

Tracking wellbeing in Aotearoa New Zealand: Methodological report

Methodological report

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Awhi Rito

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Tracking wellbeing: Project Context

The Families Package was introduced in 2018 and increased rates for several income support payments, as well as introducing new initiatives such as Best Start and the Winter Energy Payment. Since the introduction of this package, further changes have been made to the income support system as part of the government's focus on wellbeing, reducing child poverty, and in response to the COVID-19 pandemic. Notably, this included further increases to main benefits rates in 2020, 2021, and 2022.

The purpose of this project is to provide insight into how wellbeing is tracking for key groups in Aotearoa New Zealand that were likely to be more or less affected by these policy changes: people receiving main benefits and different family types. It does so by combining nationally-representative survey and administrative data from 2008 through 2020/21 to examine wellbeing indicators across multiple domains, including economic and socioemotional wellbeing and access to healthy housing.

This work was commissioned by the Ministry of Social Development (MSD) as part of the Families Package evaluation work programme. This work programme aims to measure the impact the suite of Families Package initiatives, primarily delivered through MSD and Inland Revenue, have had—and are having—on the economic and social wellbeing of New Zealanders.

Several government ministries have undertaken initiatives to track wellbeing in ways that align with the policy advice they provide government. Examples of these initiatives include:

- [The Treasury's Living Standards Dashboard](#)
- [Statistics NZ's Indicators Aotearoa](#)
- [Ministry of Health's Annual Data Explorer](#)

Importantly, these existing resources also support sub-group analysis by ethnic group. These approaches, however, do not support sub-group analysis that are most important for MSD's income support policy advice. In particular:

- Family type groups that match the family types used to assess entitlement for income support; and,
- Those who are supported by main benefits.

Thus, the purpose of this project is to fill these gaps, providing insight into how wellbeing is tracking for key groups targeted by recent income support policy changes, and how trends for these groups compare with those for others less affected by these reforms. In turn, these insights can be used by MSD and other service providers to support policy and operational design in ways that can address low levels of, and inequities in, specific wellbeing domains.

This report: Methodological report

This report is part of a five-part series which focuses on tracking wellbeing among families and those who receive main benefits from MSD in Aotearoa New Zealand. This report presents the methodological approach to conducting the analyses that underpin the findings presented in the three findings reports.

An executive summary highlighting the key findings and implications across all reports can be found here: [Tracking wellbeing in Aotearoa New Zealand: Project overview and key findings](#)

The three other reports as part of the series are:

- [Tracking wellbeing in Aotearoa New Zealand: Those who receive main benefits](#): This findings report focuses on trends in wellbeing among those who received a main benefit in the past 12 months compared with those who had not received a main benefit.
- [Tracking wellbeing in Aotearoa New Zealand: Family types](#): This findings report focuses on trends in wellbeing among four key family types that broadly align with family types used for determining income support eligibility: 1) Couples with dependent children; 2) Couples without dependent children; 3) Single parents with dependent children; and, 4) Sole people without dependent children.
- [Tracking wellbeing in Aotearoa New Zealand: Main benefits and family types](#): This findings report focuses on the intersection between benefit receipt and family types, examining trends in wellbeing by family type among those who receive a main benefit and those who do not.

Data overview

IDI data sources

Wellbeing outcomes and
sociodemographics

Benefit receipt

Survey data

Administrative data

NZ General Social
Survey (NZGSS)

$n = \sim 8,000$ per
year

Biennial: 2008-18

Household
Labour Force
Survey (HLFS)

$n = \sim 15,000$

2020

MSD benefit
receipt data

2005-2021

Data come from Stats NZ's Integrated Data Infrastructure, with the analytical dataset consisting of linked administrative data and survey data.

Information on benefit receipt comes from MSD's benefit data. These data capture information on people's main benefit and supplementary payment receipt, including start and end dates of benefit receipt spells.

Data on wellbeing and other sociodemographic information, such as those needed to construct family type, come from the 2008-2018 New Zealand General Social Survey (NZGSS) and from the 2020/21 Household Labour Force Survey (HLFS).

These data are linked in the IDI using the IDI spine.

Data: Wellbeing and family type data

Wellbeing, family type, and other sociodemographic data came from the New Zealand General Social Survey (NZGSS) and the Household Labour Force Survey (HLFS). These two data sources met the criteria for including information on wellbeing across multiple domains, having repeated measures of wellbeing across time, could produce nationally-representative estimates, and are linked in the IDI.

