate of Educational Achievement (NCEA) is part of the National Qualifications Framework (NZQF). There are three Levels depending on the difficulty of the standards achieved. At each Level, students must achieve a certain number of credits, with credits being able to be gained over more than one year. Listed qualification Levels include the NZQF as well as other equivalent qualifications that are non-NZQF.

School socio-economic decile: All schools are assigned a decile ranking based on the socio-economic status of the areas they serve. These rankings are based on census data from families with school age children in the areas from which the school draws its students. Census variables used in the ranking procedure include equivalent household income, parent's occupation and educational qualifications, household crowding and income support payments. Schools are assigned a decile ranking, with decile 1 schools being the 10% of schools with the highest proportion of students from low socio-economic communities and decile 10 schools being the 10% of schools with the lowest proportion of these students. Decile ratings are used by the Ministry of Education to allocate targeted funding, as well as for analytical purposes. Ranking of quintiles is in the opposite direction to that of the NZDep2013 index of deprivation used with health data in this report.

School socioeconomic quintiles are aggregates of the deciles, with quintile 1 = deciles 1 and 2 (highest disadvantage); quintile 5 = deciles 9 and 10 (lowest disadvantage).

Additional information

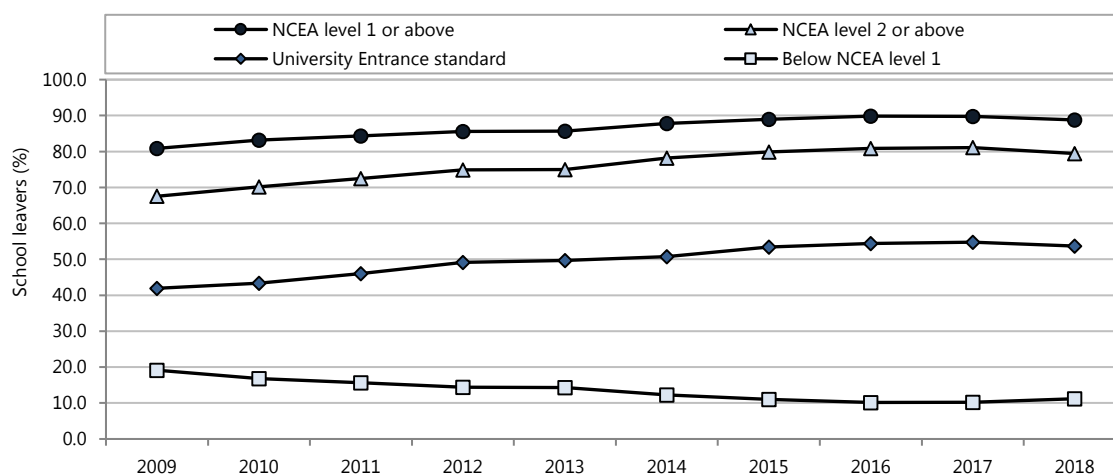
These data follow a new definition of school leavers from the Ministry of Education's ENROL system utilised from 2009 onwards so comparison with previous years is not possible.

Ethnicity is total response so individual students may appear in more than one ethnic group.

An increasing percentage of young people in New Zealand left school having achieved an NCEA or equivalent qualification (Figure 50). From 2009 through to 2018, the proportion of young people who achieved Level 1 or above before leaving school has increased from 81% to 89%. Those young people who achieved Level 2 or above before leaving rose from 68% to 79%, and the University Entrance award from 42% to 54%. New Zealand saw a decreased percentage of young people leaving before having obtained an NCEA qualification, which was at 11% in 2018.

For every qualification, young people of all ethnic groups saw increases in the proportion of those who achieved qualifications before leaving school (Figure 51). When compared to their peers of other ethnicities, the young people who showed the steepest increase in achieving NCEA qualifications were those of Māori and Pacific ethnicity. This was especially apparent for Māori achievements in obtaining the recommended Level 2 (by a further 20%), and for Pacific achievements in obtaining Level 2 and University Entrance (by a further 18% and 23% respectively). Decreases were shown in all ethnic groups for those young people who left before having obtained an NCEA qualification.

Figure 50. Educational attainment of school leavers, New Zealand 2009–2018



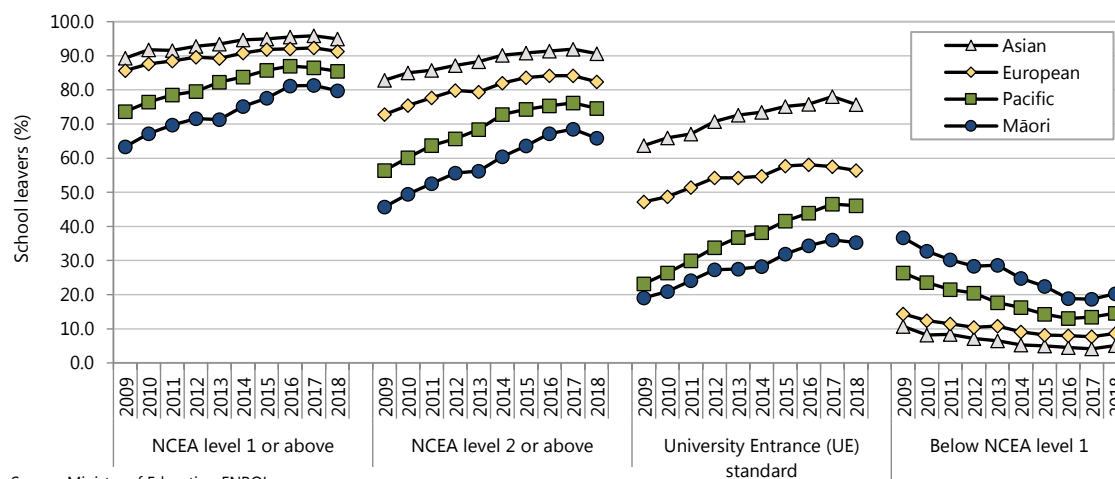
Source: Ministry of Education ENROL;
UE standard = school leavers achieving a University Entrance or a level 3 qualification or higher

Inequities in educational attainment continue to be seen by ethnicity and by school socioeconomic quintile, with school quintile 1 (deciles 1 and 2) being the 20% of schools with the highest proportion of students from low socioeconomic communities; school quintile 5 (deciles 9 and 10) comprises the 20% of schools with the lowest proportion of students from low socioeconomic communities.⁹⁷ The ranking of school socioeconomic quintiles is in the opposite direction to that of the NZDep2013 index of deprivation used with health data in this report. The proportion of young people leaving school with having achieved a NCEA qualification was higher in schools where students were from communities of lower socioeconomic disadvantage (higher quintile schools). Conversely the proportion of those who left school before obtaining an NCEA qualification was higher in schools which draw their students from communities with the highest degree of socio-economic disadvantage (low quintile schools) (Figure 52).

Of those young people in school communities with highest degree of socioeconomic disadvantage, nearly 80% achieved Level 1 before leaving school and 67% achieved Level 2; while 96% of those at schools with the lowest degree of socioeconomic disadvantage achieved Level 1 and 92% achieved Level 2. Young people in the highest quintile schools saw 21% of young people leaving before obtaining a NCEA qualification and that proportion was 4% in the lowest quintile schools (Figure 52).

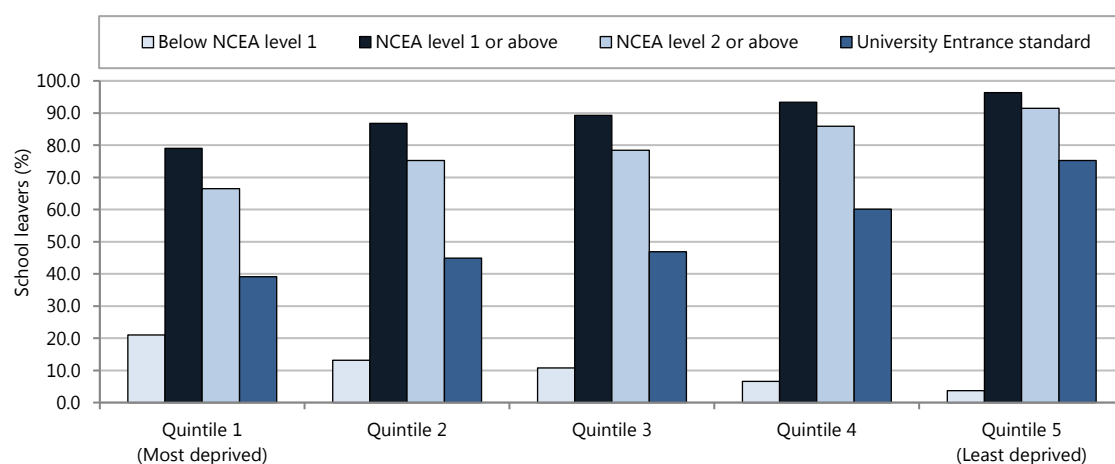
The Ministry of Education notes that there is considerable variation in achievement rates within each decile. A higher proportion of students in some schools in the lowest deciles achieve qualifications at NCEA Level 2 than in some of the highest decile schools.⁹⁸ The issue is arguably not the background of students but the importance of creating an environment where they can thrive.

