MINISTRY OF SOCIAL DEVELOPMENT
TE MANATŪ WHAKAHIATO ORA

What happened to people who left the benefit system

During the year ended 30 June 2016

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Disclaimers

The results in this report are not official statistics. They have been created for research purposes from the Integrated Data Infrastructure (IDI), managed by Statistics New Zealand (Stats NZ).

The opinions, findings, recommendations and conclusions expressed in this report are those of the authors, not Stats NZ or any other agency. Access to the anonymised data used in this study was provided by Stats NZ under the security and confidentiality provisions of the Statistics Act 1975. Only people authorised by the Statistics Act 1975 are allowed to see data about a particular person, household, business, or organisation, and the results in this report have been kept confidential to protect these groups from identification and to keep their data safe.

Careful consideration has been given to the privacy, security and confidentiality issues associated with using administrative and survey data in the IDI. Further detail can be found in the privacy impact assessment for the IDI available from www.stats.govt.nz.

The results are based in part on tax data supplied by Inland Revenue to Stats NZ under the Tax Administration Act 1994. This tax data must be used for statistical purposes only, and no individual information may be published or disclosed in any other form or provided to Inland Revenue for administrative or regulatory purposes.

Any person who has had access to the unit record data has certified that they have been shown, have read and have understood section 81 of the Tax Administration Act 1994, which relates to secrecy. Any discussion of data limitations or weaknesses is in the context of using the IDI for statistical purposes and is not related to the data's ability to support Inland Revenue's core operational requirements.

Reliances and limitations

In undertaking this analysis, we have relied upon the accuracy of information contained in the IDI and described in Appendix 1: Data and methodology. We have used the information without independent verification. It has been reviewed where possible for reasonableness and consistency including with prior reports.

Professional standards

This report complies with the requirements of the New Zealand Society of Actuaries *Code of Professional Conduct* and with *Professional Standard 90: General Actuarial Advice*.

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Contents

Glossary

ACC	Accident Compensation Corporation
ANZSIC06	Australian and New Zealand Standard Industrial Classification
EB	Emergency Benefit
FIAA	Fellow of the Institute of Actuaries of Australia
FNZSA	Fellow of the New Zealand Society of Actuaries
IDI	Integrated Data Infrastructure
JS-WR	Jobseeker Support — Work Ready
JS-HCD	Jobseeker Support — Health Conditions & Disabilities
JS-SH	Jobseeker Support – Student Hardship
MHA	Mental health and addiction [eg services]
MSD	Ministry of Social Development
NZQF	New Zealand Qualifications Framework
PPL	Paid parental leave
SIA	Social Investment Agency
SLP-Carers	Supported Living Payment — Carer
SLP-HCD	Supported Living Payment — Health Conditions & Disabilities
SPS	Sole Parent Support
Stats NZ	Statistics New Zealand
Superu	Social Policy Evaluation and Research Unit
YP	Youth Payment
YPP	Young Parent Payment

1. Executive summary

In this report we investigate what happened to people after they left the benefit system. We have investigated three groups (cohorts): people (MSD clients) who stopped receiving a main benefit in 2015/16[1], and two groups who stopped receiving a main benefit in 2013/14 and 2010/11.

We then look at what happened to the same people for the 18 months following their exit from a main benefit (but limited our analysis to those who remained off benefit for at least a full calendar month after exit).

Many people successfully leave benefit each year, and over half manage to sustain their exit for at least 18 months. This is not the case for Māori, however.

These results were not materially different between 2015/16 and 2010/11. Fewer people exited benefit in 2015/16 (131,000) than in 2010/11 (156,00), as the size of the benefit population had fallen over this period.

Just over half of the 131,000 people who exited in 2015/16 remained off benefit for 18 months.

However, Māori continued to have much lower rates of remaining off benefit for 18 months after exit than other ethnicities, despite exiting at similar rates[2].

1 in 3 people who exited to employment[3] in 2015/16 stayed in employment for the next 18 months and had good earnings progression.

Of the people who exited a benefit to employment and initially earned more than $3,000 per month, 40% remained employed for all 18 months. People who exited and had initial employment earnings of less than $3,000 were much less likely to remain in employment.

People who remained employed for 18 months had good earnings progression. For those with the lowest initial incomes their income growth was 14% on average between 2 and 18 months after exit. For higher initial incomes, the rate of initial income growth was around 9% to 12%.

Māori had similar initial employment incomes to non-Māori. For those who sustained employment earnings for 18 months after exit, Māori total incomes grew at a similar rate to non-Māori. However, 28% of Māori remained in employment 18 months after exit, compared to 40% for non-Māori. This is partially due to Māori making up more of the exits in regions with more seasonal employment and lower sustained employment.

We undertook a deeper analysis of people exiting benefit in 2015/16

There was little difference in earnings between people who exited to employment in a seasonal industry compared to a non-seasonal industry. However, people who exited to a seasonal industry were more likely to be unemployed at any given time.

[1] July to June years.
[2] Similar exit rates are partially due to Māori being more likely to be receiving certain benefit types.
[3] Employed with earnings greater than $1,260 per month – approximately equivalent to 20 hours work per week at minimum wage.

Industries have several sub-industries. Some sub-industries[4] have a seasonal pattern with regular repeating peaks and troughs in employment numbers, and some do not. We see that many of the industries with lower sustained employment for people who leave benefit do contain seasonal sub-industries. For example, the Manufacturing, Agriculture, Forestry and Fishing industries all have a significant number of seasonal sub-industries. Given the nature of the work, people who exit to seasonal sub-industries are less likely to be in employment at any given time.

Of those people who exited to employment in 2015/16, 1 in 4 went into a seasonal sub-industry. MSD clients who exited to employment in a seasonal sub-industry had, on average, slightly higher incomes after exit than those who exited to a non-seasonal sub-industry, although the difference reduced in the months after their exit.

Some regions had higher rates of people leaving benefit for employment in seasonal sub-industries e.g. Bay of Plenty, Gisborne and the Hawke's Bay. Māori clients were also more likely to exit to seasonal work, in part due to Māori making up more than half of all exits to employment in regions with high levels of seasonal work.

Clients who cycled on and off benefit were more likely to exit to employment in a seasonal sub-industry, although this is not the only factor leading to cycling on and off benefit.

Around twice as many people on a benefit accessed a mental health and addiction service compared to the general population. People who accessed a mental health and addiction service were less likely to come off a benefit and were more likely to return to a benefit after exit.

We used wider government data to understand how prevalent access to mental health and addiction (MHA) services is. This includes people who accessed specialist MHA services, who were discharged from hospital with a mental health diagnosis, who were dispensed MHA-related pharmaceuticals or received a main benefit with an MHA reason as the main reason on their medical certificate. This is a measure of service use only, and as such is likely to understate the true prevalence of people with an MHA condition.

Combined, around 63% of all people on a benefit in 2015/16 had used a mental health service in the last three years – including receiving a heath condition or disability benefit with a main incapacity related to mental health or addiction. This was much higher than for all working age New Zealanders, where 32% had accessed an MHA service in the last three years.

People who accessed an MHA service were less likely to exit benefit. For example, 46% of people on a Jobseeker Support – Work Ready (JS-WR) benefit accessed an MHA service in the last three years. However, among those that exited from this benefit, only 36% had accessed an MHA service in the last three years.

Around 47% of people who accessed an MHA service in the last three years remained off benefit continuously for 18 months. This is much lower than for those who had not accessed an MHA service in the last three years, where 58% of them remained off benefit for all 18 months after exit. The gap between these two groups was highest for younger people and the gap closes as age increases.

[4] We have used Inland Revenue's Employer Monthly Schedule (EMS) data and the enterprise level ANZSIC06 definition of the industry.

Education or training course type appears to affect the likelihood of returning to a benefit within 18 months. E.g. return to benefit rates varied between 29% and 62% for tertiary education courses.

Of the people who exited to tertiary education in Natural and Physical Science in 2015/16, 62% remained off benefit for 18 months compared to 29% of those who exited to Food, Hospitality and Personal Services training.

Income after exiting a benefit was highest for people who exited to training courses, and lowest for those who exited to full-time study. This higher level of income was likely because industry training courses are often linked to paid apprenticeships or other entry level employment.

Both these results may be impacted by the length of the course as some courses might take multiple years to complete. We plan to extend this analysis out to 3 to 4 years after exit to get a clearer picture of how further study impacts people over the longer term.

2. Introduction

Purpose

Understanding what happens to people when they leave a main benefit, and whether and how outcomes for people who exit a benefit have changed over time, will help MSD and the wider social sector improve supports for people leaving the benefit system. This is important because we want people to be supported into sustainable outcomes that improve their own and their whānau's life.

The analysis in this report is a descriptive exploration of trends and patterns observed only. It aims to provide a starting point from which targeted research questions and analysis can be built. Further analysis is required to understand why there are differences in the experiences of different groups and how the Ministry of Social Development (MSD) could respond to these.

We focused on people exiting from a main benefit as this represents a change in a person's primary source of income. They may still be receiving supplementary benefits even after leaving a main benefit.

This report analyses a group of people exiting main benefits in the year ended 30 June 2016, and:

- compares outcomes with those of prior investigation periods (section 3)
  - Did the reasons that people exited a benefit change?
  - Did what happen to people after exit change?
  - Were there changes for different groups of people?
- looks at seasonal employment (section 4)
  - How did outcomes differ for people who exited benefit to employment in seasonal industries compared to non-seasonal industries?
- examines differences in types of training and education (section 5)
  - How did people's outcomes differ by subject and qualification level?
- looks at the impact of mental health (section 6)
  - How did outcomes after exit differ for people who accessed mental health and addiction (MHA) services?

Scope of this report

This report analyses what happened to a group of about 131,000 people who exited a main benefit during the year ended 30 June 2016. We observed these people over the 18 months following their exit from the benefit. The time lag of the 18-month observation period is why we look back at exits from the 2015/16 year.

This work builds on earlier published analysis:

- In February 2017, the Social Policy Evaluation and Research Unit (Superu) released the *Off-benefit transitions: Where do people go?* report[5]. The report examined the characteristics of 140,000 people who exited main benefits in the year to 30 June

[5] https://thehub.sia.govt.nz/resources/off-benefit-transitions/

2011 and their outcomes over the next two years, using linked administrative data in Stats NZ's IDI.

- In August 2018, MSD released the report *What happened to people who left the benefit system during the year ended 30 June 2014*[6] (called the 2018 MSD report throughout this document). This report expanded on the Superu analysis by:
  - repeating the analysis for 133,000 people who exited main benefits following the 2012–2013 Welfare Reforms, in the year 1 July 2013 to 30 June 2014
  - examining what happened to people's earnings after they exited a main benefit
  - looking at how many of those who exited a benefit were able to remain off benefit and whether they were able to sustain employment
  - examining how people's outcomes differed depending on their reason for exiting a benefit.

We have made some methodology changes since the 2018 MSD report, so recreated the analysis using the revised methodology for the group of people who exited a benefit during the year to 30 June 2011 (2010/11) and the year to 30 June 2014 (2013/14). This enables a more accurate comparison of cohorts in this report. These methodology changes have not impacted the outcomes of the analysis materially but increased the size of the study groups for the earlier cohorts (to 146,000 in 2013/14 and 156,000 in 2010/11). For further information on these changes see Appendix 1: Data and methodology.

Prior related analysis

MSD's report published in August 2018[6] referred to several previous studies that looked at off-benefit transitions in New Zealand:

- Hyslop, D., Stillman, S., & Crichton, S. (2004) - The Impact of Employment Experiences and Benefit-Spell Duration on Benefit-to-Work Transitions. Statistics New Zealand
- Dixon, S., & Crichton, S. (2006). *Successful Benefit-to-Work Transitions? The Longer-term Outcomes of People who Move from a Working-age Benefit to Employment Earnings*. Statistics New Zealand
- Stillman, S., & Hyslop, D. (2006). *Examining Benefit-to-Work Transitions Using Statistics New Zealand's Linked Employer-Employee Data*. Statistics New Zealand
- Crichton, S. (2013). *The Impact of Further Education on the Employment Outcomes of Beneficiaries*. Ministry of Business, Innovation & Employment

While the results in this report are not directly comparable to these studies, due to some definitional differences, they are generally consistent.

The following paper looks at seasonal work in the horticulture industry. While it uses a very different methodology to identify seasonal workers, the high-level results are broadly consistent:

- Timmins, J. (2009) *Seasonal Employment Patterns in the Horticultural Industry*. Statistics New Zealand.

[6] https://www.msd.govt.nz/about-msd-and-our-work/publications-resources/research/benefit-system/what-happened-to-people-who-left-benefit-system-during-the-year-ended-30-june-2014.html

We have also used a slightly modified definition of mental health and addiction service use from the following paper:

- Social Investment Agency (2019). *Using integrated data to understand mental health and addiction conditions*. Technical Guide. Wellington, New Zealand.

For more details see *Appendix 3: Mental health and addiction services*.

Welfare system

The welfare system provides financial supports to help people with low incomes or not in paid employment and to support people to find or retain employment. The subset of income-tested main benefits that we consider throughout this report are summarised in Table 1 below. The equivalent benefit types prior to the 2013 benefit structure changes are given in the descriptions. Note that people on a benefit but who are aged 65 years are excluded from our analysis.

Table 1: Subset of income tested main benefits used in this report

Benefit	Description
Jobseeker Support — Work Ready **(JS-WR)**	Not in, but available for, full-time employment (formerly Unemployment Benefit or Domestic Purposes Benefit with youngest child aged 14 years or older).
Jobseeker Support — Health Conditions & Disabilities **(JS-HCD)**	Jobseeker Support beneficiaries having reduced or deferred work obligations due to a health condition or disability (formerly Sickness Benefit).
Emergency Benefit **(EB)**	Not eligible for another benefit and in hardship.
Sole Parent Support & Emergency Maintenance Allowance **(SPS)**	Sole parent with youngest child aged under 14 years (formerly Domestic Purposes Benefit with youngest child aged 13 years or younger).
Supported Living Payment — Carer **(SLP-Carers)**	Payment paid to the carers (excluding partners) that look after those who require full time care and attention (formerly Domestic Purposes Benefit — care of the sick and infirm).
Supported Living Payment — Health Conditions & Disabilities **(SLP-HCD)**	Permanently and severely restricted in capacity to work due to health condition or disability (formerly Invalids Benefit).
Youth Payment **(YP)**[7]	Unsupported youth aged 16–17 years (formerly Independent Youth Benefit).
Young Parent Payment **(YPP)**[7]	Young parents aged 16–19 years (formerly Domestic Purposes Benefit or Emergency Maintenance Allowance beneficiaries aged 16–19 years with youngest child aged 13 years or younger – also includes 16-19-year-old parents who may have been receiving other types of benefit).

*Note that beneficiary records of those who receive Jobseeker Support — Student Hardship (JSSH), New Zealand Super (NZS), or Veteran's Payments (VP) at any point have been excluded from the scope of the analyses. These are excluded as they are temporary support between planned periods of study (JS-SH) or are permanent payments (NZS and VP). This means that the movement for those who have exited from or returned to these benefits will not be captured in this report.

[7] Note that YP and YPP clients have education, training and work-based learning obligations rather than employment obligations.

The structure of benefits changed in July 2013. To enable like-for-like comparisons to the extent possible between cohorts, the 2010/11 cohort has been split using the criteria for eligibility that would have applied under the post-reform benefit structure.

We have not been able to create a perfect match between benefit categories before and after the July 2013 changes to benefit categories, as there will have been some exceptions to the mapping shown in Table 1. For example, some sole parents with older children who were on the Domestic Purposes Benefit prior to the benefit changes may have had a health condition that meant they were eligible for a JS-HCD or SLP rather than the work ready status of JS-WR benefit.

Approach

There is no one methodology to define the study population and assign reasons for exit or people's statuses over time. We have broadly adopted the methodology used in the 2018 MSD report, to enable meaningful comparisons to be made. Exit reasons are defined in Table 8. Changes to the methodology are explained and their impacts quantified in Appendix 1: Data and methodology. The *Reliances and limitations* section below outlines some of the limitations of the methodology adopted.

Due to the way data is structured in the IDI, a calendar-month view has been used. Earnings data in Inland Revenue's Employer Monthly Schedules is only available by calendar month. This means that a person must have been off benefit for a full calendar month before being included in the study population. People who exit and return to benefit in a shorter period are consequently excluded. Readers should keep this in mind when considering the results in this report. See Appendix 1: Data and methodology.

We also examine how long people who have exited from benefit have remained off benefit support or have maintained earnings above a threshold and how earnings have developed over time. We used a threshold of earnings of $1,260 per month (indexed to December 2017 dollars). This amount was chosen as it is approximately equivalent to 20 hours per week at minimum wage. Twenty hours per week is the minimum hours of work required for a sole parent to qualify for the In-Work Tax Credit.

Due to the way we've defined exit reasons, some of the people who are designated as having left benefits for reasons other than employment may also have earnings in excess of $1,260 per month. For example, someone may have left for tertiary education and have income above $1,260 per month – they would be classified as leaving for tertiary training rather than employment. It is also possible that some of the people assigned to Other earning categories for less than $1,260 per month may in fact have substantial earnings, for example if they have significant self-employed earnings.

The analysis in this report represents the key features and points of interest of this work. Also published with this report are electronic appendices containing raw data for researchers to use in their own work.

Study population

The population of people used in this study includes anyone exiting a main benefit during the year 1 July 2015 to 30 June 2016 (2015/16) who was off a main benefit for at least one calendar month.

This is different from both the previous Superu report and 2018 MSD report, which included people who had received benefit payments at some point in each of the previous three months.

Note that people may have exited benefits, re-entered and then exited again within 2015/16 – in this case we only count them on their first exit within our population for 2015/16.

As discussed above, we have applied the new methodology to the previous studies, and as a result have different population figures than reported in those two reports.

For more information on the impact of the changes see Appendix 1: Data and methodology.

Where comparisons between cohorts are made, we use the following:

- **2015/16** – for people who exited a main benefit in the year ended 30 June 2016
- **2013/14 –** for people who exited a main benefit in the year ended 30 June 2014
- **2010/11 –** for people who exited a main benefit in the year ended 30 June 2011.

Differences in many of the measures in this report between the different observation years could be at least partly due to differences in the characteristics and histories of the cohorts. For example, changes could reflect differences in policy changes, strategic focus and in the economic environment over time. Further work would be needed to control for these factors.

Note - The number of people receiving the YP and YPP benefits was small and the number of exits from these categories even smaller, and too small to produce reliable analysis on them. As a result, we have combined YP with JS-WR (JS-WR/YP) and YPP with SPS (SPS/YPP).