It was also important to select datasets that would be ongoing, with the expectation that project statistical code can be updated with new iterations of the wellbeing surveys to track wellbeing patterns in the future.

The NZGSS began in 2008 and is collected every two years (except for the 2020 iteration which was delayed to 2020/21). The sample is representative of people in New Zealand aged 15 years and older. In this project we used the years 2008, 2010, 2012, 2014, 2016, and 2018. Approximately 8,000 people were surveyed at each wave.

The HLFS began in 1985 (although only linked in the IDI from 2007 onwards) and is run quarterly. The sample is representative of people in New Zealand aged 15 years and older. The HLFS was used to produce the 2020/21 wellbeing estimates. Approximately 15,000 people are surveyed at each survey wave. In 2020/21, the HLFS had a supplement that included wellbeing indicators.

The NZGSS contains a wider array of wellbeing indicators across multiple domains compared to the HLFS and, hence, was selected as the primary dataset for measuring wellbeing. At the beginning of this project, however, there had been a delay in data collection of the 2020 NZGSS due to the COVID-19 pandemic, making the 2020 NZGSS iteration unavailable at the time. The HLFS was able to be substituted for the NZGSS in 2020/21 using data from the HLFS wellbeing supplement.

Data: Years

It is important to note that data for each ‘year’ represented in this report also includes data collected in the first quarter of the following year. The table below outlines the data collection time periods for each of the time points represented in this project.

Year as presented in this project	Data source	Collection period
2008	New Zealand General Social Survey	April 2008 through March 2009
2010	New Zealand General Social Survey	April 2010 through March 2011
2012	New Zealand General Social Survey	April 2012 through March 2013
2014	New Zealand General Social Survey	April 2014 through March 2015
2016	New Zealand General Social Survey	April 2016 through March 2017
2018	New Zealand General Social Survey	April 2018 through March 2019
2020	Household Labour Force Survey—Wellbeing supplement	May 7 th 2020-March 2021. Delayed interviewing due to national Level 4 COVID-19 lockdown during April 2020

Analytical sample

Analytical sample

Respondents aged
18-64 years old

Survey respondent sets
benefit receipt status

The final analytical sample consisted of respondents who were aged between 18 and 64 years old at the time of the survey.

Benefit receipt status reflects that of the primary survey respondent.

Wellbeing indicators were examined in two-year increments from 2008 through 2020, representing seven waves of data.

The time trends presented were estimated from repeated cross-sections of data (e.g., the sample of respondents will be different at each year but are still representative of the New Zealand population).

Wellbeing indicators

The wellbeing indicators were selected on the following criteria:

Consistent measurement across time

Wellbeing indicators needed to be as consistently measured as possible to make comparisons across time.

Alignment with other well-established wellbeing frameworks

One value-added of this project is the closer examination of the wellbeing of those who receive benefits and by a family typology that more closely aligns with benefit type eligibility.

These trends can be examined in the context of existing frameworks that examine other key groups for additional comparisons.

Importance for social policy

We focused on indicators that are seen not just as important indicators of wellbeing, but also potentially policy malleable.

Potential for variability over time for individuals

Wellbeing indicators needed to be able to change across time in a way that suggests they could be responsive in the short term (e.g., having enough money to meet needs) for a broad and diverse population, versus wellbeing indicators that may be more population-specific and represent broader longer-term shifts (e.g., educational attainment).

Measures that may vary by family structure and benefit receipt

Similar to choosing wellbeing indicators that would show variability over time, indicators were also selected with an eye to constructs that may have particular importance for those receiving benefits or likely to differ across family types.

Keeping it simple and efficient for future data management

Programme code was developed with an eye towards future use through coding updates. Wellbeing constructs that tended to change often in ways that made harmonisation difficult, or had not been included consistently across waves, were not included in this coding iteration.

Six wellbeing domains: 20 indicators

Twenty indicators across six wellbeing domains were selected:

Socioemotional wellbeing



- Life satisfaction
- Self-actualization
- Family wellbeing

Economic wellbeing



- Income inadequacy
- Material wellbeing
- Labour force participation

Housing



- Warmth
- Dampness
- Crowding

Health



- General health

Social connectedness



- Loneliness
- Trust in institutions (4 items)
- Discrimination
- Contact with friends and whanau (2 items)

Safety



- Feeling safe in the community after dark
- Victim of crime

Socioemotional wellbeing measurement

Three indicators were selected to examine socioemotional wellbeing.