Figure 51. Educational attainment of school leavers, by ethnicity, New Zealand 2009–2018



Source: Ministry of Education ENROL;
 Ethnicity is total response: Students have been counted in each ethnic group they belong to,
 UE standard = school leavers achieving a University Entrance or a level 3 qualification or higher

Figure 52. Educational attainment of school leavers, by school socioeconomic quintile, New Zealand 2018



Source: Ministry of Education ENROL;
 Deprivation based on school socioeconomic decile

Healthy and safe childhood environments

Children and young people want to live in and feel strong connections with healthy communities and healthy homes which are protective of their welfare.¹ How healthy and safe environments are for children and whānau is influenced by social and political decisions and established community features beyond the immediate control of individual children, parents or professionals.^{29,99} The influence of the broader social and economic environment is exerted through complex pathways, and may be mediated by health behaviours and other environmental factors.⁹⁹

The following section serves to illuminate aspects of the context surrounding children and young people as they grow so as to provide background for other indicators presented in the Child Poverty Monitor. The section provides information on New Zealand's economic growth relative to average hourly income, employment and potential labour force, and housing affordability. A rise in the unemployment rate is a key marker of an economic downturn which stresses the strength and social cohesion of communities,^{16,100} with effects on a wide range of outcomes for all children and young people, not only for those directly affected by job loss within their own household.¹⁰⁰ Housing costs impact considerably on the resources available to households to provide healthy nourishing food and appropriate clothing for their children.¹⁰¹ High levels of housing stress also limits resources to access transport, health services and educational opportunities.¹⁰¹

A place to call home

A healthy home environment keeps the occupants warm and dry, protects them from communicable disease transmission and physical injury, and promotes mental and emotional well-being.¹⁰² Access to affordable and suitable housing is a critical precondition for a person to find and remain in work.⁴

Policies implemented by successive Governments have meant that housing in New Zealand has become unaffordable for many people.⁴ From 1986–2013 there was a fall in New Zealand home ownership rates, which disproportionately affected children, particularly Māori and Pacific children in one-parent households.¹⁰³ In the New Zealand Household Economic Survey (NZHES) years 2013–2015, over half of children living in income-poor households lived with their families in private rental accommodation, and another 17% in Housing New Zealand Corporation (HNZC) homes.¹⁰¹ Rates of mobility are higher for households who rent, which can have negative consequences for children in relation to schooling and social interaction.¹⁰³ Children and young people experience severe stress when they have had to move house because the household could not pay rent.⁸ The housing crisis is also contributing to the growth in inequality in New Zealand by denying low-income families the only chance most have of acquiring an asset base.⁴

Addressing quality and affordability of housing is arguably the most important action to mitigate the effects of inadequate household resources in New Zealand. There is an urgent need to increase the housing stock, particularly for low-income families.⁸ Housing was a primary concern of children consulted by the Expert Advisory Group on solutions to child poverty, with particular concerns about damp and cold houses affecting their health, high costs of heating, crowding, and the negative impact of insecure and unstable housing tenure.⁸ Babies and pre-school children are particularly affected by poor housing as they are at home for most of the day.⁸ Kia Piki Ake (the Expert Welfare Advisory Group) made five recommendations in relation to housing, including urgent expansion and acceleration of Government efforts to substantially increase public housing, increasing the range of home ownership and tenure options for people on low and low-middle incomes, subsidising of housing costs for people on low incomes and improving access to affordable, suitable housing support for people on low and low-middle incomes, including a range of affordable home-ownership products and papakāinga housing.⁴

Households that spend more than 30% of income on owner-occupied or rental accommodation meet the benchmark for having a high “outgoings-to-income” ratio or OTI.¹⁰¹ Meeting high housing costs relative to income can leave insufficient money to cover other basic needs such as food, clothing, heating, transport, medical care and education, especially for low-income households.¹⁰¹

The following data contribute to monitoring progress toward ensuring access to adequate, safe and affordable housing for all people, a universal human right (Sustainable Development Goal 11).³

Data sources and methods

Indicator

Households spending more than 30% of their income on housing costs

Data source

New Zealand Household Economic Survey (NZHES) via Perry (2019)¹⁰⁴

Definitions

Owned: People who owned their home, partly owned their home, or held it in a family trust.

Rental: People who did not own their home, did not have it in a family trust, and were making rent payments to a private person, trust, or business or were making rent payments to Housing New Zealand Corporation, local authority, or city council, or other state-owned corporation or state-owned enterprise, or government department or ministry.

Housing costs include all mortgage outgoings (principal and interest) together with rent and rates for all household members. Repairs, maintenance, and dwelling insurance are not included. Any housing-related cash assistance from the government is included in household income.¹⁰¹

High housing costs: When a household spends more than 30% of its income on accommodation (rent, mortgage outgoings, rates) it meets a threshold for having a high “outgoings-to-income” ratio (OTI).¹⁰¹

Further information

Variations in housing costs do not necessarily correspond to similar variations in housing quality. This is because many older individuals live in good accommodation with relatively low housing costs, for example, those living in mortgage-free homes, whereas many younger people have a similar standard of accommodation but relatively high accommodation costs.¹⁰¹

Of all households in New Zealand, low- and middle-income New Zealand households are more likely than high income households to spend more than 30% of their income on housing costs (Figure 53), that is, for every \$100 of household income earned a higher proportion of low- and middle-income households spent at least \$30 on their rent, mortgage or rates.

In the total population in 2018 (Figure 53), 43% of those in the lowest income quintile (quintile 1) and 39% of those in the second lowest income quintile (quintile 2) were spending more than \$30 per \$100 income on housing costs. In comparison, 32% of households in the middle income quintile (quintile 3), 22% in quintile 4 and 15% of households in the highest income quintile (quintile 5) had high outgoings-to-income ratios (OTI).

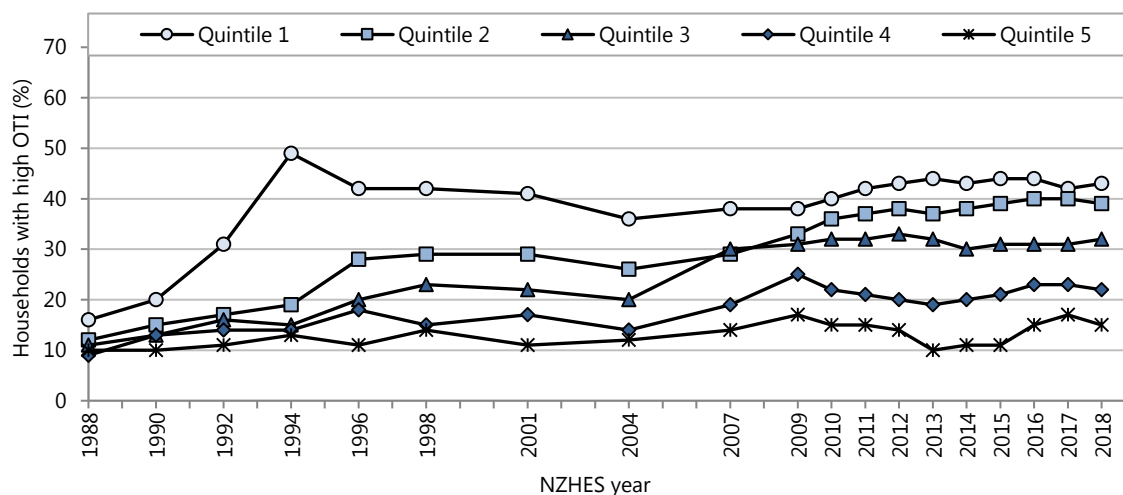
Households with individuals over 65 years of age usually have low housing costs through 72% of over-65 year olds living in mortgage-free homes.¹⁰¹ When only looking at households with individuals

under-65 years old, high housing costs were much more prevalent, as was seen in every income quintile and as was particularly apparent for the lower income households (Figure 54). In low income (quintile 1) households with individuals under-65 years of age, 62% had high housing costs at over \$30 per \$100 income since 2012 (compared to 43% of total households). For those under-65 households in the second lowest income (quintile 2), 50% experienced high housing costs since 2012 (compared to 39% of total households).

For under-65 households, the proportion in the lowest income quintile spending more than \$50 on housing costs for every \$100 of income has increased steadily since 2004.¹⁰⁴ In 2018, around 40% of these households spent more than half their income on housing costs.¹⁰⁴ This represents very high housing stress.

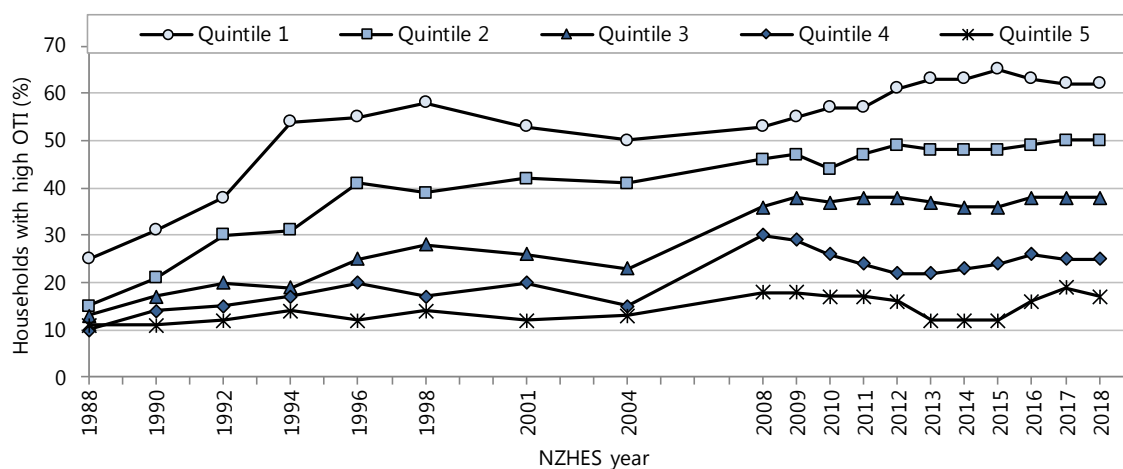
While the proportion of low income households (quintile 1) with high OTIs has been overall steady in the total population since 2010 (Figure 53), low income households of under-65 year olds have experienced an increase in housing costs over the same period (Figure 54). When compared to 1988–1990, inequalities in high housing costs have increased among households of under-65 year olds, with gaps widening between the lowest and highest income households.