Reliances and limitations

A calendar-month approach has been used to be consistent between data tables in the IDI, including Inland Revenue's Employer Monthly Schedule table from which earnings information is extracted. Some of the limitations of this approach are:

- **A person must have been off benefit for at least a full calendar month before being included in the subject population.** People who only spend short spells off benefits that do not span a complete calendar month are excluded from the analysis. Depending on when a person leaves a benefit this could exclude people who are off benefit for short periods up to almost two months, while including others who have been off benefit for just on one full month.
- **We use earnings exceeding $1,260 a month (inflated to December 2017) for our analysis on sustained employment.** We only have earnings data for calendar months and do not have work hours. Thus, a person who works for one week of the month earning an annual salary of $60,000 would be deemed to have monthly earnings for that month the same as someone who worked a full four weeks on annual earnings of $15,000.
- **Self-employed earnings are not allowed for. Self-employed earnings declarations in the data relate to years ending 31 March, which we could not reliably allocate across months and which may not be available for a long period after the financial year end.** This means that some of those deemed to not be earning or to be earning less than $1,260 per month may in fact have earnings from self-employment of more than $1,260 per month. However, the proportion of the study population reporting self-employed earnings is small, so this is unlikely to materially impact our broad findings.

- **There is a need to be cautious in drawing conclusions from the comparative analyses in this report. We have performed many comparative analyses between various groups throughout this report.** However, we have not controlled for any multivariate factors between any two groups, so we recommend readers not draw immediate conclusions from them.
- **The earlier 2010-2011 cohort will have been at least partly affected by the initial wave of welfare reforms, which commenced in 2010 with Future Focus.** This may means any differences pre- and post-welfare reform are likely understated.
- **As stated above, it has not been possible to create a perfect match between benefit categories before and after the 2012 reforms.** We have not quantified what, if any, impact this may have had on differences between cohorts.
- **Differences in exit rates between the cohorts could have been partly due to differences in the characteristics and histories of the cohorts.** No attempts have yet been made to control for these differences and, for this reason, it is not possible to come to any firm conclusions about the causes of differences in exit rates and other outcomes between the cohorts.

3. What changed over the five years?

In this chapter we examine:

- the reasons why people exited benefits and the likelihood of exiting a benefit over a 12-month period
- what happened to people after they have exited a main benefit
- changes in demographics among people who exited a main benefit; we look at all exits and exits specifically to employment.

Summary

Overall, changes in outcomes has been relatively slowly. As a result, we have not seen major changes between cohorts. Some changes we did observe include:

- Increased proportions of people leaving a benefit for employment and lower proportions leaving for unknown reasons.
- Māori have a similar likelihood of exiting benefit than other ethnicities, but they were less likely to remain off benefit after exit. They were also less likely to sustain employment earnings after exiting a benefit despite the likelihood of exiting to employment having improved.
- The likelihood of people exiting benefit to employment in the Bay of Plenty, Gisborne and the Hawke's Bay regions improved over time. However, the proportion of people from these regions who maintained employment earnings for 18 months after exit was among the lowest of all regions.

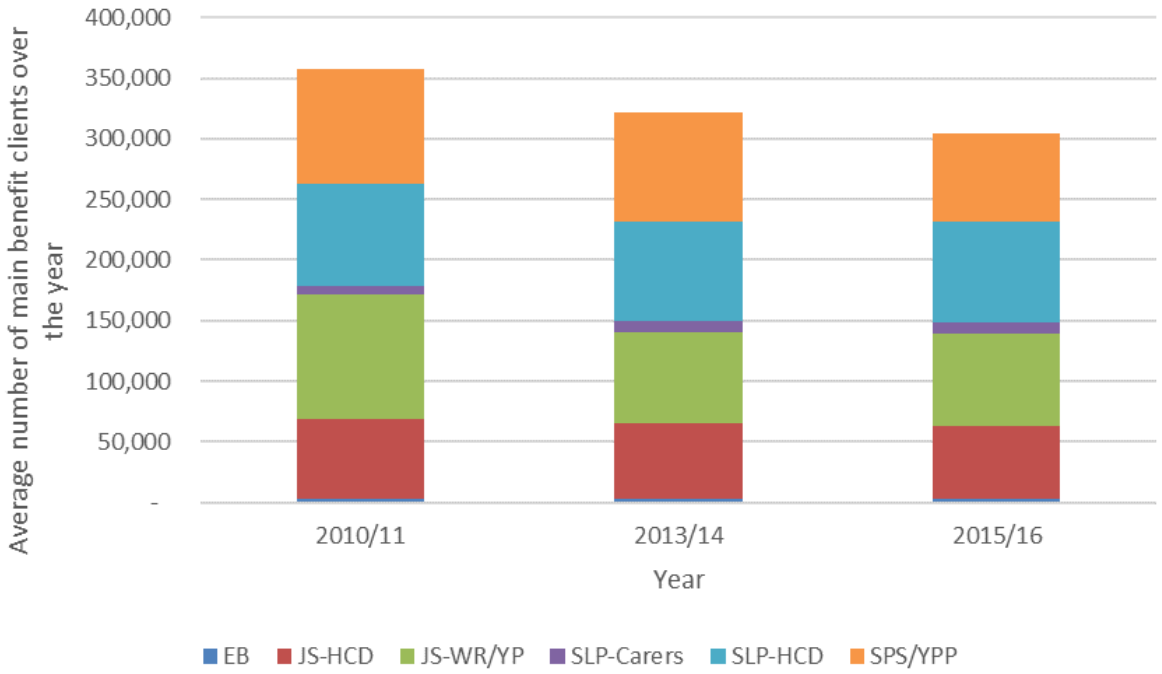
Benefit population

Overall the average number of people receiving a main benefit decreased over time from around 358,000 in the year2010/11 to 306,000 in 2015/16[8].

Figure 1 shows that the decrease in people on a benefit was mainly driven by two groups. For clients receiving SPS/YPP, numbers dropped over each of the three cohorts from around 94,000 in 2010/11 to 73,000 in 2015/16. For clients receiving JS-WR/YP, numbers dropped from 103,000 in 2010/11 to 75,000 in 2013/14 and remained stable in 2015/16.

[8] This is calculated as the average number of people receiving each benefit in each month in the 12 months to June.

Figure 1: Average number of main benefit clients by main benefit type



Exits from main benefit

Likelihood of exiting benefit

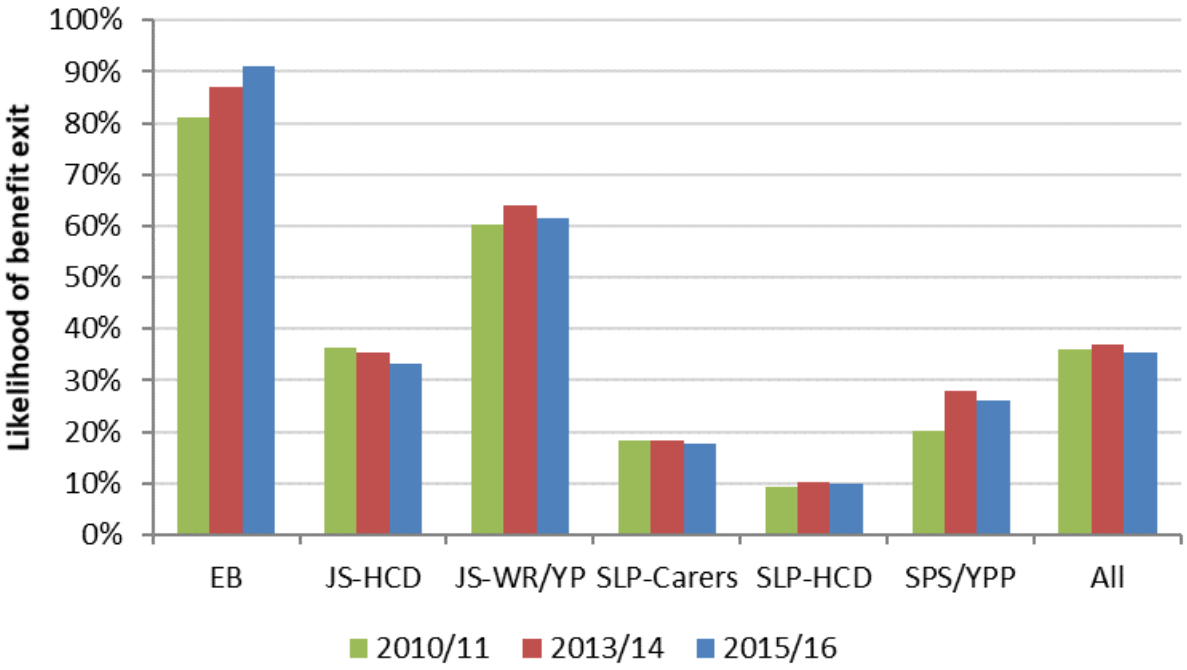
We calculated the average monthly exit rate by benefit type and used this to determine the likelihood of exiting from benefits over a 12-month period[9].

Figure 2 shows that the change in overall likelihood of exiting benefit over 12 months between cohorts was relatively small. The decrease in the total number of exits, from 156,000 in 2010/11 down to 131,000 in 2015/16, was in the most part likely to be due to reductions in the size of the benefit population over that period (as per Figure 1 above) as average exit rates were relatively stable.

Figure 2 also shows that the likelihood of exiting from JS-HCD decreased over the three cohorts. There was an increasing trend in the likelihood of exiting from EB although there were very few clients who received an EB. The likelihood of exiting for JS-WR and SPS clients decreased between 2013/14 and 2015/16; however, it remained higher than in 2010/11.

[9] We calculate the average monthly exit rate over the 12-month period as:
a) the average number of exits in a month over the 12 months to June, divided by
b) the average number of people receiving each benefit in each month in the 12 months to June. This gives us a monthly exit rate.
We then express this as a likelihood of a person exiting from benefit over a 12-month period as 1-(1-{a}/{b})^12.

Figure 2: Likelihood of benefit exit over a 12-month period



Reasons for people exiting benefits

During the year 2015/16, 131,000 people exited a main benefit and remained off benefit for at least one calendar month. This compared to 146,000 in 2013/14 and 156,000 in 2010/11. We've then allocated these people a reason for exit based on data in the IDI.

Table 2 below shows that the proportion of people who exited to employment slowly increased across the three cohorts growing by 8% between 2010/11 and 2015/16. This was offset by a reduction in the number of people who exited for unknown reasons ('Other with earnings less than $100') which fell by 15% over the same period. Other categories had large percentage changes over time. However, care should be taken with these results as the proportion of people in these groups was relatively small. Definitions for the exit reasons provided below can be found in Appendix 1: Data and methodology.

Table 2: Reasons for exit from benefit

	Number of exits	Proportion of exits			Percentage change 2010/11 to 2015/16
	2015/16	2010/11	2013/14	2015/16	
Death	2,484	1.6%	1.6%	1.9%	21%
Reached age 65+ years	5,862	3.7%	4.2%	4.5%	21%
Overseas	8,580	6.8%	7.1%	6.5%	-3%
In detention	4,518	2.9%	2.6%	3.4%	17%
Started a targeted/industry training course	2,004	2.0%	1.6%	1.5%	-25%
Started a full-time tertiary course	8,787	6.5%	6.7%	6.7%	4%
Started a part-time tertiary course	2,469	2.3%	2.0%	1.9%	-19%
Employment	57,681	40.7%	42.7%	44.0%	8%
Other with earnings greater than or equal to $1,260	6,150	4.4%	4.6%	4.7%	7%
Partnered	5,940	5.4%	5.4%	4.5%	-17%
Other with earnings greater than or equal to $100 but less than $1,260	5,670	4.8%	4.6%	4.3%	-10%
Other with earnings less than $100	21,042	18.9%	17.0%	16.0%	-15%

Interrogating the MSD's internal data for the reason for exit "Other with earnings less than $100" group, we were able to allocate just under half of these people to employment, education, overseas, death or detention. However, we could not verify these reasons using other IDI data. This is consistent with our analysis in 2018 MSD report.

What happened to people after they exited a benefit?

Table 3 below shows how some of the key activities people were involved in after leaving benefit changed, both in the months following an exit and across each of our cohorts. It includes all people who left benefit for any reason. People may move between activities following exit, for example, they may have been employed three months after exit then on a benefit at six months before returning to employment at 12 months.

As an example, for those who exited benefit in 2015/16, 40% of them were employed three months after their exit, dropping to 34% at 12 months but increasing to 35% at 18 months after exit.

Table 3 shows that over time:

- the proportion of people in employment after exiting a benefit increased by 7-8% between the 2010/11 and 2015/16 cohort
- the proportion of people on a benefit after exiting a benefit also increased by 4-7% between the 2010/11 and 2015/16 cohorts
- the proportion of people in tertiary education and industry training courses after exiting a benefit decreased by 15-19% between the 2010/11 and 2015/16. Most of this reduction occurred between 2010/11 and 2013/14.

Table 3: Proportion of clients in key activities - comparison between cohorts

Activity	Months after exit	Cohort 2010/11	2013/14	2015/16
Employed with earnings greater than $1,260 per month	3	37%	39%	40%
	6	34%	36%	37%
	12	32%	34%	34%
	18	33%	35%	35%
On benefit	3	12%	12%	13%
	6	20%	21%	21%
	12	26%	25%	27%
	18	25%	25%	26%
Education/Training	3	14%	12%	12%
	6	12%	10%	10%
	12	10%	8%	8%
	18	9%	8%	7%

Changes in exit demographics

Another way we can look at what happens to people is whether they sustain their exit from benefit. We have measured **sustained off benefit exits** as the proportion of people who exited benefit who remain continuously off benefit over the 18 months after they exited a benefit. Note that we exclude from this measure all people who die or turn 65 years at exit or in any of the 18 months after they exit.

Of those who exited benefit in 2015/16, 53% remained off benefit for 18 months after exit. This has not changed materially since the 2010/11 cohort (55%) or the 2013/14 cohort (55%).

Figure 3 and Figure 4 below show changes over the three cohorts. The bars represent the likelihood of a person on benefit exiting over a year. The lines show the proportion of people who exited benefit and remained off benefit for all 18 months after exit. They show that:

- The sustainability of exits for Māori was significantly lower than that of other ethnicities. This was despite Māori having a likelihood of exiting benefit similar to New Zealand Europeans and Other ethnicities. Note that a much lower proportion of Māori received a SLP-HCD benefit than non-Māori and that SLP-HCD has a very low likelihood of exit. This increases the overall average likelihood of exit for Māori relative to non-Māori.
- The likelihoods of people exiting benefits in the Canterbury and Taranaki regions dropped significantly between 2013/14 and 2015/16. Most other regions had a relatively stable likelihood of exiting a benefit.
- Sustainability of exits remained relatively consistent across regions over time except for Canterbury, which showed a decrease from around 60% in 2010/11 and 2013/14 to 55% in 2015/16.

Figure 3: Exits by ethnicity

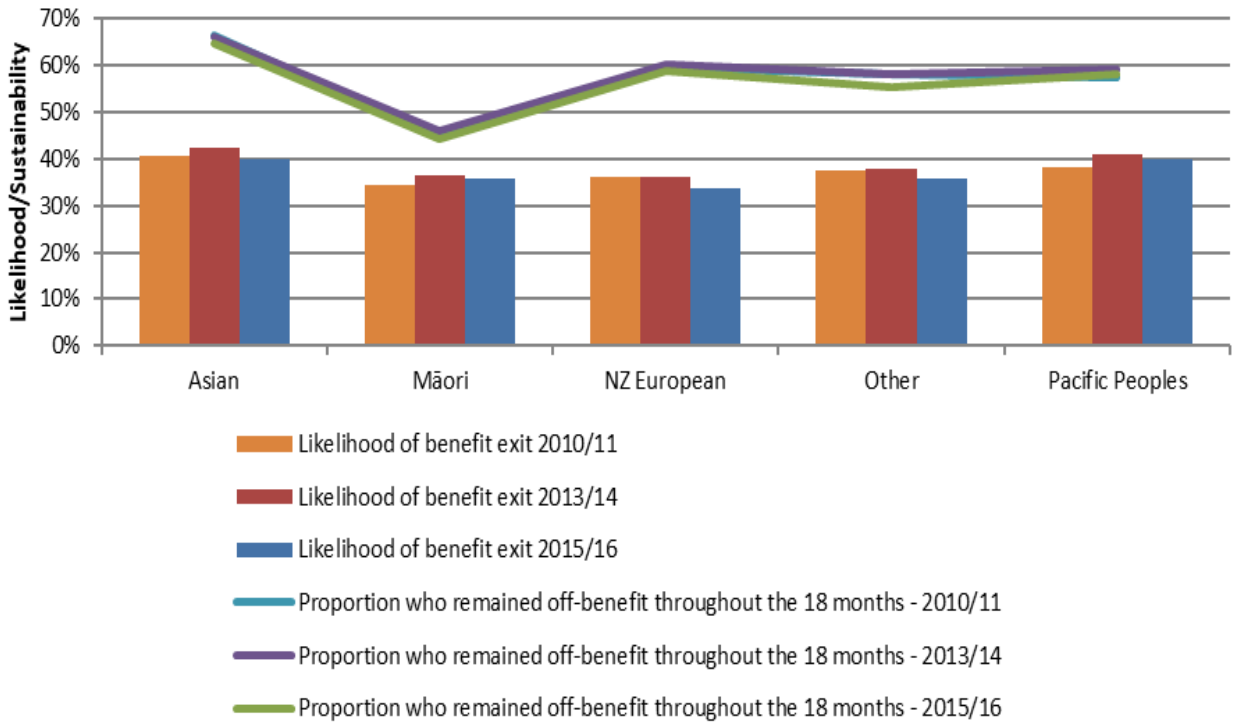
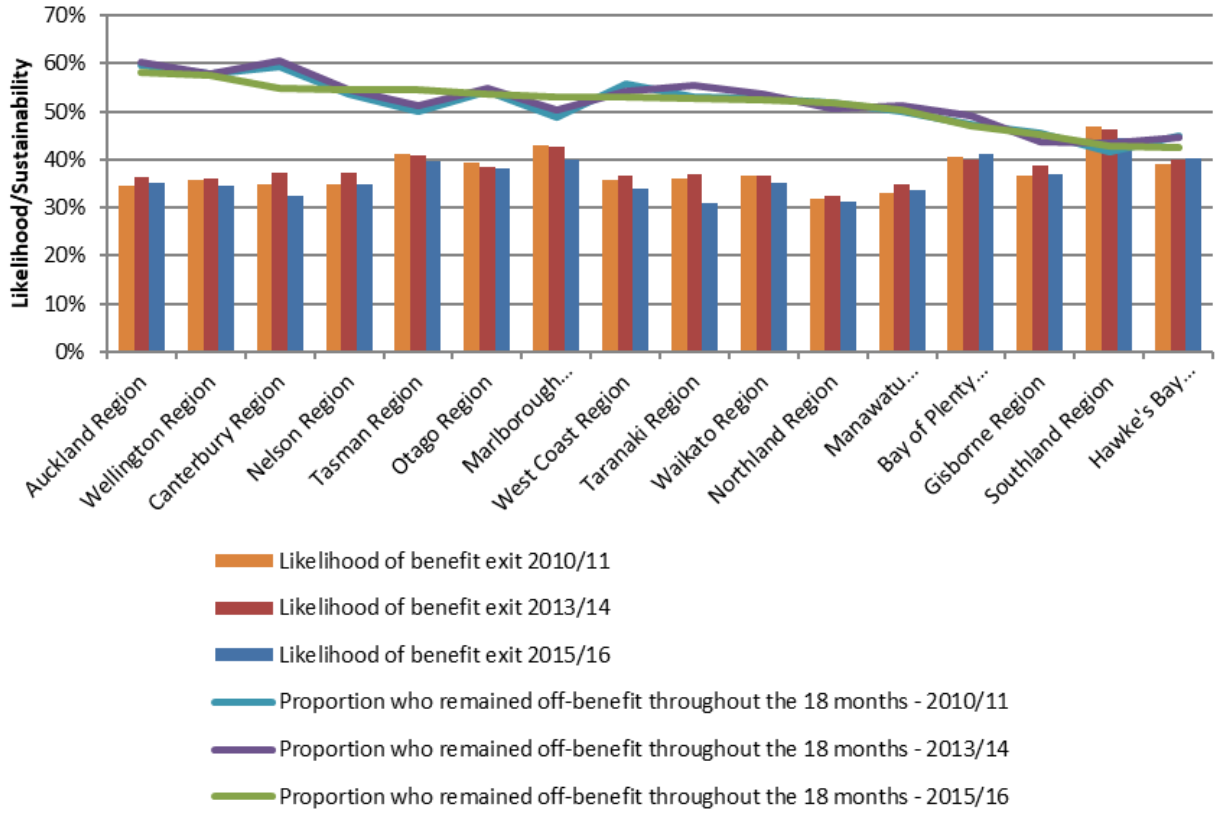


Figure 4: Exits by region



Further questions

While we have observed some changes in the likelihoods and sustainability of exits from benefit, our analysis does not explore why they have occurred. Such analysis would need to be the subject of further focused research which might include:

- Why do Māori have consistently lower rates of sustained off benefit exits when they tend to exit at the same rate as other ethnicities? Is this related to differences in demographics among Māori (e.g. the Māori population being younger on average and/or more concentrated in regions with higher shares of seasonal employment)?
- Why did likelihoods of exits in Canterbury dropped in 2015/16? Is this related to a cooling economy as the earthquake rebuild winds down?