Life satisfaction

Life satisfaction was measured through a question that asked respondents, “How do you feel about your life as a whole?” From 2008 through 2012, this was measured on a 1 through 5 scale, where 1 = very/completely dissatisfied and 5 = very/completely satisfied. This measurement changed to a 0-10 scale from 2014 through 2020. The 0-10 scale was collapsed to 1-5 scale to harmonise across all years.

Self-actualization

Respondents were asked about their ability to be themselves in New Zealand in two different ways, but with the same response scale. In 2008 through 2012, respondents were asked “Here in New Zealand, how easy or difficult is it for you to express your own identity?” In 2014 through 2018, respondents were asked “People in New Zealand have different lifestyles, cultures, and beliefs that express who they are. How easy or hard is it for you to be yourself in New Zealand?” The response scale ranged from 1 = very hard/difficult; through 5 = very easy. The construct was not available in the 2020/21 HLFS.

Family wellbeing

Family wellbeing is a relatively new measure, having only been collected on the NZGSS from 2018 and the HLFS in 2020/21. Respondents were asked, “How would you rate how your family is doing these days?” The response scale ranged from 0 = extremely badly through 10 = extremely well.

Economic wellbeing measurement

Three indicators were selected to examine economic wellbeing.

Income inadequacy

Respondents were asked, “How well does [your household] income meet your everyday needs, for such things as accommodation, food, clothing and other necessities?” Response options included: 1 = not enough money; 2 = only just enough money; 3 = enough money; 4 = more than enough money. Figures presented in the findings reports display the percent who reported not enough money versus those with just enough, enough, and more than enough money.

Material wellbeing

The material wellbeing measure in 2008, 2010, and 2012 was the Economic Living Standards Index (ELSI), whereas the Material Wellbeing Index (MWI) was used in the 2014-2018 iterations of the NZGSS. The ELSI was deflated to approximate the MWI in 2014-2018 for comparability over time. This deflation resulted in a distribution of 0-19 in 2008-2012 and a distribution of 0-20 in 2014-2018. The index was not available in the 2020/21 HLFS. Higher scores reflect higher material wellbeing and absence of income inadequacy to meet consumption needs.

Labour force participation

Labour force participation is a binary measure of whether the primary respondent was in paid employment at the time of the survey or whether the primary respondent was unemployed or not participating in the labour force. A lack of consistent information on work status across all adult household members did not allow us to examine labour force engagement at the household level.

Housing measurement

Three indicators were selected to examine housing conditions.

Warmth

There were significant changes in measuring respondents' reported ability to keep their homes warm. In 2008-2012, respondents were asked to indicate, from a list of housing problems, "Are any of these things major problems for you?" with one list item being "It's too cold or difficult to heat/keep warm." In 2014-2018, the construct was measured through a question asking, "In winter, is your house or flat colder than you would like?" with response options being: yes – always; yes – often; yes – sometimes; and, no. In the 2020/21 HLFS, this question asked whether respondents' accommodation had no problem, a minor problem, or a major problem with heating or keeping warm in the winter. A binary indicator was created across all years to indicate that warmth was a major or, for 2014-2018, always or often a, problem.

Dampness

There were also a change in the measurement of house dampness. In 2008-2012, respondents were asked to indicate, from a list of housing problems, "Are any of these things major problems for you?" with one list item being "It's damp." In 2014-2020, the construct was measured through a question asking, "Does your house or flat have no problem, a minor problem, or a major problem with dampness or mould?" with response options being: no problem, a minor problem, or a major problem. A binary indicator was created across all years to indicate that dampness and/or mould was a major problem.

Crowding

Overcrowded homes were identified through a measure derived by Stats NZ. This measure uses the Canadian National Occupancy Standard to indicate how many more bedrooms are needed in a home based on the number, ages, gender, and relationships among people in the household. A binary variable consistent across time indicated whether one or more bedrooms were needed (i.e., *overcrowded*) or no more bedrooms were needed (i.e., *not overcrowded*).

Health measurement

One indicator measured health. We could not include a measure of mental health due to large differences in measurements across time.

General health

The self-reported global health scale was included, and asked respondents “In general, would you say your health is excellent, very good, good, fair, or poor?” Response options ranged from 1 = poor through 5 = excellent.

Safety measurement

Two indicators were included to examine feelings of safety.