Figure 53. Households with high housing cost outgoings-to-income ratios (OTIs), by income quintile, all households, New Zealand 1988–2018 NZHES years



Source: Perry (2019) derived from Stats NZ Household Economic Survey (NZHES)
Households with OTIs > 30% using before housing costs income
Quintile 1 = low income; quintile 5 = high income.

Figure 54. Households with under-65 year olds with high housing cost outgoings-to-income ratios (OTIs), by income quintile, New Zealand 1988–2018 NZHES years



Source: Perry (2019) derived from Stats NZ Household Economic Survey (NZHES)
Households with under-65 year olds with OTIs > 30% using before housing costs income
Quintile 1 = low income; quintile 5 = high income.

Among recipients of the Accommodation Supplement, almost all recipients of income-replacement financial assistance and almost all renters experienced high housing costs in 2018, spending at least \$30 on housing for every \$100 income (Table 6). In 2018, 52% of AS recipients in each of these categories experienced very high housing stress with housing costs of at least \$50 per \$100 income.

Table 6. Housing costs as a proportion of income, by household type, OTI threshold (30%, 40% and 50%), and selected NZHES year, Accommodation Supplement recipients, New Zealand for month of June

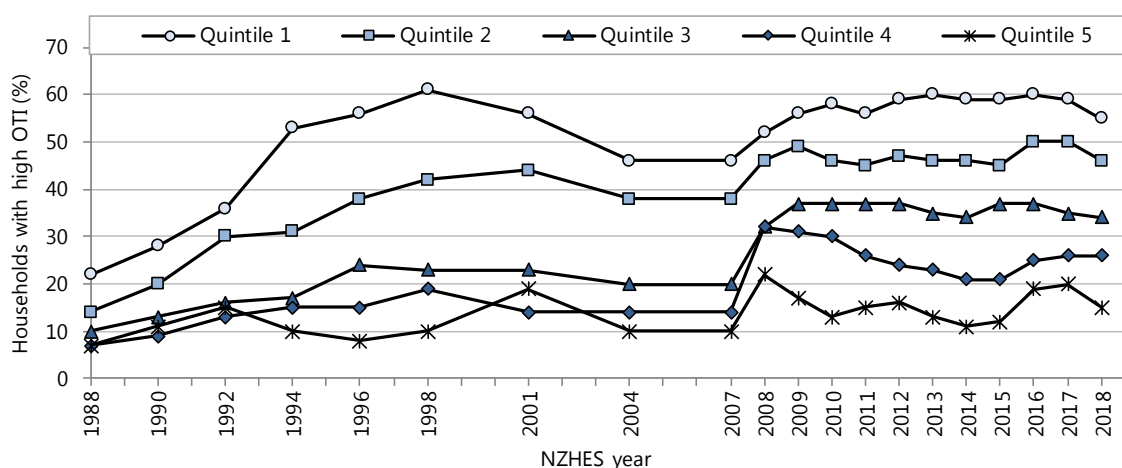
| Household type | Group as % of those receiving AS* | | | Housing costs as a proportion of income | | | | | | | | |
|---------------------------|-----------------------------------|------|------|---|------|------|------|------|------|------|------|------|
| | | | | >30% | | | >40% | | | >50% | | |
| New Zealand | | | | | | | | | | | | |
| NZHEs year | 2007 | 2016 | 2018 | 2007 | 2016 | 2018 | 2007 | 2016 | 2018 | 2007 | 2016 | 2018 |
| All | 100 | 100 | 100 | 87 | 91 | 93 | 59 | 69 | 71 | 34 | 43 | 44 |
| Renters | 63 | 66 | 65 | 90 | 94 | 95 | 67 | 76 | 77 | 40 | 51 | 52 |
| Single adults | 45 | 55 | 56 | 90 | 94 | 94 | 65 | 73 | 74 | 40 | 49 | 51 |
| One parent, 1 child | 19 | 14 | 13 | 86 | 89 | 91 | 60 | 65 | 67 | 33 | 42 | 40 |
| One parent, 2+ children | 17 | 14 | 13 | 84 | 88 | 88 | 55 | 62 | 63 | 23 | 32 | 34 |
| Two parents with children | 11 | 9 | 10 | 74 | 89 | 92 | 40 | 56 | 58 | 21 | 27 | 27 |
| Beneficiaries | - | 67 | 66 | - | 93 | 94 | - | 74 | 77 | - | 48 | 52 |
| NZ Super/Veterans Pension | 9 | 13 | 14 | 81 | 86 | 88 | 48 | 52 | 56 | 23 | 26 | 26 |

Source: Perry (2019)¹⁰⁴ derived from MSD Information Analysis Platform (iMSD) AS = accommodation supplement; NZ Super = NZ Superannuation; children = dependent children. *Categories are not mutually exclusive and thus do not sum to 100%

Households with children

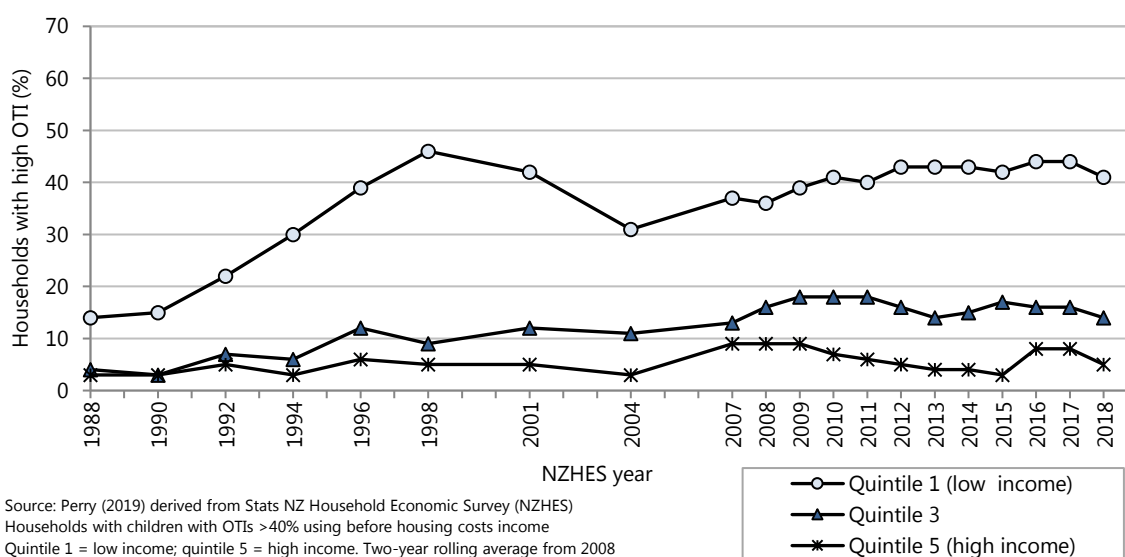
From 2008–2015, over half of the households with children in the lowest income quintile spent more than \$30 per \$100 income on housing costs (Figure 55). From 2010–2018 over 40% of these lowest-income households with children spent more than \$40 per \$100 income on housing costs (Figure 56) and in 2017–2018 over 30% of households in the lowest income quintile, with children, spent more than half their income on housing costs.¹⁰⁴

Figure 55. Households with children with high housing cost outgoings-to-income ratios (OTIs), by income quintile, New Zealand 1988–2018 NZHES years



Source: Perry (2019) derived from Stats NZ Household Economic Survey (NZHES)
Households with children with OTIs >30% using before housing costs income
Quintile 1 = low income; quintile 5 = high income. Two-year rolling average from 2008

Figure 56. Households with children with high housing cost outgoings-to-income ratios (OTIs) greater than 40%, by income quintile New Zealand 1988–2018 NZHES years



Economic growth and hourly earnings

The gross domestic product (GDP) is the official measure of economic growth in New Zealand and provides a snapshot of economic performance.¹⁰⁵ Economic reforms in the decade from 1984–1994 successfully halted a decline in GDP per capita, and also contributed to large increases in income inequality and poverty.^{36,106} In most OECD countries over the last three decades growth in real wages has fallen behind growth in productivity; this indicates that “labours’ share” of the income gains from productivity growth has been falling.¹⁰⁷ Key drivers of this disparity include rapid technological change, globalisation and decreases in labour’s bargaining power.^{71,107}

This section compares growth in GDP with average hourly earnings using data from Stats NZ.