Exits to employment

We also look specifically into **exits from benefit into employment with earnings over $1,260 per month** (in December 2017 dollars). The amount of $1,260 per month is the chosen earnings threshold as it represents 20 hours' work per week at the minimum wage for four weekly pay periods in a month. Twenty hours' work per week is the requirement for a sole parent to be eligible for In-Work Tax Credits. This definition also aligns with those used in previous iterations of this analytical work. As explained in the previous *Approach* section (page 9), there will be some people designated as not earning the threshold of $1,260 per month when they may have as we have not included self-employment earnings or we have recorded them as exiting for another reason, e.g. education or training.

Exit rates into employment

Figure 5 and Figure 6 show the likelihood of exit into employment by benefit type and ethnicity[10].

Figure 5: Likelihood of benefit exit to employment over 12 months - by benefit type

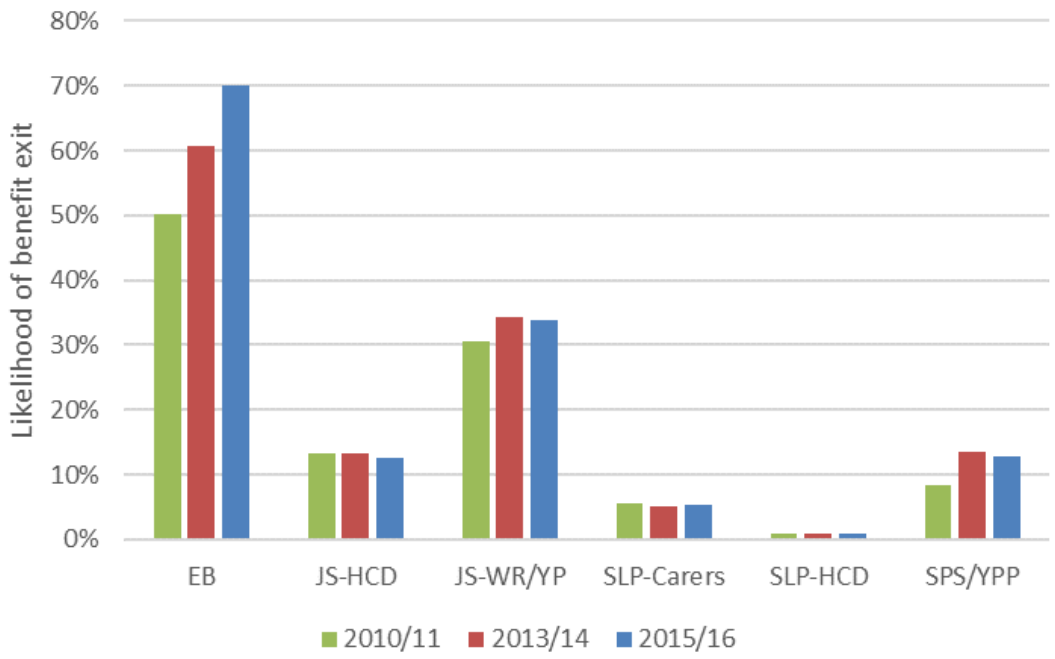
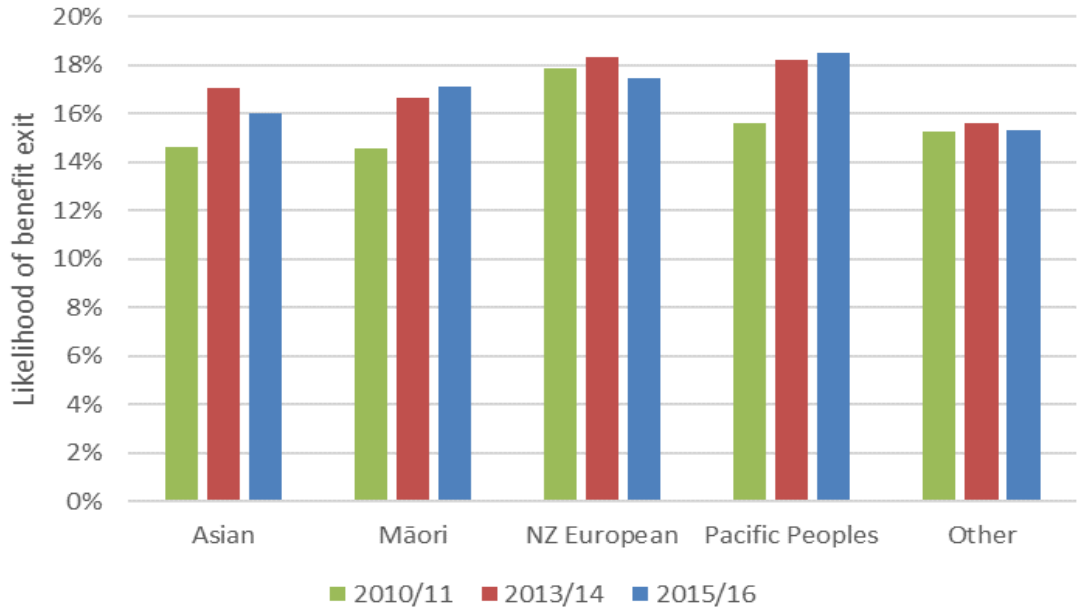


Figure 6: Likelihood of benefit exit to employment over 12 months - by ethnicity



[10] We calculate the likelihood of exit to employment over the 12-month period as:

- the likelihood of exiting benefit for all reasons over the 12 months to June, multiplied by
- the proportion of all exits from benefit that are to employment

Between the three cohorts there were large increases in the likelihood of exiting into employment for clients who received EB (although there were relatively few people on this benefit type), SPS/YPP and smaller increases for JS-WR/YP.

The significant increase in exit rates for SPS followed the changes to work obligations which came into effect in 2012 and an increase in one-to-one case management support to SPS clients in 2013. At least part of this will be due to improving economic conditions over this period. We can see this because JS-WR/YP exit rates increased over this period as well, although to a much smaller extent.

For Māori and Pacific Peoples, there were large increases in likelihood of exit to employment between 2010/11 and 2013/14 and smaller increases in 2015/16.

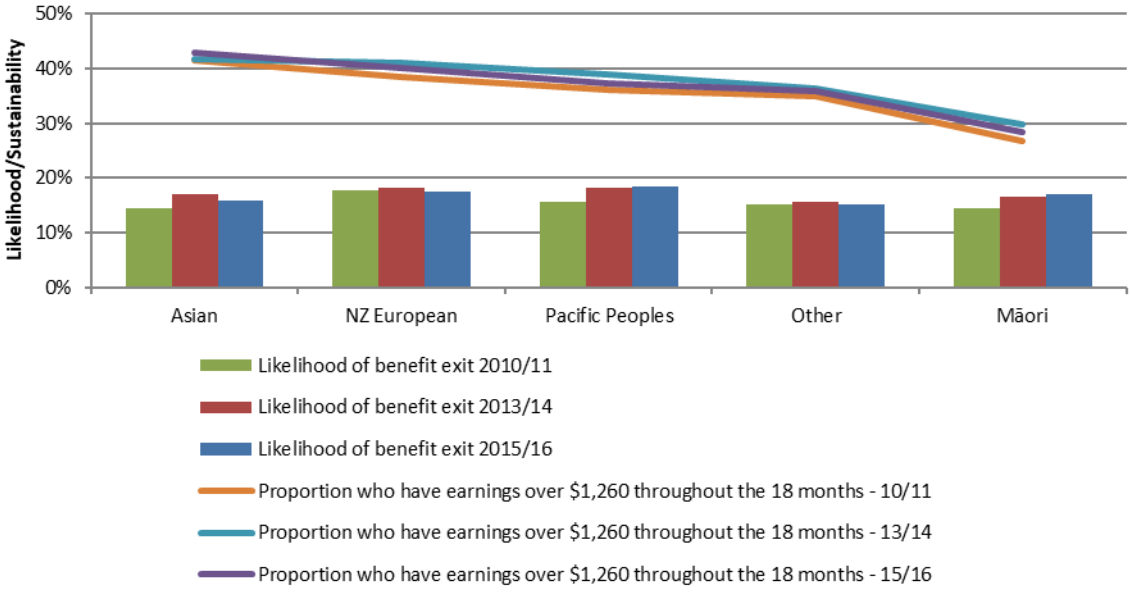
Sustained employment exits

There are many factors that impact sustainability of employment e.g. stability/quantity of hours, wage levels and working conditions. We measure an **indicator of the sustainability of employment exits**. We measure this as the proportion of all exits from a main benefit to employment earnings over $1,260 per month where people retain at least $1,260 of monthly employment earnings over all 18 months after they exit. We call this **sustained employment earnings.** Note we exclude all people who die or turn 65 years in any of the 18 months after exiting to employment from this measure.

Of all exits to employment in 2015/16, 35% had at least $1,260 of employment earnings for all 18 months after they exited a main benefit. This has not changed materially since the 2010/11 cohort (36%) or the 2013/14 cohort (34%).

Figure 7 to Figure 10 show changes for different groups of people who exited to employment. The bars show the likelihood of exiting a main benefit to employment and the lines show the proportion of people who sustained their employment earnings over all 18 months after exit. In general, the demographics of people who exited to employment and whether they sustained employment earnings over 18 months have been relatively stable over the three cohorts.

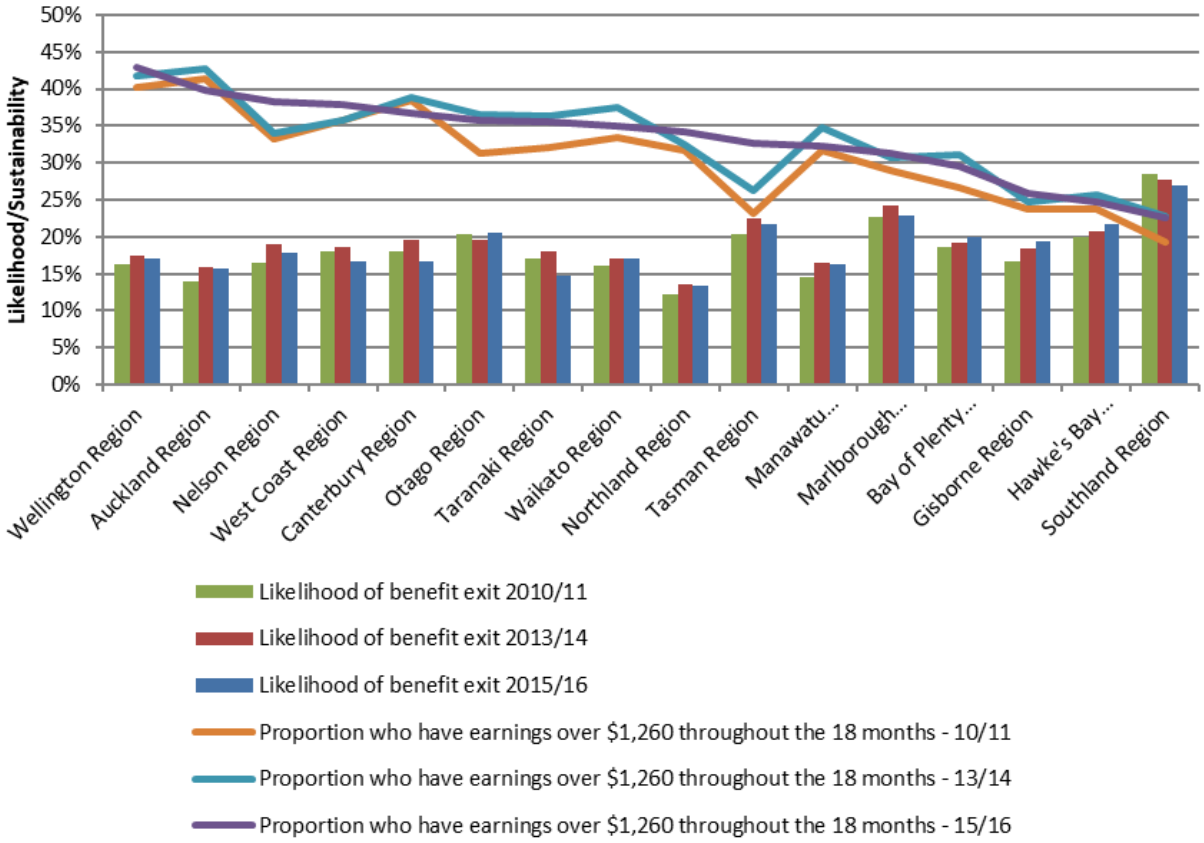
Figure 7: Employment exits by ethnicity



The likelihood of Māori exiting benefit to employment increased over time to a rate similar to other ethnicities. However, the proportion of Māori who sustained employment earnings

over the 18 months after exit remained lower than other ethnicities. This may be related in part to Māori being younger on average and making up more of the exits in regions with more seasonal employment and lower sustained employment earnings – see Chapter 4 What happened to people who exited to work in seasonal industries?

Figure 8: Employment exits by region



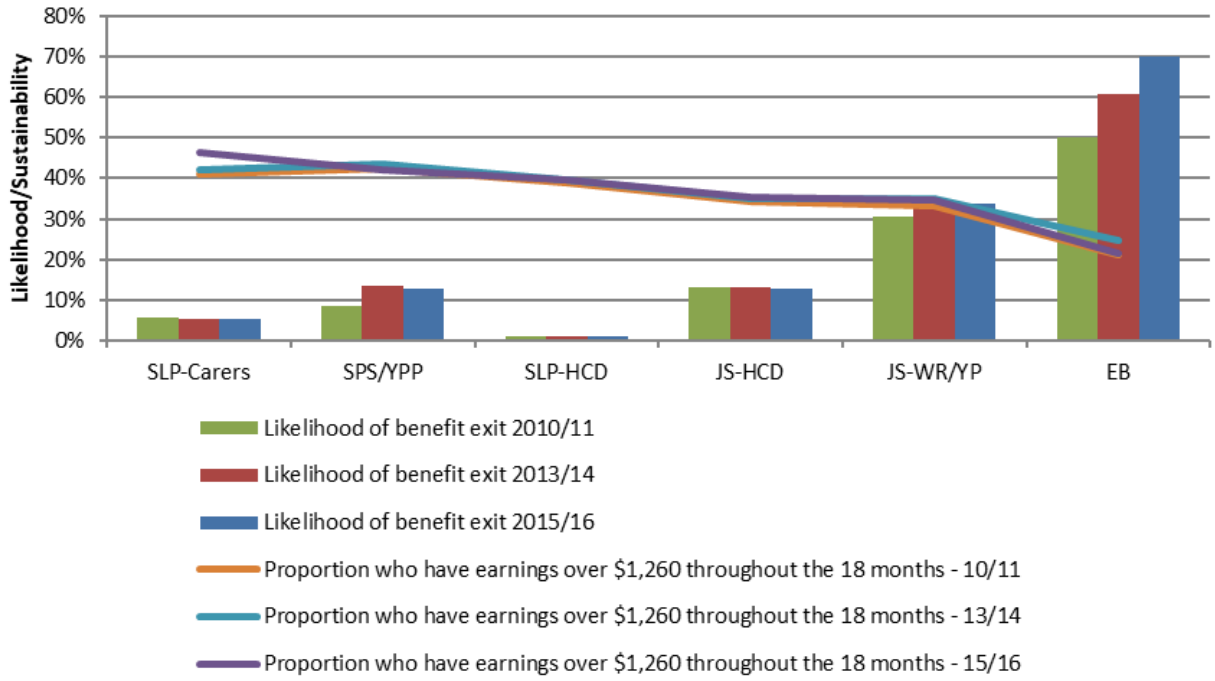
The likelihood of people exiting benefit to employment fell most significantly in the Canterbury and Taranaki regions[11]. This result aligns to the results for all exits from main benefit.

The likelihood of people exiting benefit to employment in the Bay of Plenty, Gisborne and Hawke's Bay regions increased between 2010/11 and 2015/16. However, the proportion of people from these regions who sustained their employment earnings for 18 months after exit was among the lowest regionally.

The proportion of people who sustained employment earnings over 18 months after exit remained relatively stable across the regions. There were some regions, such as the Nelson, West Coast and Tasman regions that had larger changes in sustained employment. However, these regions also had a low number of exits so care should be taken in drawing conclusions from these results.