Feeling safe in the community after dark

Respondents were asked, “How safe or unsafe do you feel walking alone in your neighbourhood after dark?” The response scale ranged from 1 = very unsafe through 5 = very safe. This measure was consistent across years.

Victim of crime

Respondents were asked, “In the last 12 months, were any crimes committed against you?” Respondents could answer either yes or no. This question was not asked on the 2020/21 HLFs.

Social connectedness measurement

Eight indicators were used to examine issues of social connectedness and institutional trust.

Loneliness

Respondents were asked “In the last four weeks, how much of the time have you felt lonely?” Responses options were: 1 = none of the time; 2 = a little of the time; 3 = some of the time; 4 = most of the time; and, 5 = all of the time. This measure was not available between 2008-2012.

Trust in institutions: Parliament, health system, media, and Police.

Four items tapped into trust in the specific institutions of parliament, the health system, media, and the police. The survey question asked “How much do you trust [the] [Parliament/health system/media/Police]?” The response scale ranged from 0 = not at all through 10 = completely. These trust measures were not available between 2008-2012.

Discrimination

Discrimination experiences were measured as a binary variable indicating whether respondents reported being discriminated against in the past 12 months (1 = yes; 0 = no). There was a significant change to the wording between 2012 and 2014. In 2008-2012, the question asked respondents, “In the past 12 months, have you been treated unfairly or had something nasty done to you because of the group you belong to or seem to belong to?” From 2014 onwards, the wording asked, “The next question is about discrimination in New Zealand. By discrimination I mean being treated unfairly or differently compared to other people. In the last 12 months have you been discriminated against?”

Contact with others: Friends and whanau:

Two indicators examined feelings of connectedness with: 1) friends; and, 2) family/relatives who they do not live with. Respondents were asked, "How would you describe the amount of contact you have with your friends [who don't live with you] / your family or relatives [who don't live with you]?" Respondents could choose from: 1) Very well connected; 2) connected; or, 3) not well connected. This three-point scale was transformed into a binary measure: Connected/very well connected versus not well connected. This measure was not available in 2014 or 2016.

Benefit status

Data from 2005 through 2021 are used, with beginning and end dates of benefit receipt used to create six measures of benefit receipt by time period:

- 1) Main benefit receipt in the past 30 days prior to day of wellbeing (NZGSS/HLFS) survey completion;
- 2) Main benefit receipt in the past 12 months prior to day of wellbeing survey completion;**
- 3) Main benefit receipt in 30 or more months in the past 36 months prior to day of wellbeing survey completion;
- 4) Any MSD benefit receipt in the past 30 days prior to day of wellbeing survey completion;
- 5) Any MSD benefit receipt in the past 12 months prior to day of wellbeing survey completion; and,
- 6) Any MSD benefit receipt in 30 or more months in the past 36 months prior to day of wellbeing survey completion.

Benefit receipt status reflects the benefit receipt of the survey respondent, *not* of the household (i.e., benefit receipt by any household member).

In the findings reports we focus on the main benefit receipt in the past 12 months. Wellbeing estimates for those receiving any MSD benefit and receiving a main benefit during other time periods (i.e., past 30 days, in 30 or more of the past 36 months) can be found in the supplementary tables.

Family type

Family type



Couples without dependent children



Couples with dependent children



Single people without dependent children



Sole parents with dependent children

Family type was determined from the perspective of the survey respondent and was constructed from the Stats NZ household matrix—a standard format on Stats NZ social surveys for collecting information about the people living in the household and the relationships among the household members.

Respondents were categorised into one of four groups that broadly align with family types that are used to assess entitlement or income support at MSD:

- Couples with dependent children;
- Couples without dependent children;
- Sole parents with dependent children; and,
- Single people with dependent children.

Analytical approach

Analytical approach

The estimates produced are bivariate statistics, with wellbeing estimates presented as means and proportions depending on how the outcome was measured. The data were pooled and estimated for each year separately, and by group of interest (i.e., by benefit receipt, by family type, by benefit receipt *and* family type). The figures are presented with 95% Confidence Intervals (CIs) to provide information on statistical differences across these groups and over time.

The supplementary tables contain these CIs, along with t-test and chi² tests for key comparisons.

Weighting

The final survey weight from the respective surveys, along with 100 jackknife replicate weights, were used to account for the multistage sampling design and to generate population-level estimates.