Data sources and methods

Indicators

Real per capita gross domestic product (RPC-GDP)

Real ordinary time average hourly earnings (ROT-AHE)

Data sources

ROT-AHE: Stats NZ: Average hourly rates, all sectors Quarterly Employment Survey 1989–2019

Numerator: Stats NZ: GDP (production) chain volume seasonally adjusted total 1989Q1–2019 Q2

Denominator: Stats NZ: Estimated de facto population 1989–1990; Estimated resident population 1991–2019

Definitions

Real GDP is adjusted for changing prices and reflects the extent to which growth in the value of goods and services is due to increased production rather than an increase in the absolute value of the goods and services produced.

ROT-AHE represent the number of hours usually worked and the usual income in a reference week, adjusted for changing prices.

Additional information

The production approach to GDP measures the total value of goods and services produced in New Zealand, after deducting the cost of goods and services used in the production process.

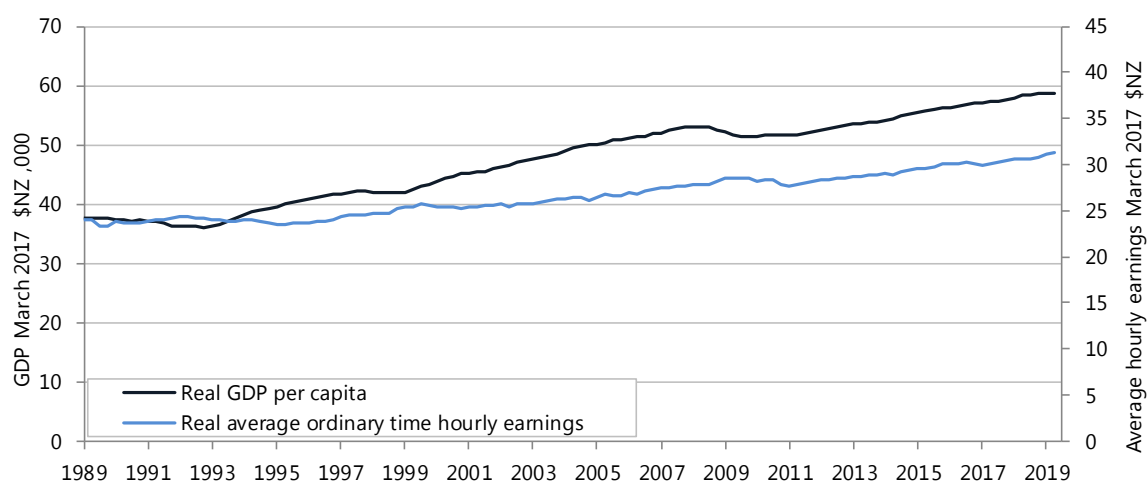
GDP data were re-expressed in March 2017 prices using a constant ratio based on the ratio of the nominal and real values in the March 2017 quarter; AHE data were re-expressed in March 2017 prices using 2017 rebased Consumer Price Index.

While the different data series used to develop a composite AHE data set may have had different underlying methodologies, this is not likely to have a significant effect on the overall pattern of quarterly change in AHE.

The important comparison in the section on RPC-GDP and ROT-AHE is the quarterly percentage change in each variable rather than the absolute monetary value. The graph axes have been scaled to make it easier to compare the relative changes in each variable over time.

Gross domestic product and average hourly earnings have both increased in New Zealand since 1989, with a steeper increase in GDP compared with the benefits received by workers. In 2017, real GDP per capita increased by 56% from \$37,500 in March 1989, to \$59,000 in June 2019, while real average ordinary time hourly earnings increased by 30% from \$24.07 to \$31.37 during the same period (Figure 57).

Figure 57. Real gross domestic product (GDP) per capita and real average ordinary time hourly earnings, New Zealand 1989–2019



Source: Stats NZ

Work and potential labour force

For most people, good work improves wellbeing and general and mental health.^{108,109} Good quality, meaningful work can increase worker participation, productivity, community vibrancy and social cohesion, and overall economic performance.¹⁰⁸ Low quality opportunities for work can push people out of the labour market or into work that does not fully utilise their skills and experience, reducing wellbeing and productivity.¹¹⁰ Good work means that there is a fair balance of rights and responsibilities, a safe working environment and healthy workplace culture where everyone has a baseline of protection, and scope for people to develop new skills and progress in their work.^{109,110}

The unemployment rate provides a picture of the economy overall, reflecting the conditions of the labour market and the number of people seeking work.¹¹¹ A rise in the unemployment rate is associated with a wide range of adverse outcomes for all children and young people in a community, not just those whose parents lose employment.¹⁰⁰ Underutilisation is a broader concept than unemployment rate, and gives an indication of untapped capacity in the labour market.¹¹²

The following section is a review of unemployment from 1986–2019 and underutilisation from 2004–2019 using data from the Stats NZ Household Labour Force Survey.

Data sources and methods

Indicators

Persons unemployed and unemployment rate

Persons underutilised and underutilisation rate

Data source

Stats NZ Household Labour Force Survey (HLFS)

Definitions

Unemployed: All people in the working-age population who, during the reference week, were without a paid job, available for work, and had either actively sought work in the past four weeks or had a new job to start within the next four weeks.

Unemployment rate: Number of unemployed people expressed as a percentage of the labour force.

Working age population: Usually resident, non-institutionalised, civilian population of New Zealand aged 15 years and over.

Underutilised: Sum of those unemployed, underemployed, and in the potential labour force.

Underutilisation rate: Number of underutilised people expressed as a proportion of those in the extended labour force.

Underemployment: People who are in part-time employment who would like to, and are available to, work more hours.

Potential labour force: People who are not actively seeking work but are available and wanting a job, and people who are actively seeking but not currently available for work, but will be available in the next four weeks.

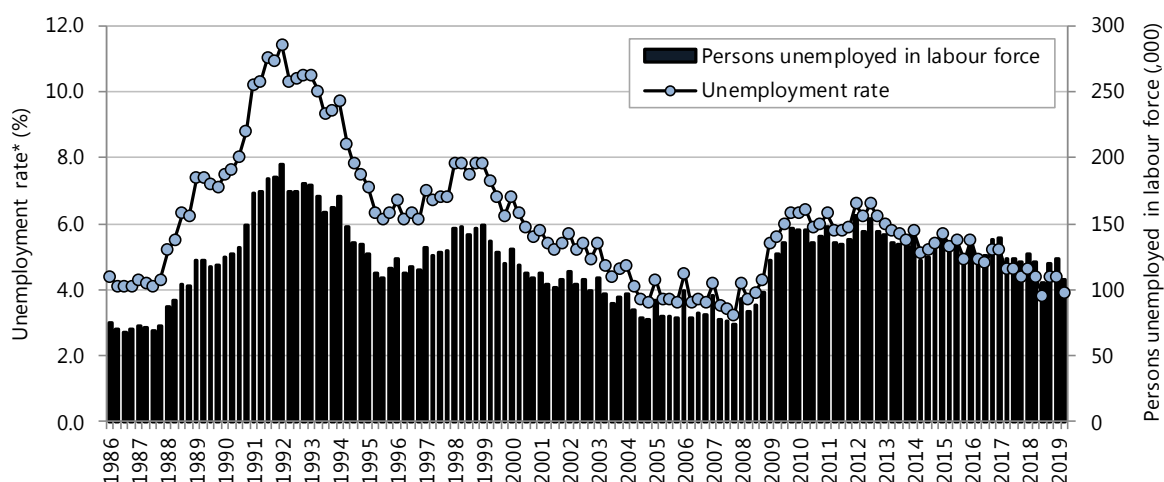
Extended labour force: People in the labour force, or in the potential labour force.

In June 2019 there were 107,100 New Zealanders who were officially unemployed (3.9%). The seasonally adjusted unemployment rate has remained under 6% since June 2013, and below 5% since June 2017. Looking back over the past 30 years the highest observed unemployment rate was 11.4% in September 1991 and the lowest rate was 3.2% in December 2007 (Figure 58).

Unemployment rates by ethnicity show persistent inequity between ethnic groups which worsened after 2007. In June 2019, the unemployment rate for Māori was 7.7% and for Pacific peoples 8.4% compared with 2.8% for Europeans (Figure 59).