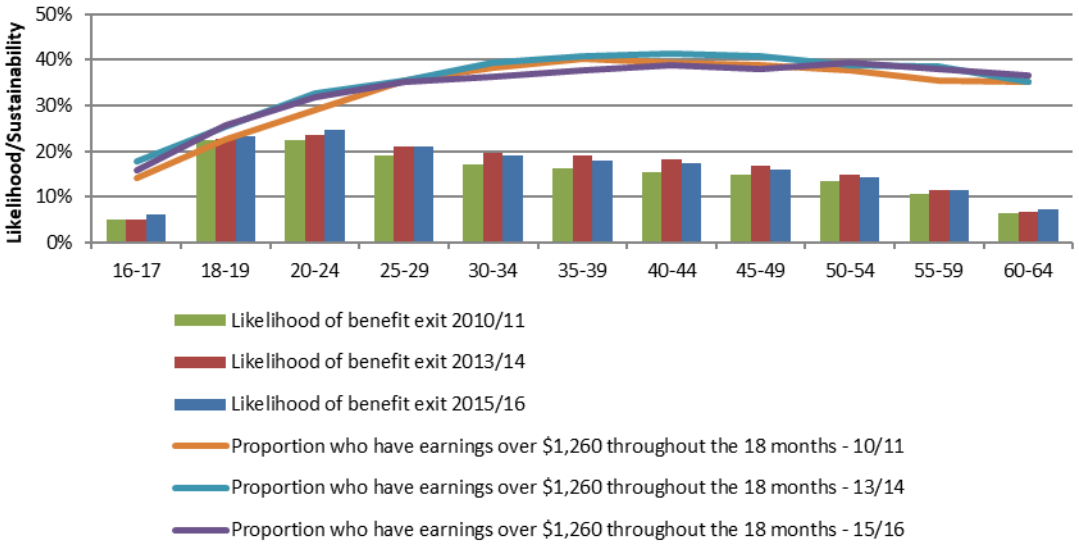
[11] These regions align with regional councils.

Figure 9: Employment exits by benefit type



People receiving JS-WR/YP and EB had a high likelihood of exiting to employment. They also made up the majority of all exits to employment. However, people who exited to employment from other benefits such as SPS were more likely to have sustained employment earnings than those who exited from JS-WR/YP or EB. This is despite JS-WR clients generally having stronger work obligations than people receiving other benefit types.

Figure 10: Employment exits by age[12]



The likelihood of people exiting to employment peaks around age 20-24 years for all three cohorts, and the proportion of people who sustained employment earnings after exit increased with age until age 35 years. For ages 35-64 years the proportion of people who sustained employment earnings stabilised at 37-40%.

[12]Note that clients receiving YP (aged 16-17 years of age) and YPP (aged 17-19 years) have education, training and work-based learning obligations rather than employment obligations. This may impact exits to employment.

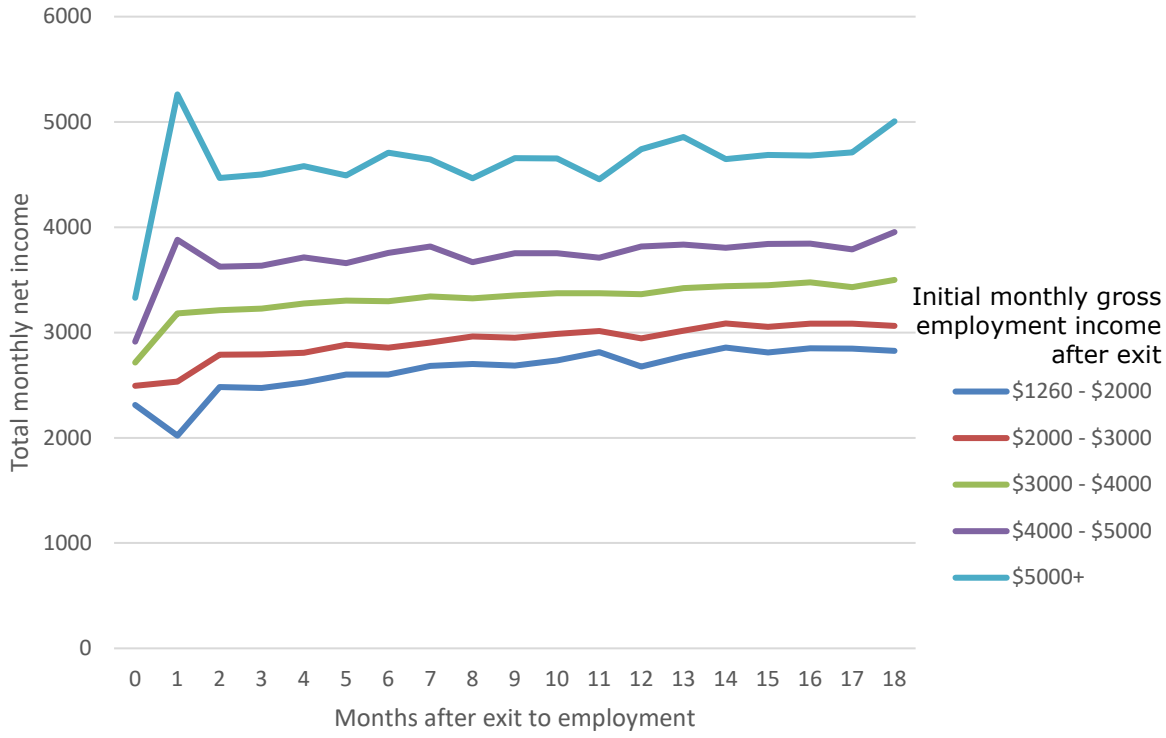
Employment incomes after exit

Looking at the 2015/16 cohort we see that people with higher initial employment incomes after exiting are more likely to remain employed for 18 months after exit. Figure 11 shows the proportion of people who sustained employment earnings for 18 months after exit by initial monthly employment earnings (i.e. employment earnings in the month immediately after exiting main benefit). It shows that as initial employment incomes after exit increased, so too did the rate that people sustained their employment incomes. Once initial incomes rose above $3,000 the proportion of people who sustained employment earnings stabilised at around 40%.

Figure 11: Sustained employment earnings by initial income

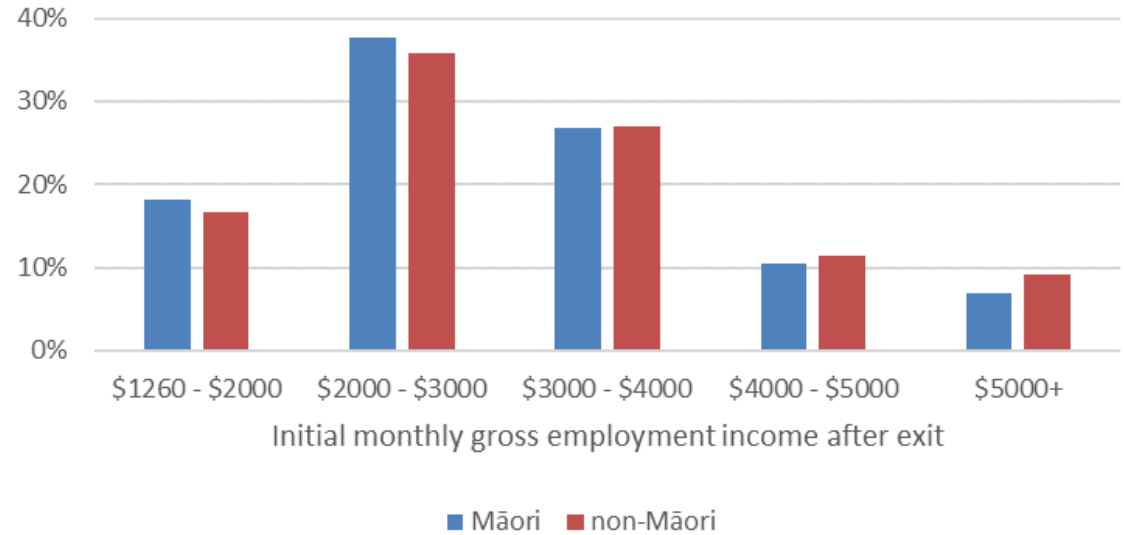
We also looked at net total income growth for people who exited to employment and went on to sustain employment earnings for 18 months. Figure 12 shows us that incomes grew over time. For initial employment incomes of $1,260 to $2,000, incomes grew by 14% between month two and month 18 after exit. For higher initial employment incomes, the rate of income growth was around 9-12%.

Figure 12: Income growth for people who exit to employment and sustain employment earnings for 18 months



Māori who left main benefits to employment had similar initial employment incomes to non-Māori who left to employment. This is shown in Figure 13 below. For those who sustained their employment earnings, Māori total incomes after exiting also grow at a similar rate to non-Māori. Again, they grew fastest for lower initial employment earnings. Also, only 28% of Māori sustained their employment earnings for 18 months, compared to 40% for non-Māori (Figure 7). This is due in part to Māori making up more of the exits in regions with more seasonal employment and lower sustained employment earnings.

Figure 13: Distribution of initial employment income after exit from benefit



Future research questions

We observed some changes in the likelihood of exit to employment and sustained employment earnings. Further research and analysis might help to answer why we have observed these changes and trends. Further research might include:

- Why has the likelihood of Māori exiting to employment increased over time, but their level of sustained employment earnings after exit not? Is this discrepancy related to seasonal work or are there other factors driving this?
- Why are JS-WR clients less likely to sustain employment earnings after exit compared to people receiving other benefits despite being closer to the labour market? Is it related to factors related to the people on JS-WR, or the types of jobs they go to, or other factors?
- The above analysis looks at outcomes by one-way summaries of various factors such as age, region etc. These factors may be correlated with each other. What do the outcomes look like if we control for the correlation between these factors? Can we use the unit record benefit spell data to help control for this?

Current work

In Budget 2019 MSD received funding for the equivalent of 170 full-time case managers in 2019/20, increasing to 263 By 2020/21, to increase the number of clients receiving employment-focused services. Through our Operational Excellence Change Programme MSD will deliver an additional 18,000 employment-related engagements with clients per month.

4. What happened to people who exited to work in seasonal industries?

Overview

Earlier iterations of our analysis of what happened to people who left the benefit system identified variations in the sustainability of exits by employment industry. This raised questions around the impact of seasonal work within some industries and regions.

For the 2015/16 cohort, this chapter attempts to understand more about the relationship between seasonal industries and people's outcomes, in particular:

- what industries have seasonal employment patterns
- how people's outcomes after exiting benefit to employment differ when they exit to seasonal industries
- the difference for different groups of people.

Defining seasonal industries

Our previous reports analysed exits to employment based on 19 different industries.

Industries such as 'Manufacturing' and 'Agriculture, forestry and fishing' had low levels of sustained employment earnings. We believed seasonal employment could partially explain this.

We have analysed patterns in the number of people employed over time in 213 different sub-industries and used this to identify sub-industries with repeating trends[13]. We:

- looked for a regular repeating pattern of employment e.g. peaks and troughs in employment numbers in the same quarters each year
- looked for a difference in the number of people employed between the average peak and trough of at least 10%
- applied some judgement around whether a seasonal pattern was present or if there was some random variation in numbers of employed.

As an example, Figure 14 below shows two sub-industries for the Manufacturing industry and the patterns we observed: the Meat and Meat Product Manufacturing sub-industry exhibits a seasonal employment pattern, while the Structural Metal Product Manufacturing sub-industry does not. Seasonal patterns reflect changes in the employment needs of sub-industries, that can be met through a longer-term seasonal employment relationship between an employee and an employer/sub-industry or as short-term employment that occurs at the same time each year.

[13] We have used Inland Revenue's Employer Monthly Schedule data and the enterprise level ANZSIC06 definition of the industry.

Figure 14: Example of employment patterns

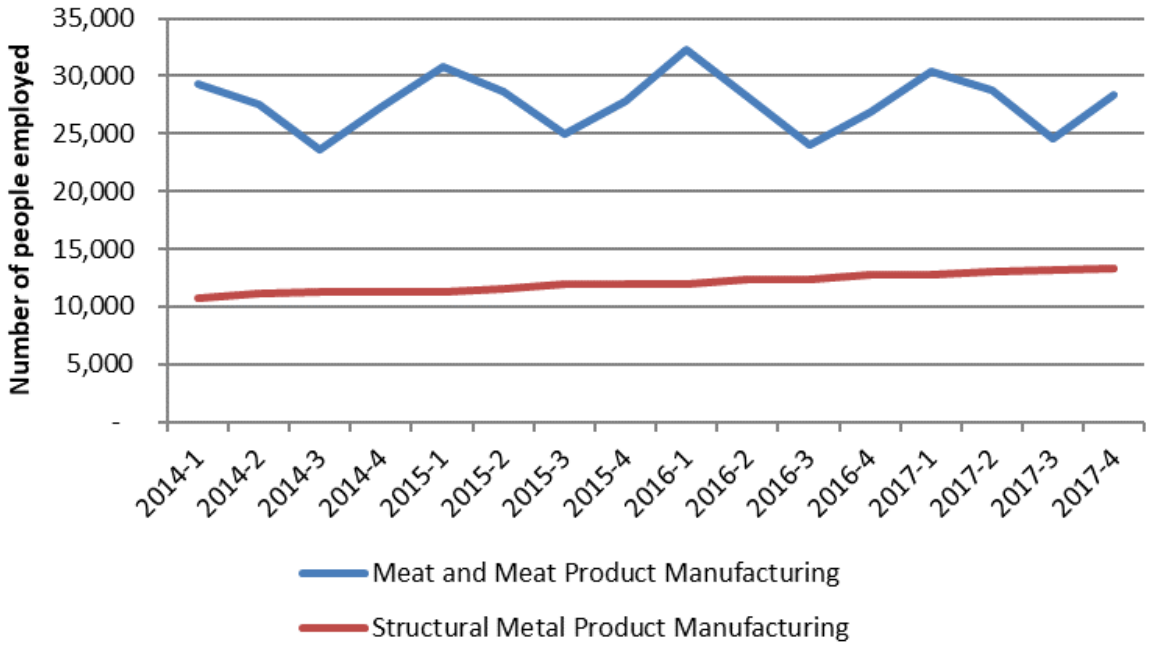


Table 4 below shows the sub-industries we identified with seasonal employment patterns.

Table 4: Sub-industries identified as having a seasonal employment pattern

Main industry	Sub-industry	Industry code
Agriculture, Forestry and Fishing	Nursery and Floriculture Production	A011
	Mushroom and Vegetable Growing	A012
	Fruit and Tree Nut Growing	A013
	Grain, Sheep and Beef Cattle Farming	A014
	Other Crop Growing	A015
	Dairy Cattle Farming	A016
	Deer Farming	A018
	Other Livestock Farming	A019
	Fishing	A041
	Forestry Support Services	A051
	Agriculture and Fishing Support Services	A052
Manufacturing	Meat and Meat Product Manufacturing	C111
	Seafood Processing	C112
	Fruit and Vegetable Processing	C114
	Beverage Manufacturing	C121
	Leather Tanning and Fur Dressing	C132
Accommodation and Food Services	Accommodation	H440
Transport, Postal and Warehousing	Water Passenger Transport	I482
	Scenic and Sightseeing Transport	I501
Administrative and Support Services	Packaging and Labelling Services	N732
Education and Training	Preschool Education	P801
	School Education	P802
	Tertiary Education	P810
	Adult, Community and Other Education	P821
	Educational Support Services	P822
Arts and Recreation Services	Parks and Gardens Operations	R892
	Sport and Physical Recreation Activities	R911
	Horse and Dog Racing Activities	R912
	Amusement and Other Recreation Activates	R913

We have only been able to identify seasonal sub-industries, not seasonal jobs. There will be some permanent jobs within these industries e.g. managers or accountants. However, because of the method used to select seasonal sub-industries, we would expect a significant proportion of workers in these industries to be seasonally employed.

Timmins, J (2009)[14] focused on seasonal employment in the horticultural industry and broke down employment into permanent, seasonal, casual and overseas by tracking

[14] Timmins, J. (2009) Seasonal Employment Patterns in the Horticultural Industry. Statistics New Zealand.

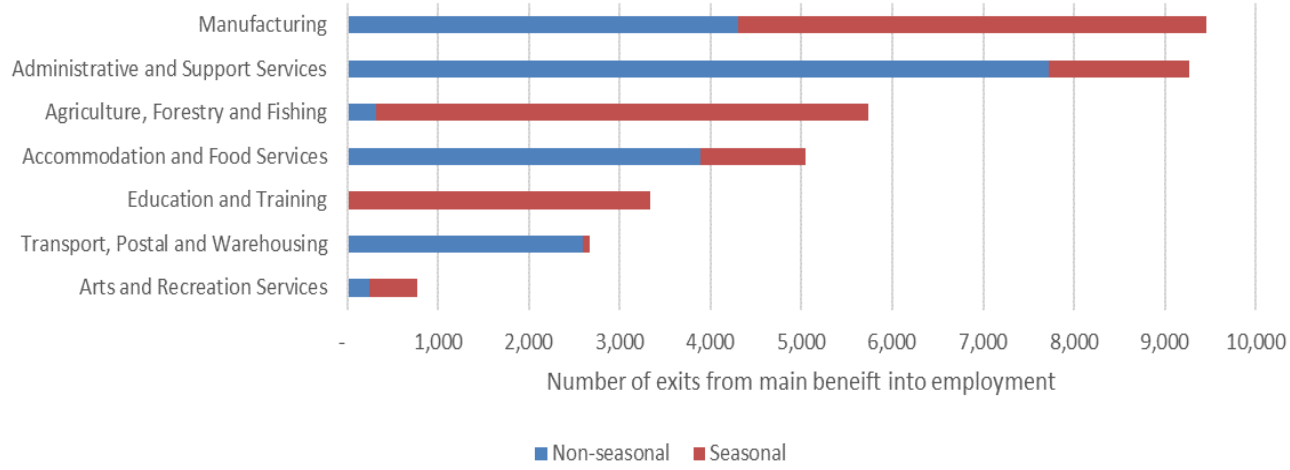
individual employees over time. Unfortunately, we did not track clients who had left benefit over a long enough period to establish whether they were in seasonal employment as it was defined in that paper. However, our definition of seasonal sub-industries does include the horticulture industries (A011 to A013 in Table 4 above) identified as having high rates of seasonal and short-term employment by Timmins, J (2009).

In 2015/16, 64,000 people exited to employment. Of these, 17,000 (27%) exited to work in a seasonal sub-industry.

Exits from a main benefit to a seasonal sub-industry identified above are higher than for the general population. For example, of the average two million people in New Zealand who were employed in 2015/16, only 20% were employed in the seasonal sub-industries we have identified.

There are seven main industry categories with seasonal sub-industries. Figure 15 shows these industries and the proportion of exits from a main benefit to a seasonal sub-industry.

Figure 15: Number of exits to employment by industry (limited to those industries with a seasonal component)



Surprisingly we observed seasonal sub-industries in the Education and Training industry, likely reflecting fixed term teachers and education support staff who are not paid over the summer holidays.

Of the top five industries that people exit from a benefit to, four of them have at least one seasonal sub-industry. The only industry in the top five that does not have any seasonal sub-industry is retail.

What happened to people who exited to employment in a seasonal sub-industry?

As could be expected, people who exit to seasonal sub-industries were less likely to be in employment at any given time.

Figure 16 and Figure 17 below show the proportion of people employed each month after exiting to a seasonal or non-seasonal sub-industry. Overall people who exit to employment in a non-seasonal industry are more likely to be employed each month after exit compared to those who exit to employment in a seasonal industry. Figure 16 shows a clear increase in the number of people employed 12 months after exit – likely caused by the start of the next season. This begins to reduce again two months later.