Analysis interpretation

- Findings should be interpreted as a snapshot of a group of people's experiences, on average, at a given point in time.
- Findings are correlational, *not causal*. Other factors might explain differences between those who received benefits versus those who did not that are associated with wellbeing and overrepresentation in the population receiving benefits, such as disability status, gender, and age. For example, single persons have higher rates of loneliness *and* are a greater proportion of those receiving a benefit than in the general population, meaning higher rates of loneliness among those receiving benefits can be partially explained by being overrepresented by single persons.

Compositional change, benefit receipt, and contextualising the wellbeing gap

Considering the estimates presented in this project span from 2008 through 2020, it is important to contextualise the findings within an understanding of who receives income support benefits and the broader compositional changes in who has received benefits across time.

In December 2009-12, 13% of working-age adults in New Zealand were receiving a main benefit. The proportion then decreased and remained fairly stable at around 10% through to 2018, before increasing to 12.4% in 2020.¹ During that same period, the proportion of children living in a family receiving a main benefit² had also declined until an uptick beginning in 2019. In March 2022 the figure was around 18%, up from the low point in 2018 and 2019 of 15% and well down on the post-Global Financial Crisis high in 2010 to 2012 of 22%.

People receiving main benefits are more likely to report higher rates of material hardship, generally, and severe hardship, specifically, than those whose income comes from employment. These differences are larger among families with dependent children than among those without dependent children.

It is important to consider how the financial positions of those “not receiving a main benefit” may have also changed in ways that potentially drive disparities by benefit status. For example, while there has been little change in the family structure composition of the working-age population in the last 20 years, there has been large increases in the proportion of two-parent families where both parents work full time. Just over this project’s timeframe, beginning in 2008, families where both parents were working rose from 39% to just under half (49%) of all two-parent families by 2021. These broader employment shifts may help explain potential inequities in wellbeing between those receiving a benefit and those who did not or among two-parent and single-parent households. Or, in the case of little change in wellbeing, demonstrate the rise of dual-earning families as responses to broader economic conditions that make dual-earner households vital for families to get by financially.

¹ Ministry of Social Development. (2021). [Benefit fact sheets. Snapshot - December 2020 quarter](#). Pp 2. Ministry of Social Development: Wellington, New Zealand.