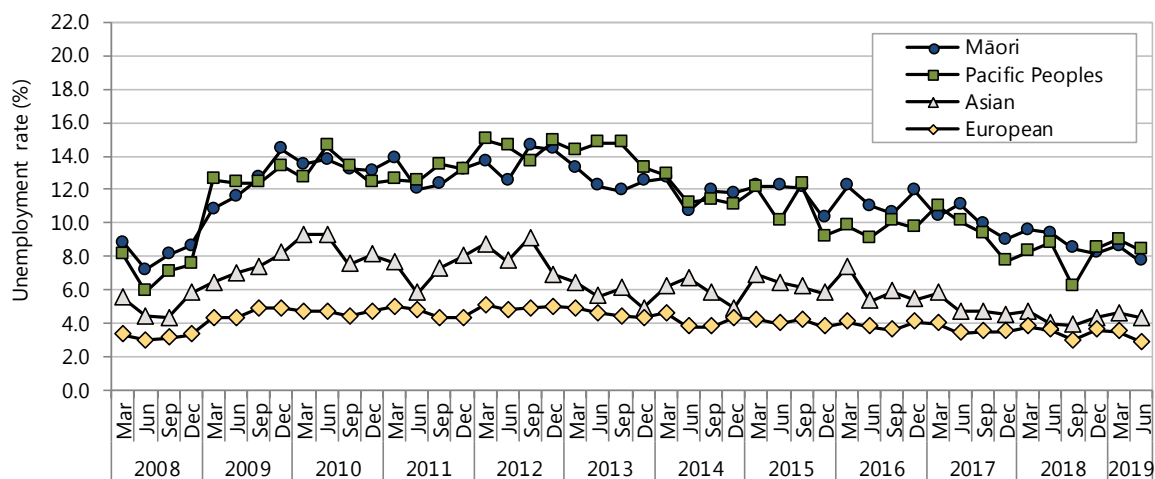
Unemployment rates, in absolute terms, differ by age, with the highest rates consistently observed for young people aged 15–19 years. In the year to June 2019 the unemployment rate for young people aged 15–19 years was 18.6% compared with rates less than 3% for adults aged 35 years and over. A high proportion of 15–19 year olds are engaged in education or training, however there were 14,200 young people aged 15–19 years (9.3%) who were not in employment, education or training in the year to June 2019 (Figure 60). This proportion is still higher than the unemployment rate in other age groups.

Figure 58. Seasonally adjusted quarterly unemployment numbers and rates, New Zealand 1986–2019



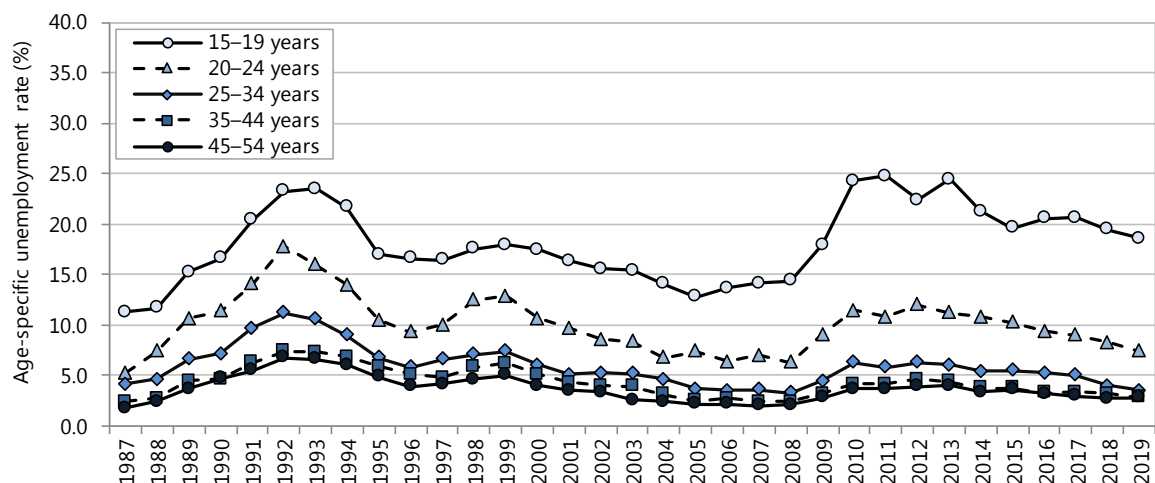
Source: StatsNZ Household Labour Force Survey.
Rates have been seasonally adjusted

Figure 59. Quarterly unemployment rates by ethnicity, New Zealand 2008–2019



Source: Stats NZ Household Labour Force Survey.
Ethnicity is total response

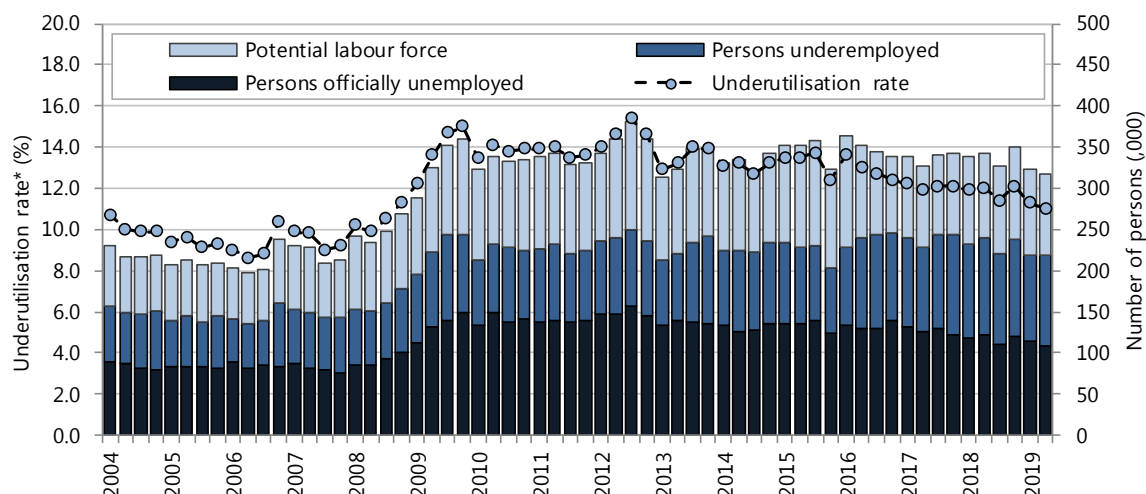
Figure 60. Unemployment rates by age (selected age groups), New Zealand 1987–2019 (years ending June)



Source: Stats NZ Household Labour Force Survey; Note: Rates for 55–64 year olds very similar to rates for 45–54 year olds

The underutilisation rate includes persons underemployed and in the potential labour force, as well as those unemployed. In June 2018 there were 333,000 New Zealanders seeking additional hours of work, actively seeking work but not available in the next week, or available but not actively seeking work. The underutilisation rate increased following the 2008 global financial crisis and remains high although falling slowly (Figure 61).

Figure 61. Quarterly underutilisation by extended labour force status, New Zealand 2004–2019



Source: StatsNZ Household Labour Force Survey.

* Underutilisation = Number of underutilised persons as a percentage of the extended labour force.

See 'Data sources and methods' box for further definitions. Rates have been seasonally adjusted

Analysis by Stats NZ showed that from 2004–2016 unemployment and underutilisation data followed similar patterns over time with the underutilisation rate much higher than the unemployment rate. In the June 2016 quarter, underutilisation and unemployment rates followed the same pattern across the ethnic groups; Māori and Pacific people experienced the highest underutilisation and unemployment rates of all ethnic groups. The highest underutilisation rate in the June 2016 quarter was observed for 15–19 year olds (over 45%). The 15–19 and 20–24 year old age groups had the highest numbers and rates of underemployment, unemployment, potential labour force, and underutilisation.¹¹²

Income inequality

Growth that disproportionately benefits those in higher income groups while leaving others behind leads to social, political, economic, and fairness concerns in the long-term.¹¹³ Comparisons about income inequality can be made between countries using the Gini coefficient and the Palma ratio.¹⁰⁴ The Gini coefficient takes the incomes of all individuals into account and gives a summary of the income differences between each person in the population and every other person in the population.¹⁰⁴ A difference of, say, \$1,000 between two high-income people contributes as much to the index as a difference of \$1,000 between two low-income people. The Gini scores in this report range from 0 to 100 (Gini co-efficient x 100). A score closer to 100 indicates higher income inequality and a score nearer zero indicates greater equality (lower inequality) within the country concerned.

The Palma ratio is an alternative indicator of income inequality, it represents the share of all income received by the 10% people with highest disposable income divided by the share of all income received by the 40% people with the lowest disposable income.¹⁰⁴ The Palma ratio correlates well with the Gini co-efficient and is much easier to explain.¹⁰⁴ A Palma ratio of two means that the 10% of individuals with the highest incomes receive twice as much as the 40% of individuals with the lowest incomes. A low score indicates greater income equality (lower inequality) within the country concerned.

International comparisons of income poverty estimate the proportion of children in each country living in households below an agreed low-income threshold. This type of comparison is not presented in detail in this report, because this approach can lead to incongruities when making comparisons between in high-income countries with very different median income levels.