Figure 16: Activity after exit to employment in a seasonal sub-industry[15]

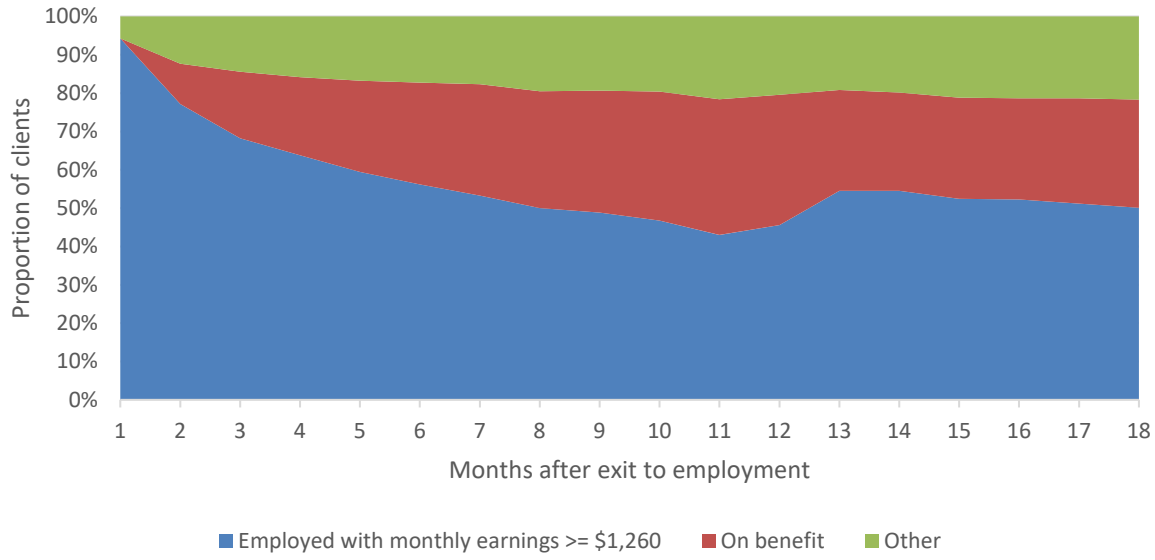
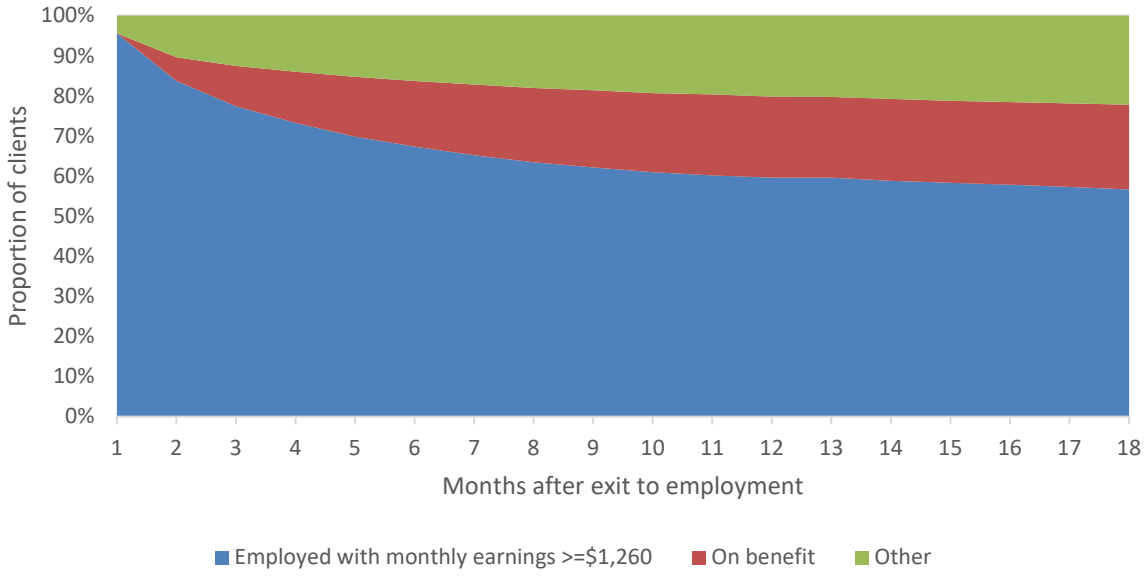


Figure 17: Activity after exit to employment in a non-seasonal sub-industry



[15] 'Other' includes; Employed <1260, Nil employment, in partnership, education, training, overseas, in detention, age 65+ and other income.

People who exit to seasonal sub-industries were also less likely to be continuously employed.

In our analysis we considered whether people sustained employment earnings of over $1,260 per month for 18 months after exiting main benefits to employment. Note this definition includes people who change industries or jobs so long as they maintain employment earnings each month. Figure 18 shows that people who exit to non-seasonal industries are more likely to sustain employment earnings of more than $1,260 per month at each point in time following an exit than those who exit to seasonal sub-industries.

Figure 18: Proportion of clients who sustain continuous employment earnings after exit to employment

Exiting to work in a seasonal sub-industry does reduce sustained employment earnings[16]... but is not the only factor responsible for an industry's low sustained employment.

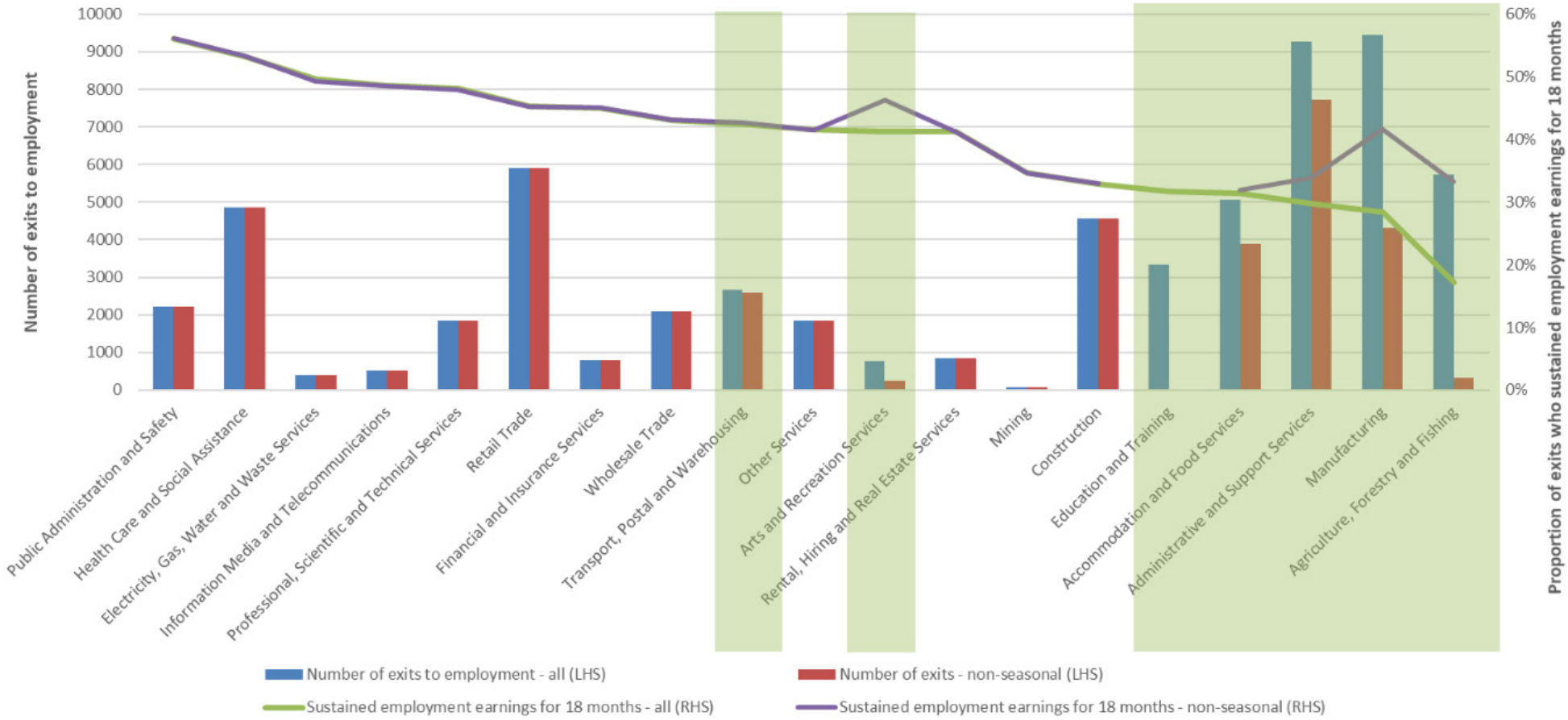
Figure 19 below shows the impact seasonality has on both the number of employment exits and the proportion of people who sustain employment earnings for all 18 months after exit. Main industries with seasonal sub-industries are highlighted in green.

The purple line shows the likelihood of sustained employment earnings in these industries if we exclude the seasonal sub-industries.

Excluding seasonal sub industries does improve the sustainability of employment earnings. However, even after removing seasonal workers we can still see that these main industries tend to have lower sustained employment earnings than that experienced by other non-seasonal industries. This suggests that seasonality is not the only factor responsible for lower sustained employment earnings in these industries.

[16] Note there are many factors that impact sustainability of employment eg stability/quantity of hours, wage levels, working conditions etc. In this report we measure employment earnings which is only one factor that impacts employment sustainability.

Figure 19: Comparison of all exits and non-seasonal exits by number of exits and sustained employment earnings[17]



[17] Note – there is no value for 'sustained 18 months – non-seasonal' for the education and training industry as all sub industries were identified as seasonal.

Who exited to employment in seasonal sub-industries?

Māori clients, people receiving an Emergency Benefit (EB) or people from certain regions are more likely to exit to employment in a seasonal sub-industry…

Figure 20, Figure 21 and and Figure 22 below give a profile of the people who exited to employment. They show that Māori, those receiving an EB and those from the Bay of Plenty, Gisborne, Hawke's Bay and Southland regions are more likely to exit to employment in seasonal sub-industries.

… and have lower rates of sustained employment earnings when exiting to employment in seasonal sub-industries.

Figures 20 to 22 also show that these people also have the lowest rates of sustained employment earnings for 18 months after exiting to employment in seasonal sub-industries.

Figure 20: Exits to employment by ethnicity

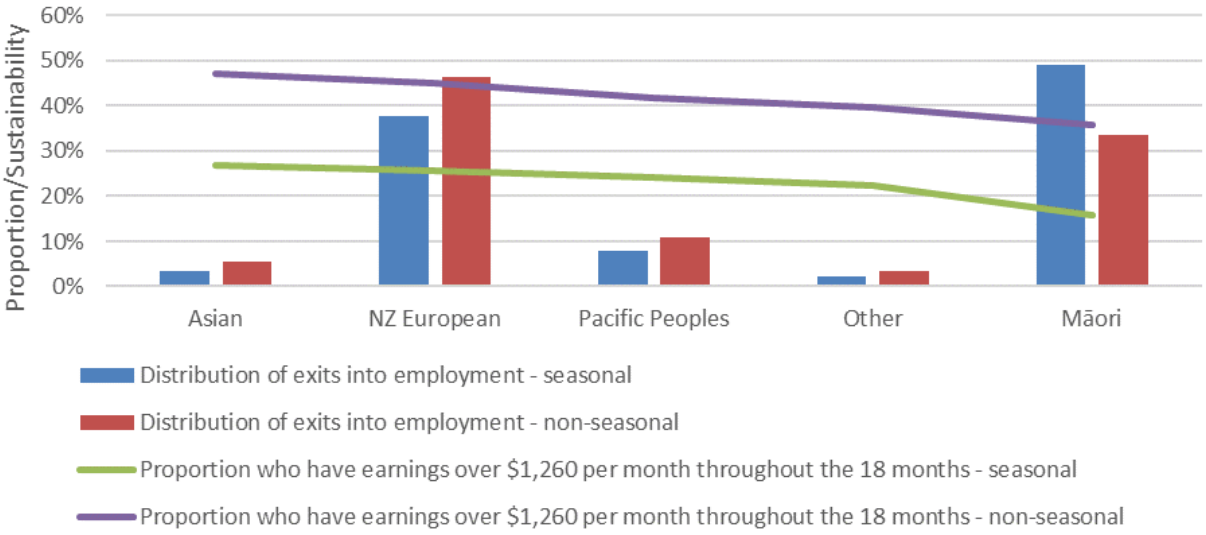
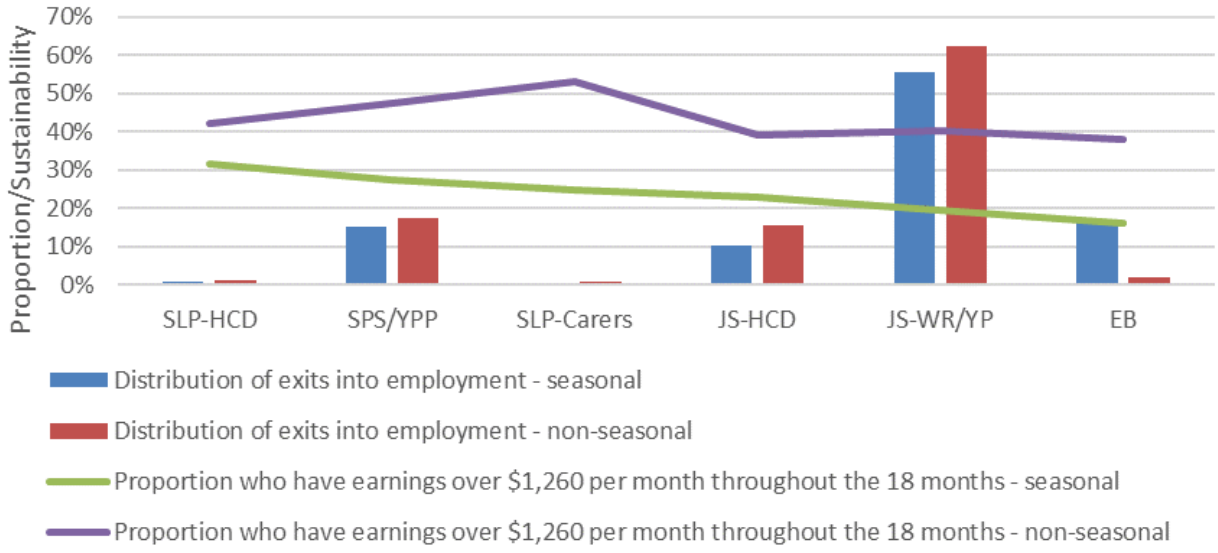
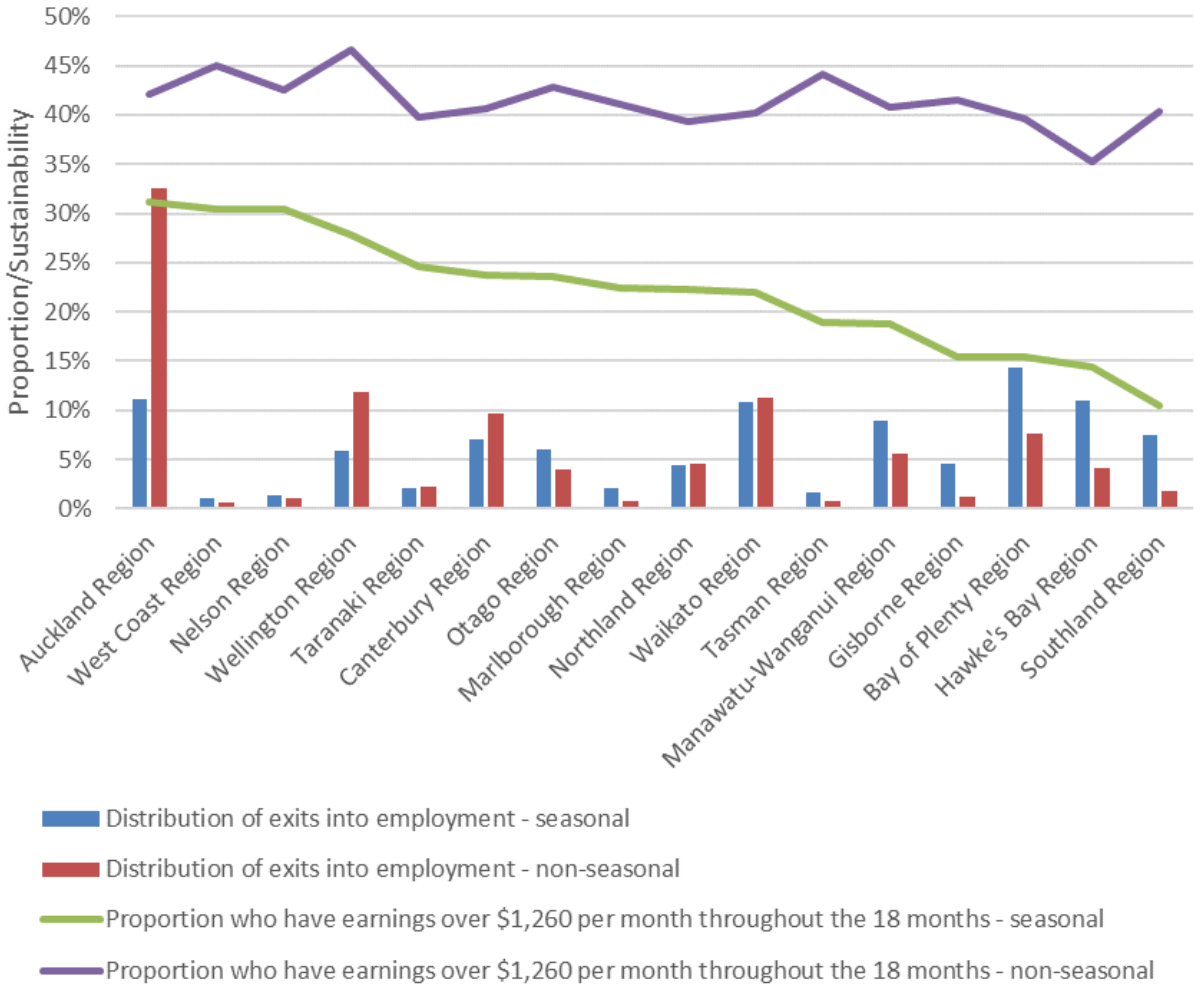


Figure 21: Exits to employment by benefit type prior to exit



For people receiving an EB, they may be receiving it because they are seasonal workers and are in between seasons, so conversely, this would help to explain why people on an emergency benefit are much more likely to exit to employment in a seasonal sub-industry.

Figure 22: Exits to employment by region



Some people have a history of cycling on and off benefit. Employment in seasonal sub-industries helps to explain some of this but does not explain all of it.

Over half of people with a history of cycling on and off benefit[18] who exit to employment do so to a seasonal sub-industry. This compares to around 25% of those with no cycling history. This suggests that benefit cycling history and employment in seasonal sub-industries are related.

We can also see that those who enter work in a seasonal sub-industry who have a history of cycling on and off benefit have lower rates of sustained employment earnings (11%) than those with no cycling history (22%). This suggests:

- Fewer people who exit to employment in a seasonal sub-industry sustain their employment earnings for 18 months after exit compared to those exiting to non-seasonal sub-industries.
- Of these people, even fewer manage to sustain their employment earnings when they have a history of cycling into and out of the benefit system.