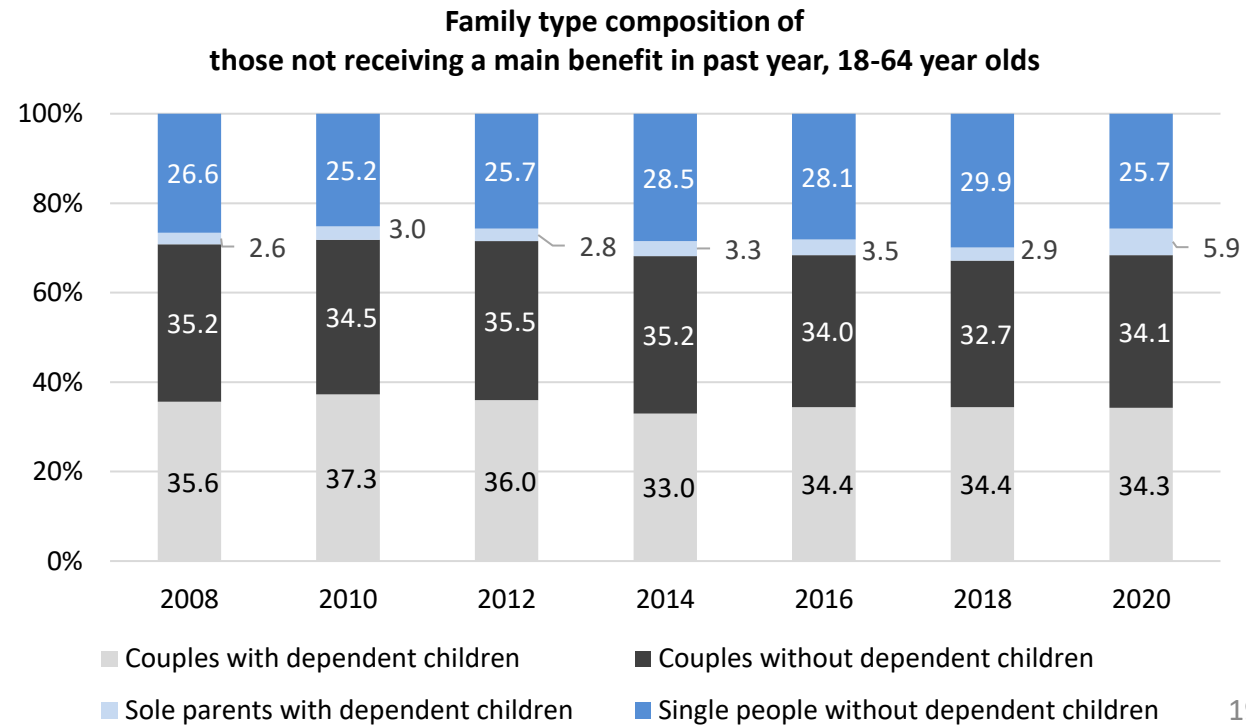
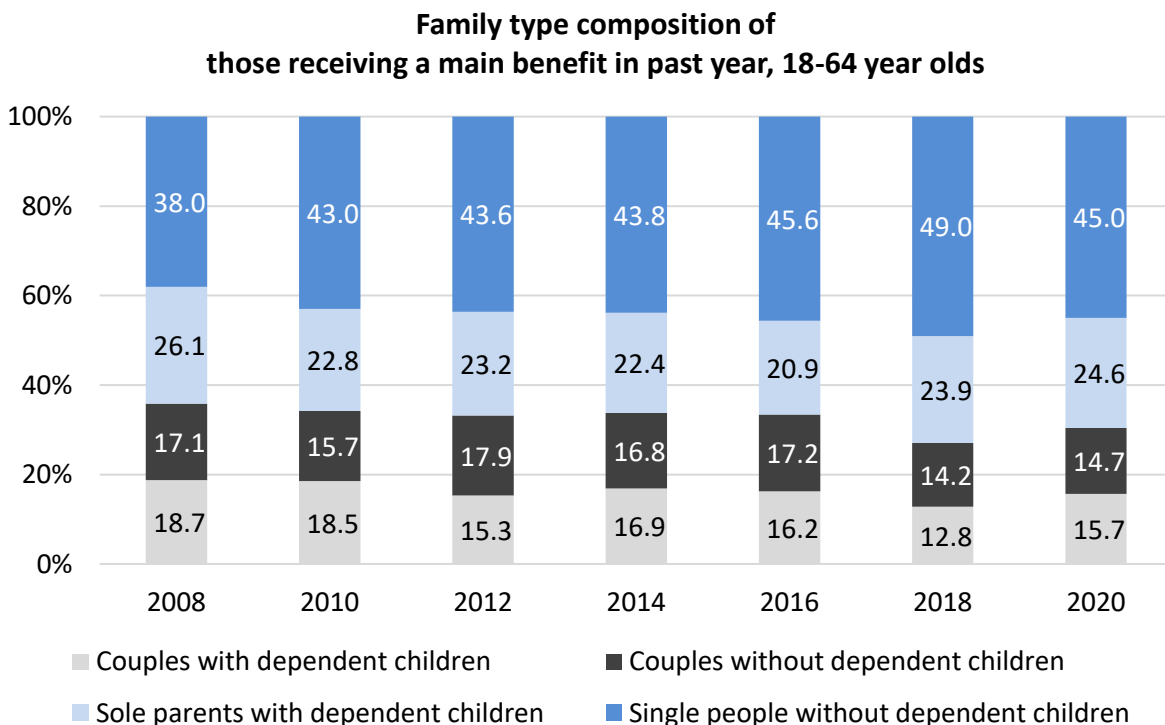
² Perry, Bryan. (2022). [Child poverty in New Zealand](#). Pp 88. Ministry of Social Development: Wellington, New Zealand.

Compositional change, benefit receipt, and contextualising the wellbeing gap

Examining the Tracking Wellbeing project study period and using the NZGSS and HLFS, the figures below show a small composition shift, whereby single people without dependent children became a larger proportion of all people receiving a benefit in the past year, compared with couples with and without dependent children, and single parents.

This is important when considering changes in, for example, loneliness, whereby single people have higher rates to begin with and may be accounting for some of the change between those receiving a benefit and those not in later years.

Thus, the estimates presented in the findings reports need to be understood within the wider economic context and reflect on the diverse impacts of broader societal shifts.