In 2016 New Zealand had a Gini score of 35 (Figure 62), higher than the OECD median and also higher than Canada and Australia. Gini scores for the United Kingdom and United States were higher than New Zealand. On average over the 2014 to 2018 NZHES, the Palma ratio for New Zealand was 1.4 (Figure 63) while the OECD-35 median Palma was 1.1.¹⁰⁴

Figure 62. Gini coefficient (x100), by country, whole population, OECD circa 2016

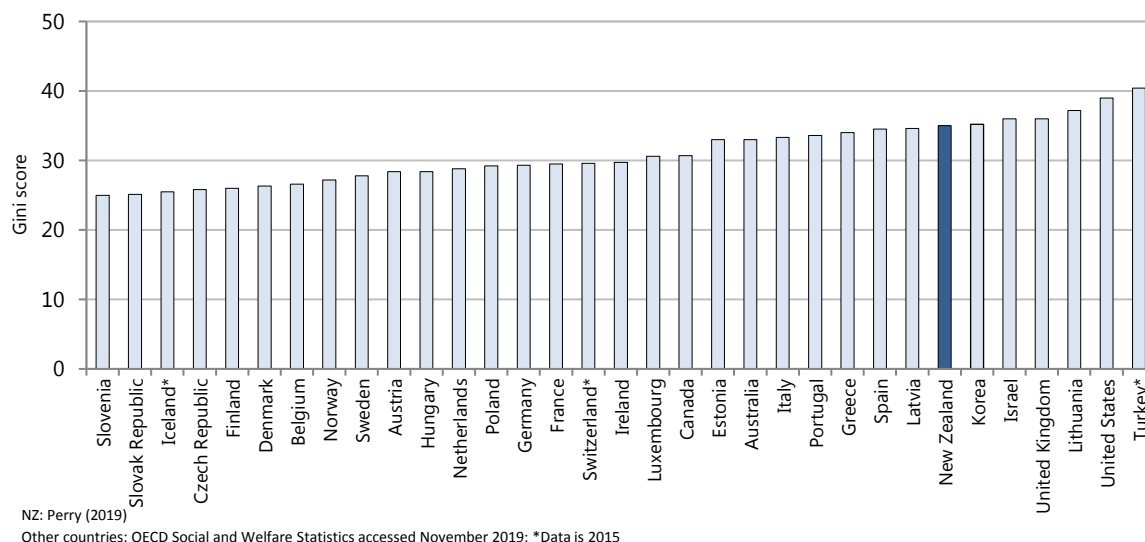
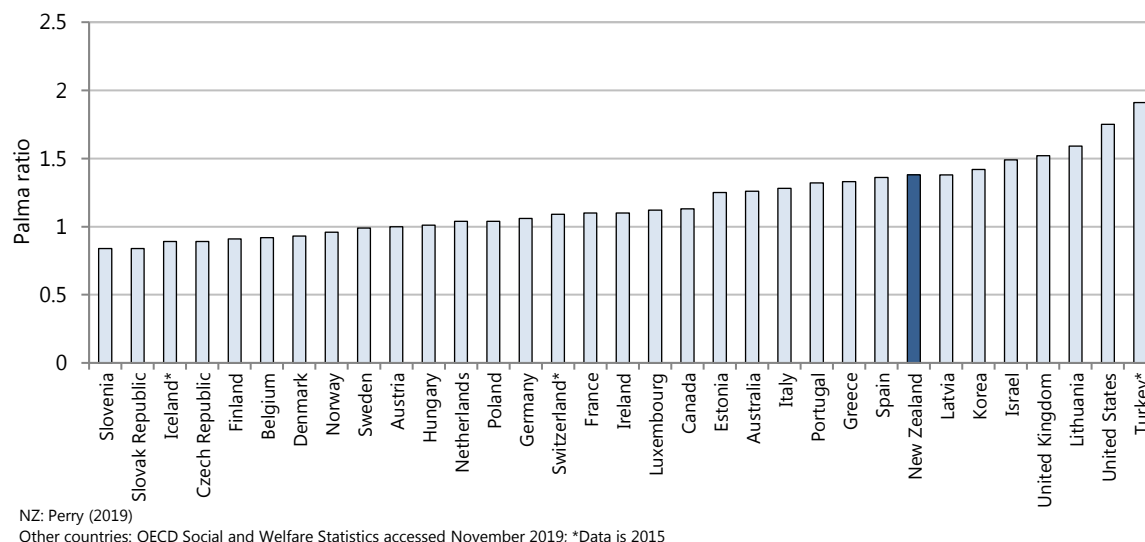


Figure 63. Palma ratio, by country, whole population, selected countries circa 2016



Income is not distributed evenly across populations, even after taxes and transfers are taken into account. In the 2016 NZHES the 20% of New Zealand households with the highest equivalised incomes (the top households) received 42% of total income, whereas the 20% of households with the lowest equivalised incomes received 7% of total income (Table 7). Household income distribution in New Zealand, Canada and Australia are broadly similar; while Finland, Norway and Sweden show less dispersed income distribution between the lowest two income quintiles and the highest quintile.

Table 7. Shares of total income by quintiles of equivalised disposable household income (%): international comparisons circa 2016

| Equivalised disposable household income | Proportion of total income (%) | | | | |
|---|--------------------------------|----|----|----|-----------|
| | Q1 (low) | Q2 | Q3 | Q4 | Q5 (high) |
| Norway | 9 | 15 | 19 | 22 | 35 |
| Finland | 10 | 14 | 18 | 22 | 35 |
| Sweden | 9 | 14 | 18 | 23 | 36 |
| France | 9 | 14 | 17 | 22 | 39 |
| New Zealand (NZHES 2015) | 8 | 12 | 16 | 22 | 43 |
| New Zealand (NZHES 2016) | 8 | 12 | 16 | 22 | 42 |
| New Zealand (NZHES 2017) | 8 | 12 | 16 | 22 | 42 |
| New Zealand (NZHES 2018) | 7 | 12 | 17 | 22 | 42 |
| UK | 8 | 13 | 17 | 23 | 39 |
| Australia 2013–2014 | 8 | 12 | 17 | 22 | 41 |
| Australia 2015–2016 | 8 | 13 | 17 | 23 | 40 |
| Canada | 7 | 12 | 17 | 23 | 41 |
| Italy | 6 | 13 | 18 | 24 | 40 |
| Spain | 6 | 12 | 17 | 24 | 41 |
| Greece | 6 | 13 | 17 | 24 | 41 |

Sources: Perry (2018, 2019) Derived from Australia (Table 1.1 in ABS (2017) for 2014 & 2016; Canada (Table 36-10-0587-01 in Statistics Canada (2018) for 2016; European countries (Eurostat statistical database for Population and Social Conditions for 2016).

Appendices

Appendix 1: ICD-10-AM codes

Infant mortality including sudden unexpected death in infancy (SUDI) as underlying cause of death

| Category | ICD-10-AM |
|--|------------------|
| Extreme prematurity | P07.2 |
| Intrauterine hypoxia or birth asphyxia | P20, P21 |
| Other perinatal conditions | P00–P19; P22–P96 |
| Congenital anomalies | Q codes |
| SUDI: SIDS | R95 |
| SUDI: unspecified | R96, R98, R99 |
| SUDI: suffocation or strangulation in bed | W75 |
| SUDI: inhalation of gastric contents or food | W78, W79 |
| Injury or poisoning | V01–Y36 |

Hospitalisations

| Category | ICD-10-AM |
|---|--|
| Age range | Up to 14 years, neonates under 28 days excluded |
| Medical hospitalisations | Acute and arranged (where arranged is within 7 days of referral), excluding ED admissions |
| Injury hospitalisations | Exclude ED admissions and waiting list admissions |
| SES Eligible admit type (excludes waiting list) | AA (Arranged Admission), AC (Acute), RL (Psychiatric patient returned from leave), ZA (Arranged Admission, ACC covered), ZC (Acute, ACC covered) |
| ED cases (based on health specialty code) | M05–M08 |
| Medical causes (primary diagnosis) | A–R |
| Injury (primary diagnosis) | S–T79 |
| Medical conditions | |
| Pneumonia | J10.0 or J11.0, J12–J16, J18 |
| Asthma and wheeze | J45–J46, R062 |
| Acute bronchiolitis | J21 |
| Acute respiratory infections | J00–J06, J22 |
| Other respiratory | Other J codes not listed above |
| Gastroenteritis | A00–A09, K529 |
| Viral infection of unspecified site | B34 |
| Other communicable | Other A&B codes not listed above |
| Injury (external cause codes) | |
| Falls | W00–W19 |
| Mechanical forces: inanimate | W20–W49 |
| Mechanical forces: animate | W50–W64 |
| Thermal injury | W85–X19 |
| Poisoning | X40–X49 |
| Intentional self-harm | X60–X84 |
| Assault | X85–Y09 |
| Undetermined intent | Y10–Y34 |
| Road traffic crash | |
| Pedestrian | V00–V06.(1), V09.(2,3) |
| Cyclist | V10–V18.(4,5,9), V19.(4,5,6,9) |
| Motorbike | V20–V28.(4,5,9), V29.(4,5,6,9) |
| 3-wheeled | V30–V38.(5,6,7,9), V39.(4,5,6,9) |
| Vehicle occupant | V40–V78.(5,6,7,9), V49.(4,5,6,9), V59.(4,5,6,9), V69.(4,5,6,9), V79.(4,5,6,9), |
| Other land transport | V81.1, V82.(1,9), V83.(0,1,2,3), V84.(0,1,2,3), V85.(0,1,2,3), V86.(0,1,2,3), V87, V89.(2,3) |
| Non-traffic land transport crash | |
| Pedestrian | V00–V06.(0), V09.(0,1) |
| Cyclist | V10–V18. (0,1,2), V19. (0,1,2,3) |
| Motorbike | V20–V28.(0,1,2), V29. (0,1,2,3) |
| 3-wheeled | V30–V38.(0,1,2,3), V39. (0,1,2,3) |
| Vehicle occupant | V40–V78.(0,1,2,3), |
| Other land transport | V81.0, V82.0, V83.(5,6,7,9), V84.(5,6,7,9), V85.(5,6,7,9), V86.(5,6,7,9), V88, V89.(0,1) |

Injury range does not include diagnostic codes of late effects of injuries, poisonings, toxic effects, and other external causes

Appendix 2: New Zealand index of deprivation

The NZ index of deprivation (NZDep) was first created using information from the 1991 census, and has been updated following each census. It is a small area index of deprivation, and is used as a proxy for socio-economic status. The main concept underpinning small area indices of deprivation is that the socio-economic environment in which a person lives can confer risks or benefits which may be independent of their own social position within a community.¹¹⁴ They are aggregate measures, providing information about the wider socio-economic environment in which a person lives, rather than information about their individual socio-economic status.