[18] Defined as four or more entries to or exits from benefit over the two years prior to their benefit exit in 2015/16. Monthly snapshots of data have been used which may understate the number of transitions if someone enters and/or exits more than once in a calendar month.

Table 5: Number of exits to employment - by cycling history and seasonal sub-industry

Cycling history prior to exit	Sub-industry exited to	
	Seasonal	Non-seasonal
Yes	2,300	2,100
No	15,000	44,500

Table 6: Proportion of exits to employment who have continuous employment earnings over $1,260 per months for all 18 months after exit - by cycling history and seasonal sub-industry

Cycling history prior to exit	Sub-industry exited to	
	Seasonal	Non-seasonal
Yes	11%	28%
No	22%	42%

Clients with a history of cycling on and off benefit have a low rate of sustained employment earnings. Exiting to employment in seasonal sub-industries is not the only thing driving this. Two things help illustrate this:

- Around half of all exits to employment by cycling clients are to a non-seasonal sub-industry
- The proportion of clients with a history of cycling on and off benefit who remain continuously employed after exiting to non-seasonal sub-industries is 28%. This is much lower than that experienced by those without cycling history of 42%.

What does income look like for employment exits in seasonal sub-industries?

Clients who exit to employment in a seasonal sub-industry have, on average, higher incomes after exit than those who exit to non-seasonal sub-industries.

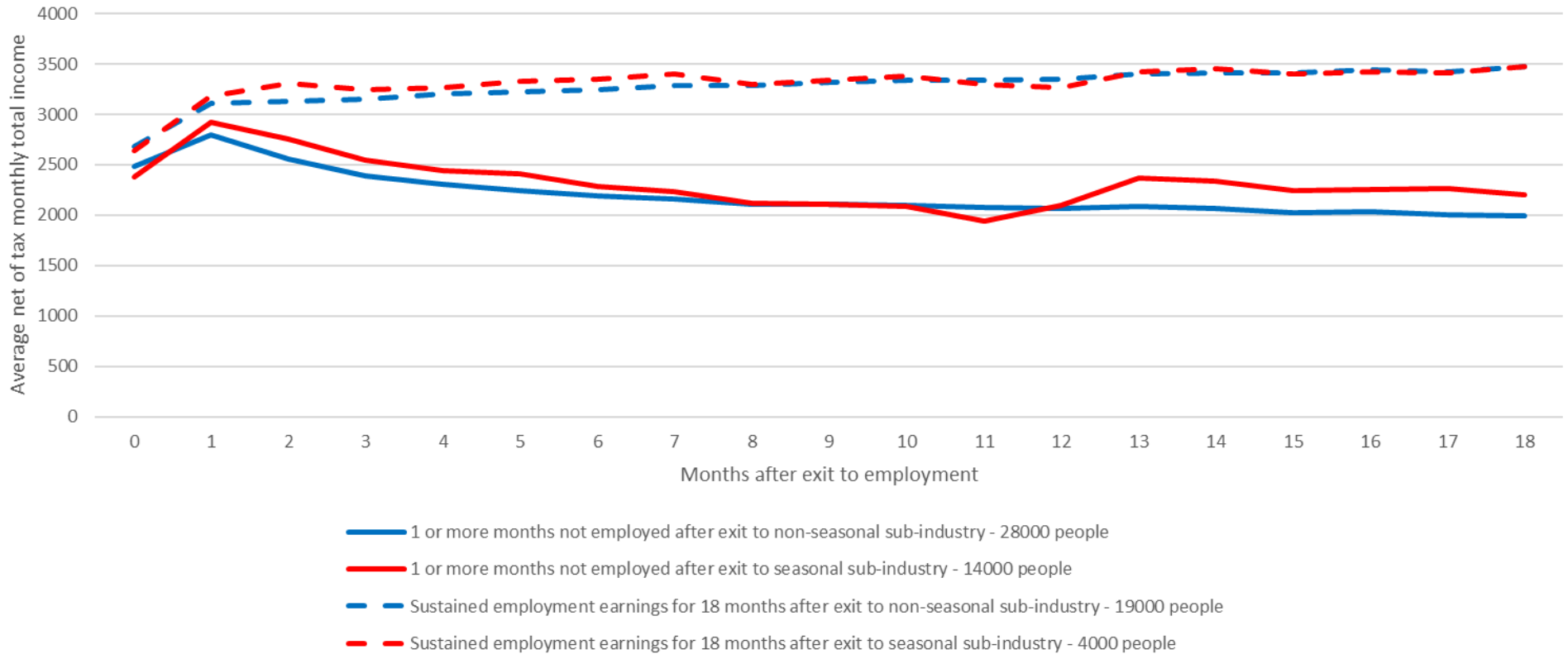
Figure 23 shows how average net monthly total income patterns[19] vary after exit for people exiting to seasonal and non-seasonal sub-industries.

Immediately following an exit from benefit, average income is slightly higher for people who exit to seasonal sub-industries than those who exit to non-seasonal sub-industries. For those who sustain employment earnings for 18 months (dashed lines) the income converges to similar amounts after 8 months.

For those who do not maintain their employment status, average income in seasonal sub-industries is more volatile than income for those who exited to non-seasonal sub-industries.

[19] See Appendix 2: Income definitions

Figure 23: Average net of tax monthly total income before/after exit from benefits to employment



Future research questions

We makes no attempt to conclude whether seasonal employment is good or bad. Neither does this analysis provide a comprehensive understanding of seasonal work and how/if it acts as a pathway to further employment.

Future research in this area would broaden understanding of the impact seasonal work has on people's wellbeing and future employment. Future research could include looking at:

- how does seasonal work impact our employment interventions' effectiveness? What does it mean for how we administer our employment interventions?
- Average incomes for those who sustain employment earnings are similar regardless of whether they have exited to a seasonal sub-industry or not. Does this mean that people are transitioning from seasonal sub-industries to non-seasonal ones? What is different about these people compared to those who come back on benefit?
- We can see that seasonal work is not the only factor driving low sustained employment earnings in some industries. How are experiences different for people who exit to seasonal or non-seasonal employment within the same industry and compared to other industries?
- Seasonal work is only one factor that may impact the outcomes of people when they leave a benefit for work. How are people's outcomes impacted by work conditions including seasonality, wage levels, work habits and conditions etc.

5. What happened to people who exited to education and training?

Overview

Of people who exit to industry training or tertiary education, 55% return to benefit within 18 months.

This rate is consistent with previous results and is high compared to exiting for other reasons. In this chapter we have attempted to understand more about these exits, the type of education or training people exit to, and outcomes for people exiting a benefit to go into training or education using data from the 2015/16 cohort.

Around 10% (13,300) of all exits from benefit in the 2015/2016 year were to education or training. Two thirds of these exit to full-time tertiary education, 19% to part-time tertiary education and 15% to industry training.

Figure 24 below shows that industry training courses have a lower rate of being on benefit at 18 months after exit (24%) than part- and full-time tertiary students (34% and 37% respectively). Employment rates at 18 months after exit are also much lower for tertiary students.

We exclude Jobseeker support - Student Hardship (JS-SH) payments from our analysis. We do this because JS-SH payments are for people who are on a planned study break (including summer holidays between academic years) of more than three weeks who intend to study full time again within 16 weeks. So, people needing temporary support between planned gaps in study does not explain why tertiary students return to benefits at such a high rate. We also do not consider student allowance payments.

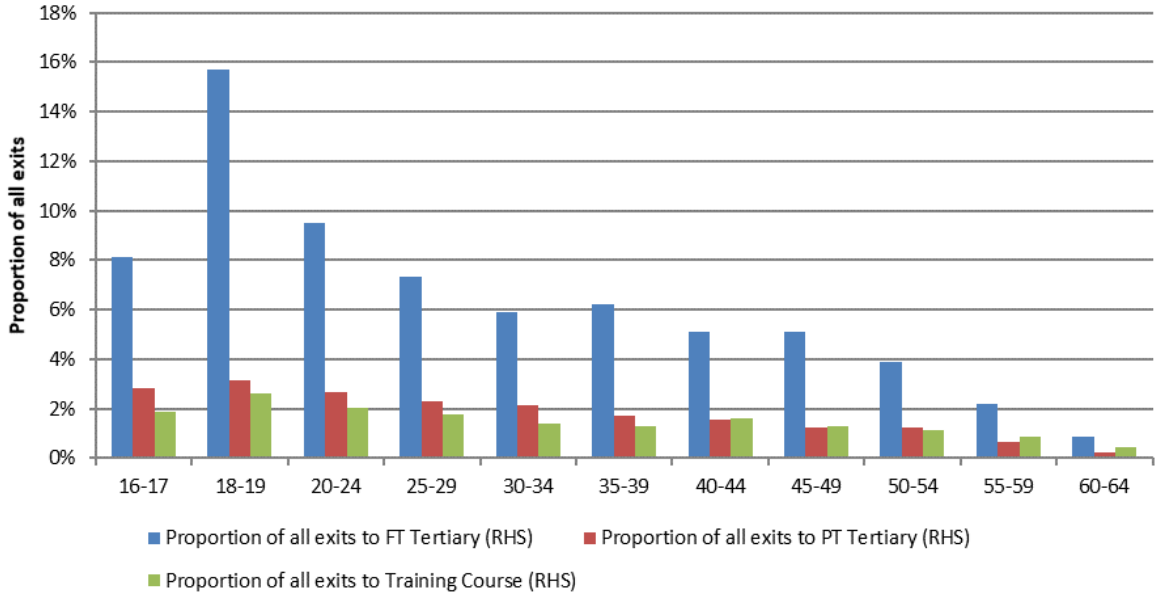
Figure 24: Activity of people 18 months after exiting benefit - by exit reason[20]

[20] A status 18 months after exit of 'Other' includes; Employed <$1260, Nil employment, in partnership, in detention, age 65+ years and other income.

Young people are much more likely to exit to tertiary or targeted/industry training than any other group.

Age is the dominant demographic factor when looking at the likelihood of exiting to tertiary education or industry training. For example, Figure 25 below shows that of all 18-19 year olds who exit a benefit, 21% exit to some form of education or training. This is the highest rate for all age groups.

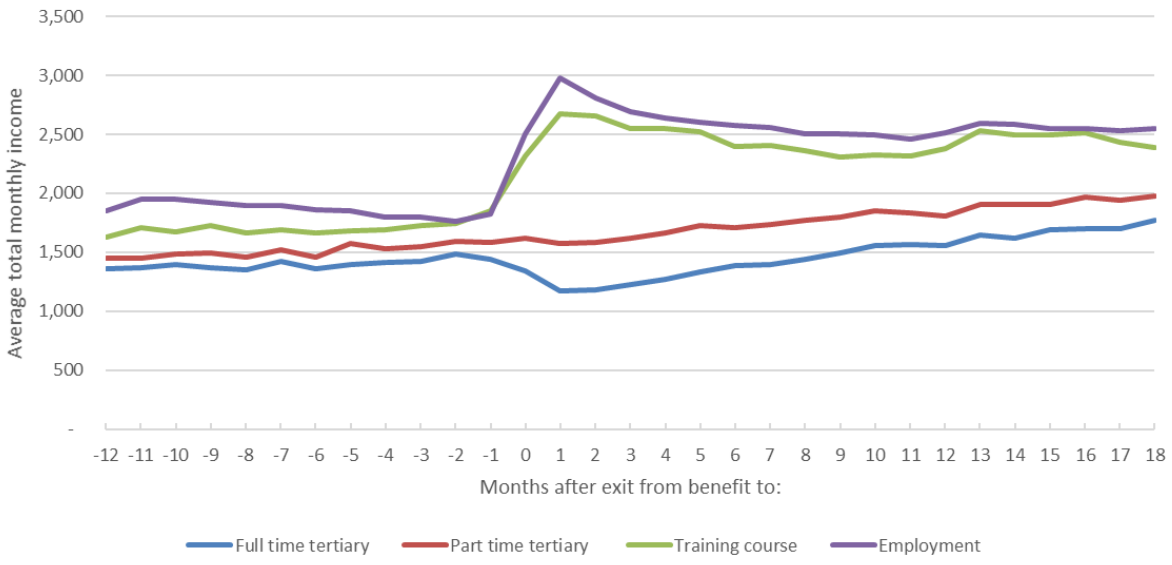
Figure 25: Exit to education and training - age



Income is highest for people who exit to training courses, and lowest for those who exit to full time study for the 18 months after exit.

Figure 26 below shows the average net total incomes[21] for clients who exit to training or education, with the income of clients who exit to employment for comparison.

Figure 26: Average net monthly total income before and after exit from benefit to education, training, and employment



[21] Income CPI adjusted to December 2017 dollars. See Appendix 2: Income definitions

Average income increases quickly for people who exit a benefit to a training course and it remains higher than pre-exit income for the whole 18 months following exit. Post-exit average incomes for people who exit to training courses are very similar to those who exit straight to employment. This higher level of income is likely because most industry training courses are linked to paid apprenticeships or other entry level employment.

Income for those who exit to full time study decreases immediately after exit, increasing steadily as more and more people move to work. People in full-time education would have less opportunity to work part-time alongside study, potentially explaining why income is lower than income for part-time students.

The average income for all people who exit benefit to education or training 18 months after an exit is higher than pre-benefit exit incomes.

How do people's outcomes differ by subject and qualification level?

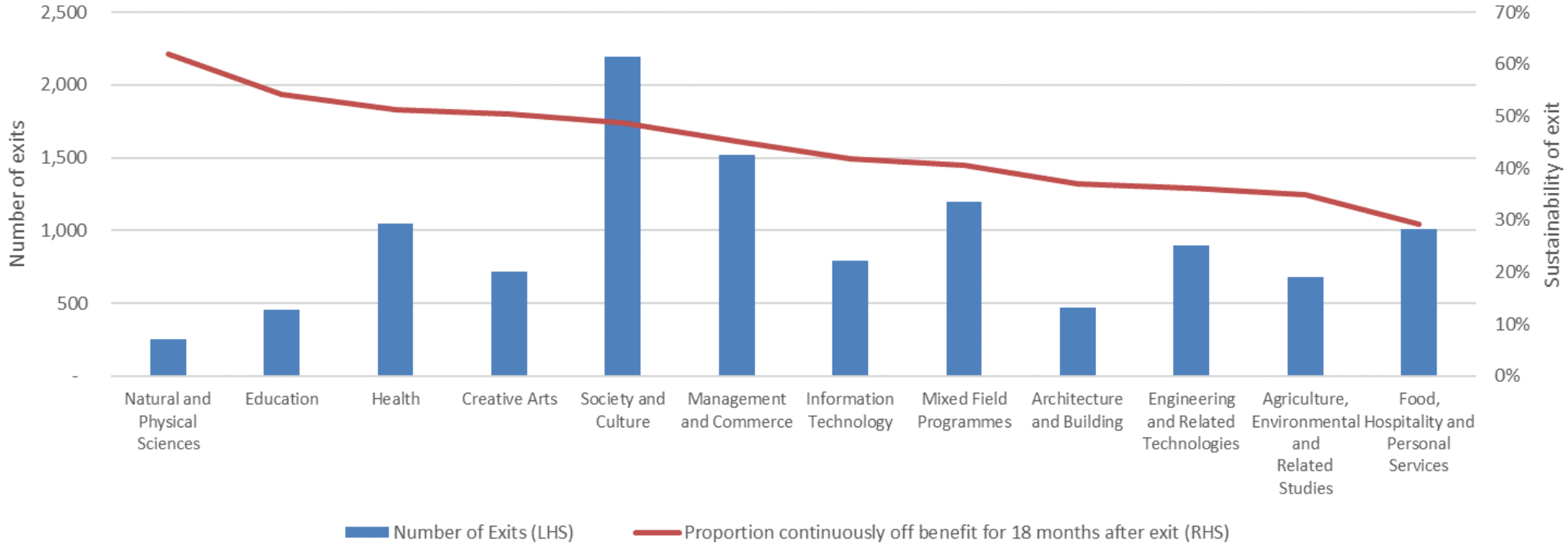
The type of tertiary study impacts sustainability of exit…

There is a significant difference in sustained exits from benefits between different types of tertiary education courses.

Training in food, hospitality and personal services has the lowest level of sustained exits (29%), while almost two thirds (62%) of people who studied natural and physical sciences sustained their exit.

There is likely to be a relationship between the length of the course and the subject. For example, food and hospitality courses may be shorter in duration, and therefore people may have completed the course and returned to benefit. This could be compared to courses in Natural and physical science which may be longer in duration, meaning people may still be studying after 18 months.

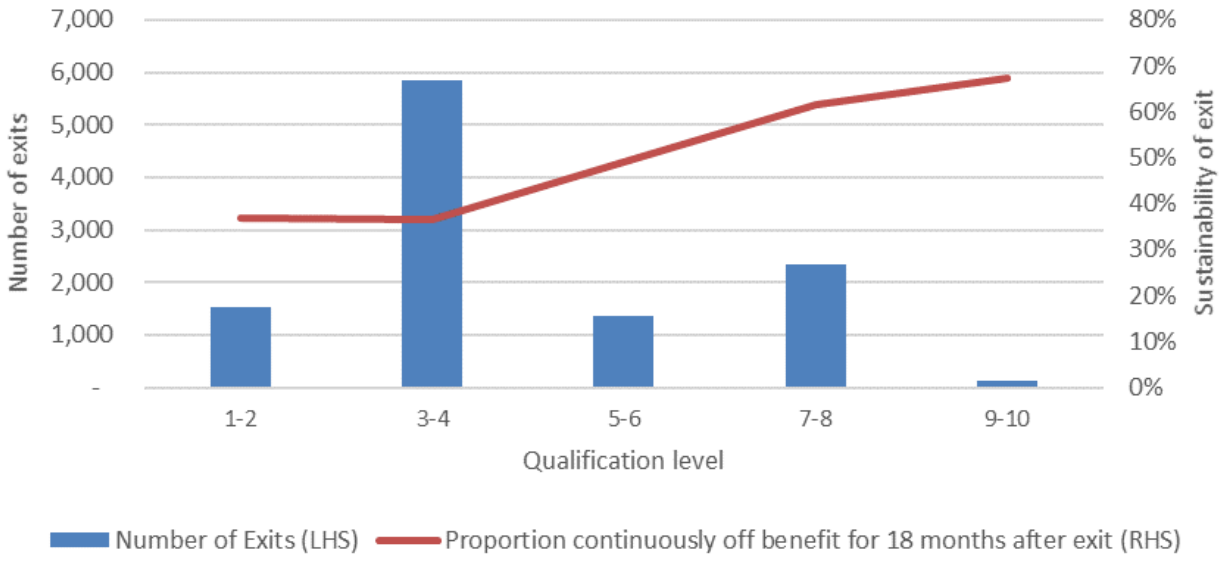
Figure 27: Tertiary education exits by course type



…as does qualification level.

Qualification level[22] of the tertiary education is also important. The proportion of people who remain off benefit 18 months after their exit to education increases from around one third for those who exit to a level 1-4 course to two thirds for those who exit to a level 9-10 course. Again, this may be impacted by the relationship between length of course and qualification level. In particular, many high-level courses are longer than 18 months, so people will likely still be in study.

