Social Policy Evaluation and Research Unit

superu

Off-benefit transitions: Where do people go?

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Taylor Fry

Our purpose

The purpose of the Social Policy Evaluation and Research Unit (Superu) is to increase the use of evidence by people across the social sector so that they can make better decisions – about funding, policies or services – to improve the lives of New Zealanders and New Zealand's communities, families and whānau.

Taylor Fry Pty Ltd
Consulting Actuaries &
Analytics Professionals

ACN 087 047 809
ABN 29 087 047 809
www.taylorfry.com.au

Sydney
Level 11, 55 Clarence Street
Sydney NSW 2000
P +61 2 9249 2900
F +61 2 9249 2999

Melbourne
Level 6, 52 Collins Street
Melbourne VIC 3000
P +61 3 9658 2333
F +61 3 9658 2344

Wellington
Level 16, 157 Lambton Quay
Wellington 6011
P 04 462 4009

Superu
PO Box 2839
Wellington 6140

Telephone: 04 917 7040
Email: enquiries@superu.govt.nz
Website: superu.govt.nz

Follow us on Twitter: @nzfamilies
Like us on Facebook: Social Policy Evaluation and Research Unit

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Superu commissioned Taylor Fry to complete this research. Opinions expressed are those of Taylor Fry.

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Executive summary

Taylor Fry were commissioned by Superu to look at where people go when they move off benefit in New Zealand. We used the linked administrative datasets available on Statistics New Zealand's Integrated Data Infrastructure (IDI) to examine the characteristics of, and outcomes for people who move off a benefit.

We looked at people who moved off a benefit from the 1 July 2010 to the 30 June 2011

Over the study period, approximately 160,000 people moved off a benefit. We are most interested in those who had been receiving benefits for some time. Therefore we selected the 140,000 people who had been in receipt of a benefit for at least three months. We chose July 2010 to June 2011 inclusive as the study period because this was before the implementation of the Government's substantial 2012/13 welfare reforms, which means these results could provide a useful baseline for examining post-reform behaviour.

Going to employment was the most common reason for people moving off benefit

Our analysis found 38% of those who transitioned off benefit left to start employment. Eleven percent left to commence an education course (part – or full-time tertiary, or training) and 15% in total left due to a change in life circumstances – they moved overseas (6%), retired (5%), entered detention (3%) or died (2%). We could not identify from the IDI a clear reason for exit for the remainder (approximately a third of people who left benefit). When we cross-referenced with Ministry of Social Development (MSD) data, we found that about a third of this group were no longer eligible for benefits (e.g. because of a change in family circumstances or they failed to meet their obligations), and another third had reportedly left to take up employment or go overseas, but there was no record of this activity on the IDI.

Rates of leaving benefit and reason for exit differed by benefit type

We found that rates of leaving benefit and reason for exit differed by benefit type. Those receiving (what is now known as) 'Jobseeker Support – Work Ready' had the highest rate of people exiting (93% per annum), followed by those receiving Emergency Benefit (72%), and 'Jobseeker Support – Health Condition, Injury or Disability' (43%). Those receiving 'Supported Living Payment – Health Condition, Injury or Disability' were the least likely to exit benefits, with only 10% per annum of these beneficiaries transitioning off benefits.

Those receiving Jobseeker Support – Work Ready (JSWR) were most likely to transition into employment (41% of people on a JSWR benefit transitioned to employment), followed by those receiving Emergency Benefit (24%), Jobseeker Support – Health Condition, Injury or Disability (14%) and Sole Parent Support (8%).

Those receiving Jobseeker Support – Health Condition, Injury or Disability (JHD) had a comparatively high transition rate into detention (3%). Further investigation shows that approximately 25% of the transitions to detention from JHD were by those whose incapacity type was coded by MSD as 'substance abuse', and that the transition rate for these people was around 10%. Around 40% of the transitions to detention from JHD had an incapacity type indicating a mental health issue.

The people with the highest rates of exiting benefits were men, young people, Asian and Pacific peoples, and people who had less history with the benefit system

Overall, the highest rates of exit from benefits were for males (with a 54% annual exit rate), younger people (ages 16–29: 65%), Asian and Pacific peoples (47%), and people who had less history with the benefits system (three to six months in the current benefit spell at the time of exit: 108%). By comparison, the overall population exit rate was 42%.

The highest transition rates into employment were for younger people, males, people of European descent, people who had less history with the benefits system, and people who had significant recent work experience prior to transition. The highest transition rates into education were for younger people, males, Māori, migrants, and people from the Bay of Plenty, East Coast, Waikato and Wellington regions.