The latest index, NZDep2013, combines nine variables from the 2013 census to reflect eight dimensions of material and social deprivation (Table 8). Each variable represents a standardised proportion of people living in an area who lack a defined material or social resource. These are combined to give a score representing the average degree of deprivation experienced by people in that area. Individual area scores are ranked and placed on an ordinal scale from 1 to 10, with decile 1 reflecting the least deprived 10% of small areas and decile 10 reflecting the most deprived 10% of small areas.⁵¹

The advantage of the NZDep is its ability to assign measures of socio-economic status to the older population, the people who are not in employment, and to children, to whom income and occupational measures often don't apply, as well as to provide proxy measures of socio-economic status for large datasets when other demographic information is lacking. Small area indices have limitations, however, as not all individuals in a particular area are accurately represented by their area's aggregate score. While this may be less of a problem for very affluent or very deprived neighbourhoods, in average areas, aggregate measures may be much less predictive of individual socio-economic status.¹¹⁴ Despite these limitations, the NZDep has been shown to be predictive of mortality and morbidity from a number of diseases in New Zealand.

Table 8. Variables used in the NZ index of deprivation 2013 (NZDep2013)

| Dimension | Variable in order of decreasing weight in the index |
|----------------|--|
| Communication | People aged <65 with no access to the Internet at home |
| Income | People aged 18–64 receiving a means tested benefit |
| Income | People living in equivalised* households with income below an income threshold |
| Employment | People aged 18–64 who are unemployed |
| Qualifications | People aged 18–64 without any qualifications |
| Owned home | People not living in own home |
| Support | People aged <65 living in a single parent family |
| Living space | People living in equivalised* households below a bedroom occupancy threshold |
| Transport | People with no access to a car |

* The setting of the household equivalised income threshold was based on two principles: 1) the proportion of the population identified as being socio-economically deprived by the threshold should be broadly consistent with the other variables in the index, and 2) the threshold should be broadly consistent with other measures of income poverty.

Appendix 3: Data sources

The Child Poverty Monitor presents information derived from several national administrative datasets. These are described briefly below, and limitations and issues to be aware of when interpreting results drawn from these sources are outlined.

National Mortality Collection

The National Mortality Collection is a dataset managed by the Ministry of Health which contains information on the underlying cause, or causes, of death along with basic demographic data for all deaths registered in New Zealand since 1988. Fetal and infant death data are a subset of the Mortality Collection, with cases in this subset having further information on factors such as birth weight and gestational age.¹¹⁵ Each of the approximately 28,000 deaths occurring in New Zealand each year is coded manually by Ministry of Health staff. For most deaths the Medical Certificate of Cause of Death provides the information required, although coders also have access to information from other sources such as Coronial Services, Police, NZ Transport Agency, the NZ Cancer Registry, the Institute of Environmental Science and Research, and Water Safety NZ.¹¹⁶

National Minimum Dataset

The National Minimum Dataset (NMDS) is the national hospital discharge dataset and is maintained by the Ministry of Health. It is used for policy formation, performance monitoring, and research purposes, providing key information about the delivery of hospital inpatient and day patient health services both nationally and on a provider basis. It is also used for funding purposes.¹¹⁷

Information in the NMDS includes principal and additional diagnoses, procedures, external causes of injury, length of stay and sub-specialty codes; and demographic information such as age, ethnicity, and usual area of residence. Data have been submitted by public hospitals electronically since the original NMDS was implemented in 1993, with additional data dating back to 1988 also included. The private hospital discharge information for publicly funded events has been collected since 1997. The current NMDS was introduced in 1999.¹¹⁷

Birth Registration Dataset

Since 1995 all NZ hospitals and delivering midwives have been required to notify the Department of Internal Affairs within five working days of the birth of a live or stillborn baby. This applies to stillborn babies born at or more than 20 weeks gestation, or those weighing 400g or more; prior to 1995, only stillborn babies reaching more than 28 weeks of gestation required birth notification. Information on the hospital's notification form includes maternal age, ethnicity, multiple birth status, and the baby's sex, birth weight, and gestational age. In addition, parents must jointly complete a birth registration form as soon as reasonable practicable after the birth, and within two years of delivery, which duplicates the above information with the exception of birth weight and gestational age. Once both forms are received by Internal Affairs the information is merged into a single entry. This two-stage process is thought to capture 99.9% of births occurring in New Zealand and cross-checking at the receipt stage allows for the verification of birth detail.¹¹⁸

Dataset limitations

There are limitations when using any of these datasets. The following are of particular relevance to this report.

Clinical coding accuracy and coding changes over time

The quality of data submitted to the administrative national datasets may vary. While the data for the National Mortality Collection and the Birth Registration Dataset are coded by single agencies, the clinical information held in the NMDS is entered by health providers before being collated by the Ministry of Health. In a 2001 review of the quality of coding in the data submitted to the NMDS, 2,708 events were audited over ten sites during a three month period. Overall the audit found that 22% of events required a change in coding, although this also included changes at a detailed level. Changes

to the principal diagnosis involved 11% of events, to additional diagnoses 23%, and to procedure coding, 11%. There were 1,625 external causes of injury codes, of which 15% were re-coded differently.¹¹⁹ These findings were similar to an audit undertaken a year previously. While the potential for such coding errors must be taken into consideration when interpreting the findings of this report, the average 16% error rate indicated by the 2001 review may be an overestimate as, in the majority of the analyses undertaken in this report, only the principal diagnosis is used to describe the reason for admission.

Changes in the coding systems used over time may result in irregularities in time series analyses.¹¹⁶ New Zealand hospitals use the clinical coding classification developed by the World Health Organization and modified by the National Centre for Classification in Health, Australia. The current classification is called The International Statistical Classification of Diseases and Related Health Problems, Tenth Revision, Australian Modification (ICD-10-AM), the Australian Classification of Health Interventions (ACHI) and Australian Coding Standards (ACS). The introduction of ICD-10-AM represented the most significant change in classification in over 50 years, expanding the number of codes from ~5,000 to ~8,000, to provide for recently recognised conditions and allow greater specificity about common diseases.

From 1988 until 1999, clinical information in the NMDS was coded using versions of the ICD-9 classification system. From July 1999 onwards, the ICD-10-AM classification system has been used. Back and forward mapping between the two systems is possible using predefined algorithms,¹¹⁵ and for most conditions there is a good correspondence between ICD-9 and ICD-10-AM codes. Care should still be taken when interpreting time series analyses which include data from both time periods as some conditions may not be directly comparable between the two coding systems.

Variation in reporting hospitalisations to the NMDS

Historically, there have been differences in the way New Zealand's 20 district health boards (DHBs) have reported their emergency department (ED) hospitalisations to the NMDS, which can affect the interpretation of hospitalisation data. Inconsistent recording of ED cases has resulted from differing definitions of the time spent in the ED, and at what point this time constitutes an admission. This is important in paediatrics where hospitalisations for acute onset infectious and respiratory diseases in young children especially are mainly of short duration. In addition, there are regional differences in treatment processes for paediatric emergency cases.

This report includes all ED day cases in its analyses of hospitalisations for medical conditions. This approach differs from that commonly used by the Ministry of Health when analysing NMDS hospital discharge data, which the Ministry of Health uses to minimise the impact of the inconsistent reporting of ED cases. Short stay ED events are often excluded from the Ministry's analyses to improve comparability between regions. However, as noted above, the treatment of children in acute cases differs from that of adults, and the inclusion of ED day cases is justified when considering hospitalisations for medical conditions, despite inconsistencies in the dataset. The Ministry of Health's practice of filtering out ED day cases for hospitalisations for injuries is followed in this report as it is considered that the processes for injury assessments are relatively consistent around the country.

Further information on the details of the inconsistencies can be seen in earlier reports by the NZCYES <http://www.otago.ac.nz/nzcyes>

Stats NZ Child poverty statistics

The Stats NZ's Child Poverty Statistics are produced for the 2017/18 year and previous years using the Household Economic Surveys (NZHES), administrative (admin) data via the Integrated Data Infrastructure (IDI) and quarterly Household Labour Force Survey (HLFS).⁷ The NZHES is a survey of between 3,000 to 5,500 households, randomly sampled, of which around 30% are households with children.⁷ For more information, please see Table 9 or refer to the Child Poverty Statistics Technical Appendix 2017/18.⁷

Table 9. Number of survey participants and coverage, New Zealand Household Economic Surveys

| Survey year (1 July–30 June) | Achieved sample size | Coverage (%) |
|--|----------------------|--------------|
| New Zealand Household Economic Surveys | | |
| 2011/2012 | 3,565 | 83 |
| 2012/2013 | 3,003 | 67 |
| 2013/2014 | 3,391 | 814 |
| 2014/2015 | 5,561 | 78 |
| 2015/2016 | 3,499 | 78 |
| 2016/2017 | 3,703 | 83 |
| 2017/2018 | 5,482 | 76 |

Source: Child Poverty Statistics Technical Appendix 2017/18⁷

New Zealand Health Survey

The Ministry of Health's New Zealand Health Survey (NZHS) became an annual survey in 2011. The survey is conducted by interviewing a sample of adults and children's parents or caregivers in New Zealand. The NZHS utilises a core set of questions that cover a range of health-specific indicator areas, including health behaviours, conditions, and use of health services. The survey also includes a flexible programme of rotating topic modules, which change every 12 months.¹²⁰ Table 10 presents the number of participants selected for each NZHS conducted and the corresponding coverage rate, or the extent to which a population has been involved in a survey.