Figure 28: Tertiary education exits by qualification level



For those who exited to industry training, the industry impacts the sustainability of exit

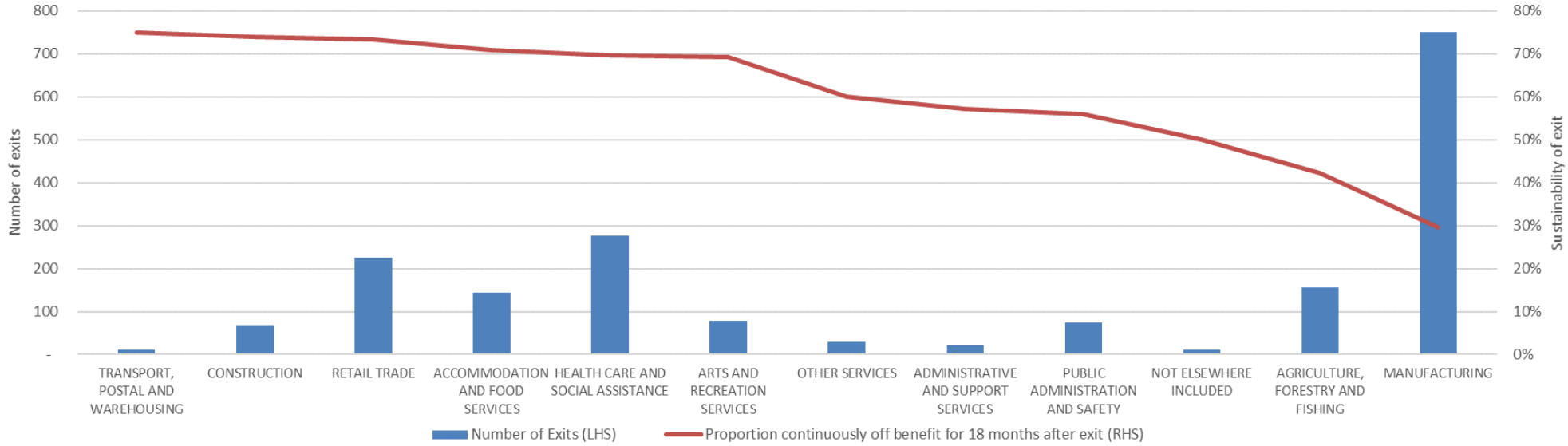
A higher proportion of people who exited to industry training sustained their exit for 18 months – an average of 52% compared to 44% who exited to tertiary education.

Training industries which sustained the highest proportion of exits were 'Transport, postal and warehousing' (although low numbers exited to this industry), 'Construction' and 'Retail trade'. The industries with the lowest sustained exit are 'Agriculture, forestry and fishing' and 'Manufacturing'.

Note also that the last two training types are in industries that we have identified as having seasonal employment patterns. Since the observation period is 18 months, these seasonal patterns will impact the sustainability results.

[22] These are the New Zealand Qualifications Framework levels. 1-4 align with NCEA levels 1-4, 5-6 - Diplomas, 7 - Bachelor's Degrees and Graduate Diplomas, 8 – Honour Degrees and Postgraduate Diplomas, 9 – Master's Degree, 10 Doctoral Degree.

Figure 29: Targeted/industry training exits by course type



Related research

Note that this section seeks to describe what happens to people after they have left benefits to training or education. It does not seek to analyse the effectiveness of training or education or their impact on people leaving benefit. The following two papers use matching methods to understand the impact of training or education.

Crichton, S. (2013). *The Impact of Further Education on the Employment Outcomes of Beneficiaries*. Ministry of Business, Innovation & Employment. This paper looks at people who enrolled in tertiary education in 2003 to 2005 and their outcomes five years later compared to a matched comparison group who did not enrol in tertiary education. It found overall that there were improvements in employment and earnings five years later for people who completed their qualifications. It also found that the benefits increased as the level of qualification increased and varied significantly by field of study. Those who enrolled but did not complete a qualification for the most part did not experience improved outcomes.

De Boer, M and Ku, B (2019). *Cost-effectiveness of MSD employment assistance.* Ministry of Social Development. This report evaluates the effectiveness of MSD's employment assistance interventions in 2016/17 on five main outcomes: employment, income, justice, education qualifications and independence of welfare. Of the interventions that include a training or education component and were able to be rated, two were rated as effective (skills for industry and training for work) and two were rated promising (course participation grant and training incentive allowance).

Future research questions

A key limitation of the above work is that we only observed people for 18 months after they have exited benefit to tertiary education or industry training. A key question for the next iteration of this work is to understand what happens to people who exit to education or training over a longer period. This would help us understand:

- What happens to people's incomes over time? Do incomes for those who exit to tertiary education continue to increase? Do they exceed those for employment and industry training exits in the future?
- Are there any patterns of people returning to a main benefit from studying before leaving again for employment?

Mana in Mahi

Mana in Mahi was launched in August 2018 as part of the Government's commitment to support young people into sustainable and meaningful work. The primary aim of Mana in Mahi is to provide apprenticeships or an industry training pathway, leading to sustainable employment for young people.

Under Mana in Mahi, a wage subsidy is provided to an employer who is willing to hire one (or more) young persons and offer them both an industry training pathway (including apprenticeships) and sustainable work. While Mana in Mahi is targeted towards young people aged between 18-24 years old, the programme is available to people of all ages, including Māori, Pacific Peoples and disabled people.

MSD secured additional funding in Budget 2019 to extend the places available for participants, from 150 to almost 2,000 places by 2023. An initial evaluation of the effectiveness in Mana in Mahi is currently underway.

6. Mental health and addiction

The 2018 MSD report looked at the outcomes of people who exited from a JS-HCD benefit who had a mental health condition as their main reason for reduced capacity to work on their medical certificate. However, this definition will miss many people whose mental health condition is not the primary condition associated with their receipt of a JS-HCD benefit, or they receive a different type of benefit where their mental health condition is not captured in MSD's administration data.

In this section we have used wider government data available in the IDI to help us identify how prevalent access to mental health and addiction services is. This will help improve our understanding of the prevalence of mental health conditions and addiction among people receiving main benefits and their outcomes.

We have used a slightly modified version of the Social Investment Agency's definition[23] which includes people who[24]:

- have accessed specialist mental health or addiction services
- were discharged from hospital with a mental health diagnosis recorded
- dispensed pharamaceuticals deemed to be for mental health conditions or addiction
- had a mental health condition, intellectual disability or addiction reason coded as their main reason for reduced capacity to work on their medical certificate for benefit support.

This measure is a proxy of mental health and addictions needs and will understate thier true prevalence as:

- mental health and addiction needs can be intermittent and fluctuate over time
- people may have unidentified mental health and addiction needs
- there are barriers to accessing support and services that can help people manage their condition(s) e.g. most specialist services are targeted to people with the highest needs.
- this may be offset somewhat by pharamaceuticals primarily used for mental health conditions also being prescribed for other conditions.

For more information on this defintion see *Appendix 3: Mental* .

For clarity throughout this chapter we refer to people who have accessed a mental health or addiction service (according to the four categories above) in the last three years.

Access to Mental health and addiction (MHA) services is highly prevalent in the Health Condition or Disability (HCD) benefit population.

At December 2017, 62,100 clients receiving a JS-HCD or SLP-HCD benefit were receiving it primarily due to the impact of a psychological or psychiatric condition, with a further 4,800

[23] Social Investment Agency (2019). Using integrated data to understand mental health and addiction conditions. Technical Guide. Wellington, New Zealand.

[24] Note that we did not have access to the 5th category included in the SIA definition of "Laboratory test results". The SIA identified that very few people with laboratory tests related to mental health and addictions that were not already captured in the other 4 categories and so this will not have a material impact on our analysis.

receiving a benefit primarily due to substance abuse and 9,800 receiving a benefit primarily due to an intellectual disability.

Additionally, there are 81,800 clients who are receiving an HCD benefit primarily because of the impact of another type of impairment. Of these, 62% (or 50,400 people) have also accessed an MHA service (as defined above) in the last three years.

Combined, this suggests that over three quarters of all HCD clients may be impacted by mental health conditions. This is much higher than the rate for the total population aged 16 to 65 years old where 32% of people have accessed an MHA service in the last three years. Having co-occurring impairment is consistent with many disabled people and in people with health conditions.

MHA service use is also prevalent with people who receive a non-HCD benefit.

Just under half of all people receiving a JS-WR, EB, SPS, SLP-Carer or YP benefit (72,800 clients out of 152,500) at December 2017 had accessed an MHA service in the last three years. This suggests that mental health may be a barrier that many of the people receiving a main benefit may face even when they are not receiving a health-related benefit. These rates are all much higher than that of the total population aged 16 to 65 years where 32% of people have accessed an MHA service in the last three years.

Combined at least 64% of all beneficiaries have some kind of mental health need.

This includes those with a primary need for an HCD benefit relating to psychological, intellectual, psychiatric and addiction conditions, as well as those on HCD or other benefits who have accessed an MHA service in the last three years. This is nearly double the rate for the total population and does not include anyone who may have mental health issues and has not received treatment for them.

There is evidence that time spent on a benefit is associated with poorer mental health and wellbeing.

There is a strong link between unemployment, poverty and poor mental health. This association goes both ways – being unemployed can increase the likelihood of poor mental health, and poor mental health can also contribute to people falling out of employment.

New Zealand research has found that the mental distress and wellbeing of people on a main benefit is on average poor compared to people not on a benefit. Findings include that people on a benefit are more likely to feel unable to deal with the stresses of everyday life, feel isolated and experience moderately severe or severe levels of depression (Kvalsvig, 2018)[25]. Further research suggests a prevalence rate for low mental health wellbeing nearly three times higher for people on a benefit, compared to people who are not.[26] There is evidence that receiving welfare support has a negative impact on mental health over and above the impact of being unemployed and in poverty, which researchers have theorised could be related to stigma or other coinciding adverse life events (Kiely & Butterworth, 2013)[27].

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[25] Kvalsvig, A. (2018) *Wellbeing and Mental Distress in Aotearoa New Zealand: Snapshot 2016*. Wellington, New Zealand: Health Promotion Agency. Retrieved from https://www.hpa.org.nz/research-library/research-publications/wellbeing-and-mental-distress-in-aotearoa-new-zealand-snapshot-2016

[26] Brown, S. (2019) *Wellbeing and Mental Health: An Analysis Based on the Treasury's Living Standards Framework.* Wellington, New Zealand: The Treasury. Retrieved from https://treasury.govt.nz/publications/ap/ap-19-01-html#section-6

[27] Kiely, K. M. & Butterworth, P. (2013) Social disadvantage and individual vulnerability: A longitudinal investigation of welfare receipt and mental health in Australia. *The Australian and New Zealand Journal of Psychiatry*, *47*(7), 654–666. http://doi.org/10.1177/0004867413484094

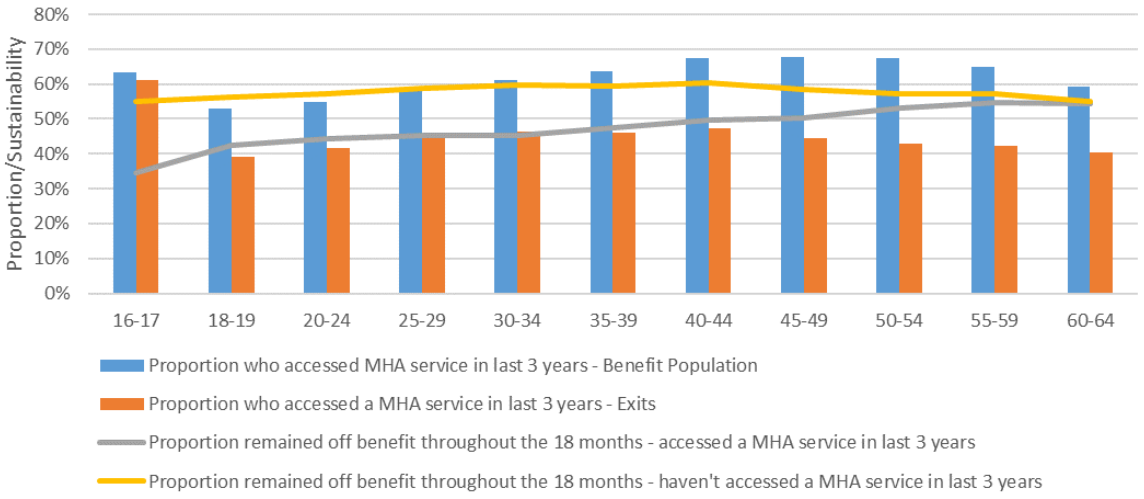
People who have accessed an MHA service in the last three years are less likely to exit the benefit system, and are less likely to remain off benefit after exit.

Around 44% of all exits from benefit in 2015/16 were by people who accessed an MHA service in the last three years. By comparison 62% of all people on main benefit at June 2015 had accessed an MHA service in the last three years.

People who accessed an MHA service in the last three years were also less likely to remain continuously off benefit for 18 months after exit than those who did not access an MHA service. Around 47% of people in this group in the 2015/16 cohort remained off benefit continuously for 18 months compared to 58% of those who had not accessed an MHA service in the last three years.

We break this down by a couple of key demographic factors below.

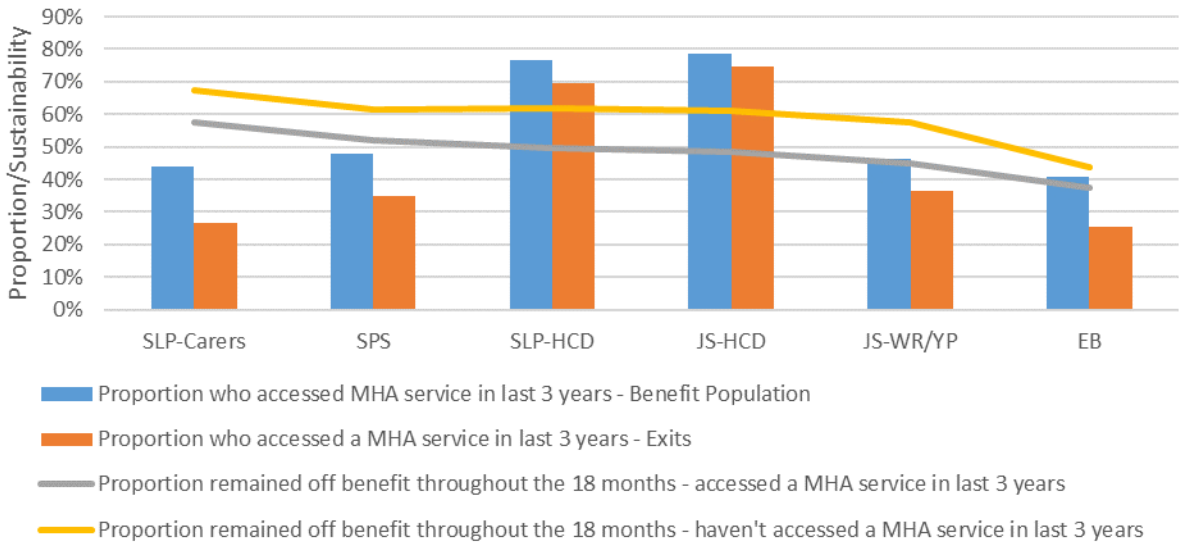
Figure 30: Proportion of exits from benefit that remain off benefit for 18 months following exit – by age at exit



Apart from 16–17-year olds there is a reasonably consistent gap in the proportion of people who have accessed an MHA service in the last three years when comparing the benefit population and those who have exited across age bands.

Younger clients who have accessed an MHA service in the last three years are much less likely to remain continuously off benefit for 18 months after exit compared to those who have not accessed an MHA service in the last three years. The difference in the proportion remaining off benefit for 18 months between those who have and have not accessed MHA services in the last three years is largest at younger ages with the gap closing for older clients.

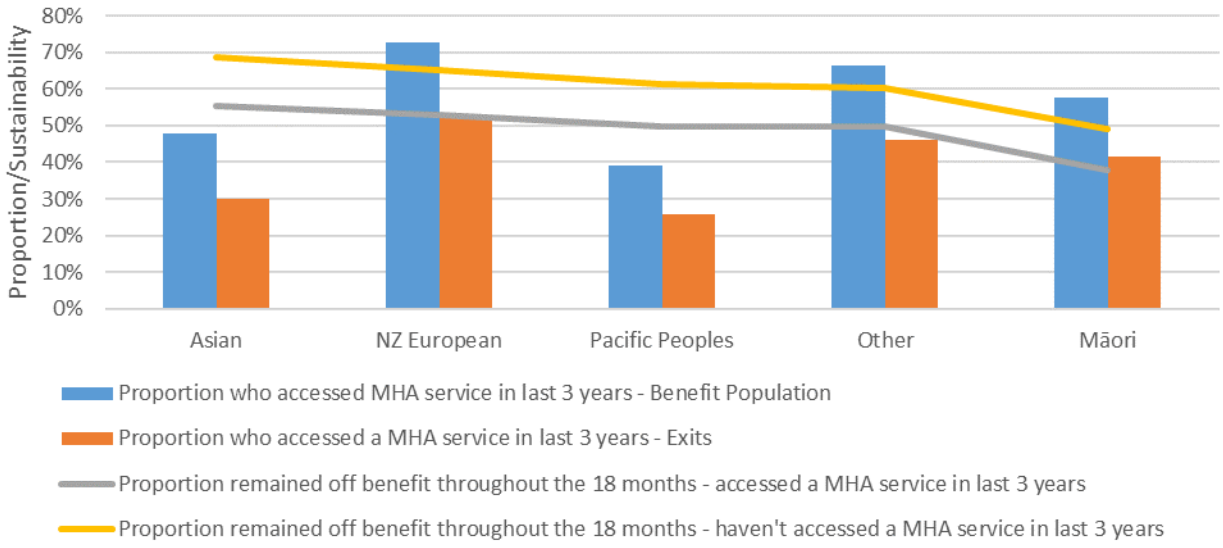
Figure 31: Proportion of exits from benefit that remain off benefit for 18 months following exit – by benefit type



The difference in the proportion remaining off benefit for all 18 months between those who accessed an MHA service in the last three years and those that haven't is reasonably consistent across all benefit types.

The proportion of clients who exit from both HCD benefits who accessed MHA services in the last three years is much closer to the proportion who had accessed MHA services in the last three years among all people who are receiving an HCD benefit than it is for non-HCD benefit types. This could be at least in part due to the high proportions of people who access an MHA service in these groups.

Figure 32: Proportion of exits from benefit that remain off benefit for 18 months following exit - by ethnicity



There is a reasonably consistent gap in the proportion of people who have accessed an MHA service in the last three years when comparing the benefit population and those who have exited across ethnicities. A much higher proportion of NZ European benefit clients have accessed an MHA service in the last three years than any other ethnicity. This might suggest an access issue for other ethnicities.

The difference in the proportion remaining off benefit for all 18 months between those who have accessed an MHA service in the last three years and those that have not is reasonably consistent across all ethnicities.