The highest transition rates into other activities – i.e. a robust data-sourced reason could not be found for their transition – were for younger people, males, Pacific peoples, and people from the Bay of Plenty, Auckland and Wellington regions.

The highest transition rates into detention were for younger people (aged between 18 and 39 years), males, Māori, people who have had greater recent contact with the detention system, and people who have had less recent employment. Seventy percent of the transitions into detention were for people who already had spells in detention over the past five years.

After 24 months most people were in substantial employment, back on benefits, or in an unknown activity with very low income

Twenty-four months after moving off benefit, most people were in substantial employment (30%), back on benefits (25%) or in an unknown activity with monthly employment earnings/income of less than $100 (18%).

Those most likely to be employed after 24 months were those whose reason for exit was to start employment, followed by those who left to attend education. Those who left to enter detention were least likely to be employed 24 months after transitioning from benefit, followed by those for whom a clear exit reason could not be identified from the data and who had no (or very low) employment income immediately afterwards.

Those most likely to return to benefit after 24 months were those whose reason for exit was to enter detention, followed by those who commenced a full-time or part-time tertiary course, and those for whom a clear exit reason could not be identified from the data and who had no (or very low) employment income immediately afterwards. Those who left to go overseas were the least likely to have returned to benefit after 24 months, followed by those who left to start employment, and those who enrolled in a training course.

Proportions in substantial employment or back on benefits stabilise after 12 months

Approximately 39% of people who transitioned off benefit were in substantial employment during their first month of no benefit receipt. This proportion gradually declined to around 30% after 12 months and then remained stable. Most people who did not remain employed returned to benefits. Around 25% of transitions off benefits returned to benefits after 12 months – that proportion stayed almost constant through to 24 months.

Education outcomes are one area for more analysis

Of those who leave benefits to take up tertiary education, 34% return to benefits at 24 months. This is the highest proportion by reason for exit except for Detention. Only 24% are in substantial employment at 24 months. However, these figures do not take account of the characteristics of those beneficiaries who leave to take up tertiary education, whether they completed the course or the level of education achievement. For instance, they are likely to be younger than average and may have other characteristics that put them at an increased risk of poor outcomes. So we cannot conclude that leaving benefits to take up education is itself a risk factor for poor outcomes. Further investigation about the effectiveness of different types of education programmes, which assist people into employment, is needed to understand what may be driving this result.

Benefit, employment and Child, Youth and Family service histories, as well as age, were risk factors for returning to benefit

Regression analysis revealed that durations of current and any previous benefit spells were strong risk factors for returning to benefit, with longer durations implying a greater risk of returning to benefits.

For those that left to take up employment, the risk of returning to a benefit was reduced for people that had been employed in the 24 months prior to transition and had a relatively high employment income immediately after moving off a benefit. This suggests that beneficiaries' familiarity with being in the workforce and the quality of the post-transition employment are important in achieving sustained post-exit employment.

Youth, those close to retirement age (65 years) and those with previous interactions with Child, Youth and Family services were at a greater risk of being back on benefits. Of those who left benefits for employment, 15% had previous interactions with CYF (21% for those who leave for Other reasons).

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Introduction

Key points

- This report looks at where people go when they move off benefit in New Zealand.
- It builds on earlier analysis that used linked administrative data, by using the expanded datasets available on Statistics New Zealand's Integrated Data Infrastructure (IDI).
- It examines transitions made from July 2010 to June 2011 – prior to major changes to New Zealand's welfare system – and so provides a useful baseline for examining post-reform behaviour.

2.1_ Context

The Social Policy Evaluation and Research Unit (Superu) manages the Ministerial Social Sector Research Fund. The purpose of this Fund is to provide Ministers with quality, commissioned research to inform decision-making. Superu received a request from Ministers to examine where people go when they move off benefit. Specifically:

- **What types of transitions off benefit occur?**
- **What are the characteristics of the individuals associated with different types of transitions?**
- **Have transition patterns changed over time?**

Superu commissioned Taylor Fry to conduct this analysis. We have used Statistics New Zealand's Integrated Data Infrastructure (IDI) to identify people who transitioned off benefit and track what they did over the next two years.

This report sets out the analysis that we have carried out to address the first two of the research questions. Legislative reforms made to the welfare system beginning from September 2012 and data limitations have meant that we could not respond fully to the third question. However, the intent is that this report will form a baseline for subsequent analysis of more recent behaviour.