Data Limitations

It is important to note several limitations of the data sources this project uses:

Undercount of those receiving a benefit in national surveys

Despite being nationally representative, Stats NZ national social surveys have been found to undercount those receiving benefits. Although we can address some of this undercount by linking administrative benefit data to the social surveys (i.e., helping address the issue of under-reporting by survey respondents), those receiving benefits are also less likely to be respondents on social surveys, generally, even with multistage sampling designs aimed at capturing a representative sample. This means that the sample receiving a benefit may not be representative of the most vulnerable in the population.

Differences in length of time receiving a main benefit among those receiving a main benefit in the past 12 months

It is important to acknowledge that people in a key analysis group—those who received a main benefit at any point in the past 12 months—could have received a benefit for only a short period of time during the prior 12 months, may have received a main benefit for the past 12 months or more, may or may not currently be receiving a main benefit at the time of the survey, and other combinations of experience in-between. In short, there is heterogeneity in the benefit experiences even within this group. All analyses have also been conducted examining those who received a benefit in the past month (where a majority of this group were receiving a main benefit at the time of the survey) and those who had received a main benefit in at least 30 of the past 36 months (again, with a majority of this group receiving a main benefit at the time of the survey). These analyses can be found in the online supplementary tables.

Sample sizes

Smaller sample sizes among some groups—such as among sole parents receiving a main benefit—has resulted in some suppressed values (per Stats NZ confidentiality rules), and likely accounts for some instability in estimates across years. This also means that drilling down further to examine some of these trends by ethnicity, for example, was not possible. Small sample sizes also means we may be limited in determining statistical differences across groups, even when these differences may appear large. Findings should be interpreted with this understanding.

Data Limitations

Data availability and measurement changes

Some variables are not available at all waves, masking longer-term trends or missing potential changes between specific years. Moreover, while efforts were made to harmonise wellbeing measures across time, slight changes in measurement on some wellbeing indicators could potentially impact differences between years. Data were also not available for some indicators that may be particularly important for the groups being examined, such as mental health.

COVID-19 pandemic disruptions and changes in wellbeing data source

The COVID-19 pandemic, including the lockdowns that limited face-to-face interviewing, created disruptions that affected survey data collection. For the NZGSS, this meant that data collection that would have begun in April 2020 was delayed until 2021, and data collection was truncated and completed in the months of April through August 2021. The sample size was also reduced to 3,484 respondents (down from around 8,000 in earlier waves). Because of this delay in data collection and release of the NZGSS into the IDI, we needed to use a different data source—the HLFS.

The HLFS is a shorter survey with fewer wellbeing indicators measured. For this project, however, we rely on the HLFS wellbeing supplement that began in 2020. The HLFS sample is comparable to the NZGSS given its designed to be nationally-representative across key sociodemographic characteristics and regions. The HLFS was impacted by the pandemic, with interviewing stopping for six weeks at the onset of the first national lockdown. Interviewing that was face-to-face was transitioned to phone interviewing. Interview method (i.e., in-person vs. phone) was impacted throughout 2020 and 2021 in different regions (e.g., Auckland) due to national and regional lockdowns. Stats NZ analyses suggest interview method had little affect on differential responses, and that wellbeing indicators are largely unaffected in ways that would need seasonal adjustment. For our study, the 2020 results represent HLFS data collected between May 7th and March 2021, whereas for prior NZGSS waves, data were collected from April through the following March.

Other documents associated with the project

Executive summary

An executive summary for this project includes key findings across all findings reports.

Findings reports

There are three main findings reports associated with this project:

- Tracking wellbeing in Aotearoa New Zealand: Those who receive main benefits
- Tracking wellbeing in Aotearoa New Zealand: Family types
- Tracking wellbeing in Aotearoa New Zealand: Main benefits and family types

Supplementary tables

Tables containing all the wellbeing estimates presented in the findings reports, along with confidence intervals, standard errors, and estimates by different main benefit receipt periods (i.e., in the past month, past year, 30 or more of the past 36 months), are available. These same set of tables are available for those receiving any MSD benefit.

Tables containing wellbeing estimates by a two-category family type variable (those with vs. those without dependent children) are also available. These tables are available by total response ethnicity groups. Note that in some cases due to small cell sizes, there are a larger number of suppressed estimates.

Data documentation and programme code

SQL code which constructs the analytical datasets and codes and harmonises variables across waves and datasets (within the Stats NZ IDI) is available. Stata code that produces the main and supplementary tables, as well as R code that generates the report figures, is also available. Accompanying data documentation files are available that provide instruction how to use the programme code to produce the output tables.

All documents can be found on the [MSD Families Package Evaluation webpage](#).