Future research questions

The above provides some initial insights into what happens to people leaving a main benefit who had accessed an MHA service in the past. Further qualitative and quantitative research is required to better understand client trajectories with regards to mental health. Some possible future research questions include:

- How well does access to MHA services actually reflect the true prevalence of mental health conditions?
- Do the low levels of access to MHA services for some ethnicities, such as Pacific Peoples, reflect an access issue for these groups?
- Why is the off-benefit sustainability of young people who have accessed an MHA service lower than for older age groups? What is the difference between young people who have accessed an MHA service who do sustain their exit from benefit to those who do not?
- How do outcomes differ for people who access MHA services more frequently or access more acute forms of service?
- Given the extra complexity that mental health needs create among the benefit system, is there a way to identify and target supports to these people?

Current work

MSD secured funding in Budget 2019 to continue and build on the cross agency Oranga Mahi trials. This funding will continue to support people with mental health needs to find and stay in employment and with their wider wellbeing, as well as explore opportunities to partner with health organisations to support people to remain in employment.

7. References

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Social Policy Evaluation and Research Unit (2017). *Off-benefit transitions: Where do people go?*

Stillman, S., & Hyslop, D. (2006). *Examining Benefit-to-Work Transitions Using Statistics New Zealand's Linked Employer-Employee Data*. Statistics New Zealand

Appendix 1: Data and methodology

The analysis for this report was undertaken using data from Stats NZ's Integrated Data Infrastructure. The IDI integrates together longitudinal data from a variety of government ministries, departments and agencies.

Stats NZ links the data provided and generates unique identifiers which are added to all data tables.

This allows us to link de-identified data for individuals across all datasets. Stats NZ regularly update these datasets with new data provided by agencies to provide longitudinal views of individuals' interactions with multiple government services. When these updates are generated, new matched datasets are created which mean it is difficult to make exact comparisons with prior investigations. To allow for this, we have re-run whatever aspects of the 2010/11 and 2013/14 analyses we needed for comparisons on the new datasets.

We have followed a similar methodology to that outlined in the 2018 MSD report.

The following sections outline the data and methodology used and identify where we have made changes to the methodology adopted.

Data sources used

The IDI datasets used were:

- Benefit Dynamics Datasets: details of benefit receipt such type of benefit and start/end dates for all people who receive a benefit from MSD
- Employer Monthly Schedule: earnings and tax details from employers from Inland Revenue
- Deaths data from the Department of Internal Affairs
- Data about departure and arrivals to and from New Zealand from the Ministry of Business, Innovation and Employment
- Major management data from the Department of Corrections
- Tertiary education and targeted training data from the Ministry of Education
- Working for Families partnering information from Inland Revenue.

Calendar months as the base unit of analysis

Calendar months are the base unit of analysis for the work underlying this report. The criteria for being 'on benefit' in any particular month is: receipt of any main benefit for any period during that month. The method adopted has some shortfalls but is consistent with the method adopted for the analysis underlying MSD's 2018 report, enabling comparisons of results to be made. While MSD data would allow for more exact transition dates to be used, many other data tables used are recorded in calendar months which an alternate approach unfeasible. For example, earnings data from Inland Revenue's Employer Monthly Schedule is available on a calendar month basis only.

Definitions

Exits and triggers

Using linked data in Stats NZ's IDI, we have assigned a trigger reason for exiting benefit. These are shown in Table 7.

Note:

- The exit triggers assigned in Table 7 below are hierarchical. People are assigned to the first trigger where they meet the criteria. For example, a person whose gross earnings increase to above $1,260 in the month they exit benefit and who started a part-time tertiary course will be categorised as "Part-time student" and not "Employment".
- Clients may have exited and re-entered benefit prior to 2015/16 and may enter and exit benefit multiple times in 2015/16. We only count the first exit where they remain off benefit for at least one month in 2015/16 in the table below (and in all further analysis).
- Month 0 is the month the person is recorded as exiting a main benefit.
- Except for the partnership trigger, we do not use the MSD exit reason records. To see the trigger for exit used in this report compared to the MSD exit reason code see Table 8.

Table 7: Triggers for exit from benefit

Trigger for exit	Abbreviation	Number of exits	Assigned if a person:
Death	Death	2,484	Dies during months -2 through to 1
Reached age 65+	Age > 65	5,862	Is aged greater than or equal to 64.917 at the end of month 0
Overseas	Overseas	8,580	Departs on an overseas trip during months -1 through to 1, and spends at least 14 days overseas during this time
In detention	In detention	4,518	Spends 14 days or more in remand or prison during months -1 through to 1
Started a targeted/industry training course	Training course	2,004	Begins a targeted or industry training education course in any month during months -2 through to 1
Started a full-time tertiary course	Full-time student	8,784	Begins a formal tertiary education course for which they are studying full-time in any month during months -2 through to 1
Started a part-time tertiary course	Part-time student	2,469	Begins a formal tertiary education course for which they are studying part-time in any month during months -2 through to 1
Employment	Employment	57,681	Has gross earnings of $1,260 or more during month 1, and their gross earnings during month 1 is greater than the average gross earnings during months -2 and -1
Other with earnings ≥ $1,260	Other: Earn ≥ $1,260	6,150	Has gross earnings of $1,260 or more during month 1, but do not meet the increase in earnings test for the employment trigger
Partnered	Other: Partner	5,940	Identified as having a change in partnership status from Working for Families tax data during months -1 to 1 or have a Ministry exit reason code of "Not eligible (partner)'
Other with earnings ≥ $100 but less than $1,260	Other: Earn $100 – $1,260	5,673	Does not fall into any of the above trigger groups, and has gross earnings of $100 or more during month 1
Other with earnings < $100	Other: Earn < $100	21,042	Does not fall into any of the above trigger groups, and has gross earnings of less than $100 during month 1
Total		**131,187**	

We have made some changes to the definition of exits used in the Superu and MSD 2018 reports:

- The two previous reports only included people if they were on main benefit in the three calendar months prior to their exit. For this report we include all those who were on main benefit in the calendar month prior to the exit. This alone will increase the number of people included in this report.
- In the MSD 2018 report we grouped two types of people into the age > 65 trigger:
  - Those who exited from benefit and turned 65 years of age in the month of exit.
  - Those who were already 65 years of age before they exited to a benefit.
- This time we have excluded the second group. This helps ensure we are only comparing working aged people. This alone will reduce the number of people in the > 65 trigger.
- We fixed the overseas definition to more accurately detect people who exited for this reason. This alone will result in more people in the overseas trigger.
- We have used Working for Family Tax information to identify changes in partnership status, rather than just the existence of a partnership. MSD exit reason codes are used without change.

A person is only deemed to have transitioned off benefit in the first calendar month where no benefit is received. This means on average a beneficiary will have been off benefit for six weeks before being defined as an exit. It also means:

- if a beneficiary spell ends on the first of the month, this beneficiary will not be classed as an exit until eight weeks later (i.e. after a full calendar month off benefit)
- if a beneficiary spell ends on first of the month, and a new spell starts on the last day of the following month, this beneficiary is never classed as an exit, despite being off benefit for almost as long as the person above
- if a beneficiary exits from benefit at the end of the month, say the 29th of the month, they would not be classified as an exit until the following month, assuming they remain off benefit.

For the exit trigger 'employment' we have used a minimum threshold income of $1,260 per month (in December 2017 dollars). We chose $1,260 per month as the earnings threshold as it represents 20 hours' work per week at minimum wage for the usual four weekly pay periods in a month; 20 hours' work per week is the requirement for a sole parent to be eligible for In-Work Tax Credits. Note this threshold is not related to the income cut-out point for any particular main benefit type. It has been chosen to align with previous published analyses.

Comparison with MSD exit reason codes

Table 8 shows how people would be re-allocated across triggers if the MSD exit reason codes had been used to allocate benefit exits instead of the definitions used for this study.

Table 8: Comparison of definition of reason for exit to MSD exit codes

MSD exit reason code	Exit reason (trigger) used in this report: Age > 65	Death	Overseas	In detention	Full-time study	Part-time study	Training course	Employment	Other: Partner	Other: Earn >= $1,260	Other: Earn $100 - $1,260	Other: Earn < $100	Total
Age 65	5,532	-	9	-	-	-	-	-	-	-	12	162	**5,715**
Death	-	2,352	9	-	-	-	-	-	-	9	-	198	**2,568**
Overseas	27	-	5,955	-	15	9	-	144	18	27	48	693	**6,936**
Detention	-	-	-	3,558	9	-	-	45	-	15	15	402	**4,044**
Education	-	-	72	27	5,973	1,071	27	117	21	30	156	1,032	**8,526**
Employment	33	9	954	132	1,275	867	1,662	48,354	288	4,374	3,402	6,633	**67,983**
Not eligible (medical)	-	-	-	-	-	-	-	12	-	-	-	18	**30**
Not eligible (obligations)	24	33	882	564	399	153	132	4,698	171	720	1,080	5,937	**14,793**
Not eligible (partner)	-	-	108	9	201	96	27	507	5,049	117	-	-	**6,114**
Not eligible (other circumstances)	-	-	18	27	36	12	-	81	9	12	48	420	**663**
Not grouped	6	60	135	63	78	45	42	1,074	84	279	318	1,668	**3,852**
Transfer	204	-	45	24	618	114	12	207	84	42	63	759	**2,172**
Other	27	21	387	108	186	99	93	2,427	213	534	531	3,123	**7,749**
Total	**5,853**	**2,475**	**8,574**	**4,512**	**8,790**	**2,466**	**1,995**	**57,666**	**5,937**	**6,159**	**5,673**	**21,045**	**131,145**

Activities

The 'activity' concept appears several times in this report, for instance Table 3, Figure 16, Figure 17 and Figure 24. Activities are defined similarly to triggers, with the main distinction being that we can track activities over time (subject to data availability). Activities are defined for people in each of the 18 months after their exit month. The activities we have assigned in the table below are hierarchical. This means, for example, if someone was enrolled in a part-time tertiary education course and also had gross earnings of $1,260 or above during the month then they will have an activity of 'part time student' and not 'employment'.

Table 9: Activities after exit benefit

Activity	Abbreviation	Assigned of a person
Dead	Death	Dies in this month or any prior month
Aged 65+ years	Age > 65 years	Is aged greater than or equal to 65 years at the end the month.
Receiving a main benefit	On benefit	Receives a main benefit during the month
Overseas	Overseas	Spends at least 14 days overseas during this month
In detention	In detention	Spends 14 days or more in remand or prison during the month
In a targeted/industry training course	Training course	Is enrolled in a targeted or industry training course during the month
In a full-time tertiary course	Full-time student	Is enrolled in a formal tertiary education course for which they are studying full-time during the month
In a part-time tertiary course	Part-time student	Is enrolled in a tertiary education course for which they are studying part-time in the month
Employment	Employment	Has gross earnings of $1,260 or more during the month
Paid Parental Leave or ACC weekly compensation	Other income	Has paid parental leave or ACC weekly compensation payments of $1,260 or more during the month
In partnership	Partnered	Identified as having a partner in Working for Families tax data during the month
Employed with earnings ≥ $100 but less than $1,260	Employed: Earns $100 – $1,260	Does not fall into any of the above trigger groups, and has gross earnings of $100 or more during the month
Nil employment	Nil employment	Does not fall into any of the above trigger groups, and has gross earnings of less than $100 during the month

Impact of data refresh and code changes on 2013/14 results

The IDI refreshes regularly and this can cause small changes to the outcomes of prior analysis due to small differences in results from the matching algorithm or backdated changes to the datasets provided.

We have also made some improvements to the trigger definitions as discussed in the Exits and Triggers section above.

To enable comparison to the 2010/11 and 2013/14 cohorts, we have rerun the analysis for these cohorts on the refreshed datasets and included changes in our definitions. Table 10 below compares the number of off-benefit transitions from the earlier report for the 2013/14 cohort to the results from the refreshed dataset.

Table 10: Impact of data refresh and definition changes on 2013/14 cohort

	Count of Exits		Proportion of Exits		
Exit Reason	2018 MSD report	This report	2018 MSD report	This report	Change
Death	2,385	2,394	2%	2%	-0.1%
Reached age 65+	7,875	6,102	6%	4%	-1.7%
Overseas	8,271	10,335	6%	7%	0.9%
In detention	3,348	3,771	3%	3%	0.1%
Started a targeted/ industry training course	2,076	2,283	2%	2%	0.0%
Started a full-time tertiary course	9,387	9,852	7%	7%	-0.3%
Started a part-time tertiary course	2,718	2,916	2%	2%	0.0%
Employment	55,476	62,394	42%	43%	1.1%
Other with earnings greater than or equal to $1,260	5,007	6,675	4%	5%	0.8%
Partnered	7,389	7,821	6%	5%	-0.2%
Other with earnings greater than or equal to $100 but less than $1,260	5,511	6,687	4%	5%	0.4%
Other with earnings less than $100	23,985	24,822	18%	17%	-1.0%
Total	**133,428**	**146,052**	**100%**	**100%**	

Ethnicity definition

We have used Stats NZ's ethnicity variable from the personal details table in the IDI. This captures each ethnicity that a person was ever assigned to across all datasets. We have then applied a prioritisation so that each person is only in one ethnicity group. The order of prioritisation is Māori, Pacific Peoples, Asian, Other, New Zealand European.

Appendix 2: Income definitions

Throughout this report there are three main income definitions used:

1. **Employment income:** This is the gross income earned from employment. It includes wages and salaries as well as withholding payments (from Inland Revenue's Employee Monthly Schedule).
2. **Net taxable income:** This includes employment income as well as benefit payments, pensions, paid parental leave, student allowance and ACC payments. This value is net of PAYE tax but does not include any end of year tax refund or payment. These are all derived from Inland Revenue's Employee Monthly Schedule.
3. **Net total income:** This includes net taxable income and the following non-taxable payments:
    - Accommodation Supplement
    - Temporary Additional Support
    - Other Tier 2 benefits
    - Other Tier 3 benefits
    - Income-related rent subsidy
    - Working for Families Tax Credits. These are approximate only – payment records are spread evenly over each calendar month to which they apply and do not include any end of tax year adjustment.

Excluding self-employment earnings

We do not include earnings from self-employment filed as part of an annual tax return in the definitions above. We are unable to reliably allocate annual self-employment income by month to align with the other income data (from companies, partnerships, sole traders and rent).

To understand how much this might impact our analysis, we have done a simple check to see how many people in our exit cohort in 2015/16 had filed an annual tax return for one of the two tax years that covers 1 April 2015 to 31 March 2017. This period will ensure we capture everyone who declared income on their annual tax return at the time or shortly after they exited benefit, but it could also include those who declared income up to 21 months after exit or up to 15 months before exit. We include those people that earned both positive income (profits) and negative income (losses).

We found the following proportions of people who exited benefits in 2015/16 declared income on their annual tax return during the period 1 April 2015 to 31 March 2017:

- 10% of people whose exit trigger was 'other with earnings less than $100'
- 3% of people whose exit trigger was 'employment' or 'other earnings >= $1,260 per week'
- 3% those who exited benefits with any of the remaining trigger reasons.

These figures provide a rough upper limit on the true proportion of people who declared annual income in the period near their exit from benefit.

Appendix 3: Mental health and addiction services

Defining mental health and addiction service access in the IDI

We have used a modified version of the definition of mental health and addiction service acess developed in the following paper:

Social Investment Agency 2019. *Using integrated data to understand mental health and addiction conditions.* Technical Guide. Wellington, New Zealand.

The definition seeks to identify people that have accessed support for mental health or addiction reasons in a given time period. Specifically this includes people who:

- accessed specialist mental health or addiction services
- were discharged from hospital with a mental health diagnosis recorded
- dispensed pharamaceuticals deemed to be mental health conditions or addiction related
- had a mental health condition, intellectual disability or addiction reason coded as their main reason for reduced capacity to work on their medical certificate for benefit support.

The SIA definition also includes people that had a laboratory test deemed to be for a mental health condition or addiction. At the time of doing this analysis, we did not have access to this data, and as such have not included this in the definition we use. The SIA identified very few people with laboratory tests related to mental health and addiction that were not already captured in the other four parts of the definition. As such, excluding this fifth part of the definition will not have a material impact on our analysis.

The spectrum of need as represented by the data

- Mental health exists over a spectrum, and people can experience different severity of symptoms over the course of their lifetime.
- People who were identified as having accessed mental health or addiction services could appear in one or multiple datasets. Some of the datasets by their nature represent a greater likelihood of severe mental ill health or addiction (eg hospitalisation for a mental health condition or addiction).
- The SIA definition identifies nearly 700,000 people who accessed some form of support in 2014. Within this group, there are different experiences of need, with a smaller number accessing multiple levels of support and other groups only accessing one support (usually pharmaceuticals).

What this definition does not show

This definition does not show true underlying Mental Health and Addictions need. It only shows those who have accessed MHA services.

The true lifetime prevalence rates[28] of mental illness are high. For example, Moffitt et al. (2009) reported a lifetime prevalence of any anxiety disorder of around half of their cohort by age 32 years. The 12-month prevalence of any anxiety disorder was approximately 20%.[29].

The SIA note that: "*The total number of individuals in the available datasets who have accessed mental health and addiction services or treatments in 2014 is just under 700,000. This equates to 15.5% of New Zealand's 2014 estimated resident population (4.51 million). Comparing this to the Te Hinengaro 2006 12-month prevalence figure of 20.7% we likely have not identified all individuals with an MHA condition."* (Social Investment Agency, 2019)

Service access does not provide a complete picture of need

The IDI data shows people who have accessed a service or have had a service made available to them. People with unmet mental health needs, however, are not easily identified in IDI. Research suggests that only a minority of people with a diagnosable mental disorder receive treatment for their condition[30,31], suggesting there is potentially a large group of people with need that have not been captured by our analysis.

Impact of mental health experienced by individuals

Neuropsychiatric conditions account for approximately one fifth of the health loss experienced by the population[32]. However, individual's experience of mental health and the impact on their lives varies significantly.

Our analysis goes some way to understanding the differential outcomes experienced by people that have accessed support for mental health or addiction reasons, but does not show causation between mental health status and wider outcomes, particularly at an individual level. It does, however, enable us to better understand the wider supports people receiving a main benefit who have a mental health condition may need.

[28] The proportion of people who have experienced some form of mental illness at any point in their life to date

[29] Moffitt TE, Caspi A, Taylor A, et al. How common are common mental disorders? Evidence that lifetime prevalence rates are doubled by prospective versus retrospective ascertainment. *Psychological Medicine* 2009; 40(6): 899-909.

[30] McManus S, Bebbington P, Jenkins R, Brugha T, editors. Mental Health and Wellbeing in England: Adult Psychiatric Morbidity Survey 2014. Leeds: NHS Digital; 2016.

[31] Andrews G, Henderson S, editors. Unmet need in psychiatry: problems, resources, responses. Cambridge: Cambridge University Press; 2000.

[32] Ministry of Health. 2016. Health Loss in New Zealand 1990–2013: A report from the New Zealand Burden of Diseases, Injuries and Risk Factors Study. Wellington: Ministry of Health.