2.2_ Previous analysis

A number of previous studies have looked at off-benefit transitions in New Zealand. Prior to 2004, these relied either on data collected in benefit administration systems or on specialist client surveys undertaken for programme evaluation purposes. In 2004 early prototypes of the Linked Employer-Employee Database (LEED) became available for research projects. LEED was a longitudinal dataset that provided comprehensive national data on taxable income payments from April 1999 onwards. LEED separately identified employee earnings and income received from social welfare benefits, enabling analysis of individuals' transitions between employment states and onto and off benefits, as well as their transitions between employers.

Hyslop, Stillman and Crichton (2004)[1] used LEED to compare off-benefit rates with in-employment rates for those who transition off benefit. They found that off-benefit rates are typically 85%–90% over the 18 months after a transition off benefit, compared with in-employment rates of around 55%–60%, suggesting that being 'off benefit' may be a poor measure of a successful benefit-to-work transition. Note that the differences in definitions and study populations make these figures difficult to compare with our work, although the general interpretation still holds. Hyslop et al also looked at the impact of demographic factors, previous employment experiences and benefit duration on post-benefit employment outcomes. In general, they found that being female, having longer benefit duration and having less previous employment experience all contributed to poorer post-benefit employment outcomes.

In 2006, Dixon and Crichton[2] used LEED to look at the longer-term outcomes of people who move from a working-age benefit to employment. They observed those who had made a benefit-to-work transition during 2001/02 for two years before and after the transition.

Dixon and Crichton found that people who transitioned off benefit to employment remained employed and off benefits for much of the post-transition period (72% on average for the first year and 61% for the second). Again, definitional differences make these figures hard to compare with our work but they are generally consistent. Part-time or part-month employment was common. At any given time approximately one-third of those in employment had part-time or part-month earnings, with the remaining third having full-time or full-month earnings. More than half received some further benefit income during the two years after the transition.

Dixon and Crichton's analysis of the factors associated with successful outcomes for people moving from a benefit to employment suggested that personal characteristics, prior employment experience, the timing and nature of the transition, and the characteristics of post-transition employers all played some role. However, the analysis did not allow them to fully distinguish between associative and causal effects.

Stillman and Hyslop (2006)[3] performed complementary research using LEED on benefit-to-work transitions over the period April 1999 to September 2004. Stillman and Hyslop's major findings were that:

- 25–39 year old women had lower employment rates and benefit receipt rates both before and after their benefit spell.
- 15–24 year olds and 55–69 year olds had characteristics quite different from prime-age individuals (25–54 year olds):
  - Youth had much shorter benefit spells, and were much more likely to transition to employment than other age groups.
  - Older individuals had much longer benefit spells, were unlikely to work while on benefits or after leaving benefits, and were much less likely to transition to employment. Older people were also much more likely to have no source of income, and less likely to be receiving benefits before the start of the benefit spell, than prime-age beneficiaries.

1 Hyslop, D., Stillman, S., & Crichton, S. (2004). *The Impact of Employment Experiences and Benefit-Spell Duration on Benefit-to-Work Transitions*. Statistics New Zealand, Wellington.
2 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, Wellington.
3 Stillman, S., & Hyslop, S. (2006). *Examining Benefit-to-Work Transitions Using Statistics New Zealand's Linked Employer-Employee Data*. Statistics New Zealand, Wellington.

- For all demographic groups, longer benefit spells were associated with a lower likelihood of being off benefits in the months after completing the current benefit spell, even after controlling for differences in the characteristics of individuals who experience longer versus shorter benefit spells.

At the time of both these studies LEED did not contain information on benefit type, so researchers were not able to distinguish between the benefit-to-work transitions of, for example, a beneficiary receiving an unemployment benefit and a beneficiary receiving a sickness benefit. In the intervening years, Statistics New Zealand has developed the IDI, which links a number of government agencies' administrative datasets, including LEED.

This report is able to add to the body of literature on New Zealand off-benefit transitions by using the substantially broader datasets available on the IDI, compared to LEED. The IDI contains more information about where people go when they leave a benefit (for example, LEED contains no information on education, emigration, detention sentences, or deaths) and information on the benefit type transitioned from, as well as additional years of data up to 2014 – almost 10 years more than was available for any of the papers discussed in this section.

2.3_ Timeframe, definitions and method

For this report, we have chosen to discuss the results first, in sections 3 to 6, followed by a detailed description of the data and method in section 7. The purpose of this introductory section 2.3 is to give the reader enough appreciation of the method to understand the results without reading section 7.

2.3.1 _ Timeframe

Few analyses of benefit transition patterns over time would be entirely free of distortions such as changes to the welfare system, or changes in labour market conditions, but there were two significant events that we attempted to avoid for our baseline analysis. These events are the Global Financial Crisis (GFC) from September 2008, and the series of significant reforms to the welfare system from September 2012. Our base study period, which comprises transitions occurring from July 2010 through to June 2011, was selected because it sits between these two events.