The NZHS utilised adjusted rate ratios to account for the potential influence of other demographic factors when undertaking demographic comparisons. Gender comparisons are adjusted for age, ethnic comparisons are adjusted for age and gender, and deprivation comparisons are adjusted for age, gender and ethnicity.¹²¹

Table 10. Number of survey participants and coverage, New Zealand Health Survey

| Survey year (1 July–30 June) | Adults (15 years and over) | | Children (0–14 year olds) | |
|------------------------------|----------------------------|--------------|---------------------------|-------------------|
| | <i>n</i> | Coverage (%) | <i>n</i> | Response rate (%) |
| New Zealand Health Survey | | | | |
| 2006/2007 | 12,488 | 59 | 4,921 | 67 |
| 2011/2012 | 12,370 | 54 | 4,478 | 68 |
| 2012/2013 | 13,009 | 59 | 4,485 | 69 |
| 2013/2014 | 13,309 | 54 | 4,699 | 63 |
| 2014/2015 | 13,497 | 59 | 4,754 | 69 |
| 2015/2016 | 13,781 | 67 | 4,721 | 76 |
| 2016/2017 | 13,598 | 63 | 4,668 | 73 |
| 2017/2018 | 13,869 | 61 | 4,723 | 74 |

Source: New Zealand Health Survey Methodology reports 2006/07–2017/18

Estimated prevalence

The NZHS presents the demographic factors for each surveyed condition using unadjusted prevalence rates and adjusted rate ratios. The survey uses the calibrated weighting method to construct survey weights that rate up the responding sample to represent the target population. This method takes into account the probability of selection of each respondent, and uses external population benchmarks (typically based on the most recent population census) to correct for any discrepancies between the sample and population benchmarks (by age, sex, ethnicity and the 2013 New Zealand Index of Deprivation).¹²¹

The prevalence of a condition, or the proportion of the population with the condition was estimated by calculating the sum of the weights for the survey respondents with the condition divided by the sum of the weights of all survey respondents. For example, the sum of the weights for survey respondents with self-reported diabetes is divided by sum of the weights for all survey respondents.¹²¹

Further information on the NZHS results, content, methodology, and interpretation of the estimates is available on the NZHS pages of Ministry of Health website <http://www.health.govt.nz/nz-health-statistics/national-collections-and-surveys/surveys/current-recent-surveys/new-zealand-health-survey>

Ethnicity in National Datasets

There were inconsistencies in the manner in which ethnicity information in New Zealand was collected prior to 1996. This report presents ethnic-specific analyses for 1996 onwards and, unless otherwise specified, prioritised ethnic group has been used to ensure that each health event is only counted once.

Despite significant improvements in the quality of ethnicity data in New Zealand's national health collections since 1996, care must still be taken when interpreting the ethnic-specific rates as the potential still remains for Māori and Pacific children and young people to be undercounted in our national data collections. The data presented in this report may undercount Māori and Pacific children to a variable extent depending on the dataset used; in the case of the hospitalisations for Māori, this undercount may be as high as 5–6%.

Appendix 4: Statistical methods

Inferential statistics are used when a researcher wishes to use a sample to draw conclusions about a larger population as a whole (for example, weighing a class of 10-year-old boys, in order to estimate the average weight of all 10-year-old boys in New Zealand). The findings obtained from the sample provide an estimate for the population, but will always differ from it to some degree, simply due to chance. Similarly, samples are used when a researcher questions whether the risk of developing a particular condition is different between two groups, and the fit of the estimate obtained from the samples to the actual population needs to be carefully considered. An example of this would be a study examining whether lung cancer is more common in smokers or non-smokers: researchers using sample groups would have to consider the possibility that some of the differences observed arose from chance variations in the populations sampled.

Over time, statisticians have developed a range of measures to quantify the uncertainty associated with random sampling error. These measures can assign a level of confidence to estimates and conclusions drawn from samples, allowing researchers to assess, for example, whether the average weight of boys in the sample reflects the true weight of all 10-year-old boys, or the rates of lung cancer in smokers are really different to those in non-smokers. Two of the most frequently used statistical significance tests are:

P values: The p value from a statistical test measures the probability of finding a difference at least as large as the one observed between groups, if there were no real differences between the groups studied. For example, if statistical testing of the difference in lung cancer rates between smokers and non-smokers resulted in a p value of 0.01, this tells us that the probability of such a difference occurring if the two groups were identical is 0.01 or 1%. Traditionally, results are considered to be statistically significant if the p value is <0.05 ; that is, when the probability of the observed differences occurring by chance is less than 5%.¹²²

Confidence Intervals: When sampling from a population a confidence interval is a range of values that contains the measure of interest. While a confidence interval for the average height of 10-year-old boys could be 20 cm to 200 cm, for example, the smaller range of 130 cm to 150 cm is a more informative statistic. A 95% confidence interval suggests that if you were to repeat the sampling process 100 times, 95 times out of 100 the confidence interval would include the true value.¹²²

When tests of statistical significance have been applied in this report, the statistical significance of the associations presented has been signalled in the text with the words significant, or not significant. Where the words significant or not significant do not appear in the text, then the associations described do not imply statistical significance or non-significance.

In general the data sources used in this report are either population surveys or routine administrative datasets.

Data from national surveys: In population surveys information from a sample has been used to make inferences about the population as a whole. In this context, statistical significance testing is appropriate and, where such information is available in published reports, it has been included in the text accompanying graphs and tables. In a small number of cases, information on statistical significance was not available, and any associations described do not imply statistical significance.

Data from routine administrative data: Administrative datasets, for example the National Mortality Collection, capture information on all of the events occurring in a particular category. To facilitate comparisons between different time periods, and for examining the data from New Zealand in a wider context, whenever measures of association (rate ratios) are presented in this report, 95% confidence intervals have been provided.¹²³ The following rates are provided:

- **Crude rates:** Measures the number of people with the condition of interest in relation to the number of people in the population. It is calculated by dividing the number of people with the condition of interest in a specific time period by the total number of people in the population in the same time period.
- **Age-specific rates:** Measures the occurrence of an event within a defined age group in relation to the number of people in that group. Age-specific rate is calculated by dividing the number

of people with the condition of interest in a specific age group and time period by the total number of people in the population in the same age group and time period.

Appendix 5: Indicators used in the Child Poverty Monitor

The indicators reported upon in the Child Poverty Monitor Technical Reports (2013–2017) combine measures of child poverty recommended by the 2012 Children’s Commissioner’s Expert Advisory Group on Solutions to Child Poverty,⁸ with children’s health and well-being measures being developed for the Children’s Social Health Monitor that was produced by the NZ Child and Youth Epidemiology Service from 2009 to 2012.⁹ The indicator set needs to be methodologically robust and able to be monitored consistently over time. The data selected are mainly from population surveys or routine administrative datasets that provide complete population coverage.

Appendix 6: Measures of material hardship

DEP-17 is a 17 item deprivation index that includes a range of items considered essential and enjoyed by the majority of New Zealand households. This is working on a spectrum from lower to higher levels of hardship. A score of 6+ is considered to indicate households experiencing material hardship and 9+ indicates households experiencing severe material hardship.¹² The list of 17 items is shown in Table 11.

Table 11. Items used in the New Zealand Household Economic Survey for the material deprivation index (DEP-17)

| Item description | |
|--|--|
| Enforced lack of essentials (for respondent or household as a whole) | |
| 1. | Meal with meat, fish or chicken (or vegetarian equivalent) at least each 2nd day |
| 2. | Two pairs of shoes in good repair and suitable for everyday use |
| 3. | Suitable clothes for important or special occasions |
| 4. | Presents for family and friends on special occasions |
| 5. | Home contents insurance |
| Economised, cut back or delayed purchases 'a lot' because money was needed for other essentials (not just to be thrifty or to save for a trip or other non-essential) | |
| 6. | Went without or cut back on fresh fruit and vegetables |
| 7. | Bought cheaper cuts of meat or bought less than wanted |
| 8. | Put up with feeling cold to save on heating costs |
| 9. | Postponed visits to the doctor |
| 10. | Postponed visits to the dentist |
| 11. | Did without or cut back on trips to the shops or other local places |
| 12. | Delayed repairing or replacing broken or damaged appliances |
| In arrears more than once in last 12 months (because of shortage of cash at the time, not through forgetting) | |
| 13. | Rates, electricity, water |
| 14. | Vehicle registration, insurance or warrant of fitness |
| Financial stress and vulnerability | |
| 15. | Borrowed money from family or friends more than once in the last 12 months to cover everyday living costs |
| 16. | Feel 'very limited' by the money available when thinking about purchase of clothes or shoes for self (options were: not at all, a little, quite limited, and very limited) |
| 17. | Could not pay an unexpected and unavoidable bill of \$500 within a month without borrowing |

Source: Perry 2017.²² Enforced lack means item is wanted but not possessed because of the cost

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