In order to understand what happens to people after they transition off benefit, we have analysed their activities over the two years following the base study period. We considered that for a comparison with another cohort over a different period to be informative, that other period (consisting of a period of transitions plus a post-transition analysis period of one or two years) would need to be either entirely before the GFC or entirely after the 2012/13 welfare reforms. Data limitations in the Education datasets on the IDI meant that only periods between 2007 and 2013 could be used. Therefore we have not attempted to examine how transitions off benefit and post-transition behaviour have changed over time.

2.3.2 _ Benefits

We have restricted our attention to the six main income support benefits. These benefit types are referred to with a two – or three-letter abbreviation code outlined in the table below:

TABLE 2-1
Benefit abbreviations

Post-reform benefit	Post-reform[4] code	Pre-reform benefit	Pre-reform code
Jobseeker Support – Work Ready (includes Youth Payment)	JWR	Unemployment Benefit (includes Independent Youth Benefit and DPB with youngest child over 13 years old)	UB
Jobseeker Support – Health Condition, Injury or Disability	JHD	Sickness Benefit	SB
Sole Parent Support (includes Young Parent Payment)	SPS	Domestic Purposes Benefit (only with youngest child aged 13 or younger) and Widow's Benefit	DPB
Supported Living Payment – Health Condition, Injury or Disability	SLH	Invalid's Benefit	IB
Supported Living Payment – Carer	SLC	Part of DPB – 'Caregivers of the Sick and Infirm'[5]	CSI
Emergency Benefit	EMB	Emergency Benefit	EMB

2.3.3 _ Study population

Over the study period, approximately 160,000 people transitioned off benefit. We are most interested in those who had been receiving benefits for some time. Therefore our analysis is restricted to those who transitioned off benefit between 1 July 2010 and 30 June 2011 after being in receipt of a benefit for at least three months: a group of approximately 140,000 people. We refer to this group of 140,000 as our 'study population'. For context, in the month of June 2011 approximately 335,000 working-aged New Zealanders were receiving one of the six main benefits examined in this report, and had been receiving it for at least three consecutive months.

4 'Pre-reform' and 'post-reform' refer to the 2013 benefit reforms. Although our analysis period is before the 2013 reforms, we refer to different benefit types by their post-reform codes.

5 This is not a separate benefit, but we have separated carers from those with an underlying health condition, as we expect behaviour to be different.

2.3.4 _ Triggers and activities

Definitions

To answer the research questions, we have developed the concepts of **transition**, **trigger** and **activity**:

- A **transition** off benefit is when a person who was in receipt of one of the main benefits has a full calendar month in which they do not receive one of the main benefits.
- **Trigger** is used to mean the reason people leave a benefit, insofar as we can infer this from the available data.
- **Activity** is used to mean what people do in a particular month after they transition off benefit.

The different triggers and activities discussed in the report are shown in Table 2-2 below.

TABLE 2-2
Triggers and activities

Trigger	Activity
Death	Dead
Retirement	Retired
	Benefits
Overseas	Overseas
Detention	Detention
Training	Training
Tertiary full-time	Tertiary full-time
Tertiary part-time	Tertiary part-time
Employment	Substantial employment
Other some income	Less substantial employment
Other very low income	Unknown

We give precise definitions for the triggers and activities in Table 7-1 and Table 7-2. Most of the definitions are straightforward. So that the reader can follow the results without the detail, we briefly describe some of the categories:

- **Triggers**
  - *Employment*: the individual moved to post-transition monthly employment income of at least $1,180 (equivalent to 20 hours per week for four weeks at the Minimum Wage – see section 7.8.2 for an explanation of why we used $1,180) and had an increase in monthly employment income from pre – to post-transition
  - *Other some income*: we could not infer the reason for the individual's transition directly from the data but they had a post-transition monthly employment income of $100 or more
  - *Other very low income*: we could not infer the reason for the individual's transition directly from the data but they had a post-transition monthly employment income less than $100

- **Activities**
  - *Substantial employment*: the individual had monthly employment income of at least $1,180
  - *Less substantial employment*: the individual had monthly employment income of at least $100 but less than $1,180
  - *Unknown*: an activity could not be inferred from the data and the individual had monthly employment income of less than $100.

The other important aspect of the trigger and activity definitions is that they are hierarchical, applied in the descending order as shown in Table 2-2. For instance, if someone meets the definition for a trigger of *Detention*, they are not considered for definitions lower in the table. We have adopted this approach to deal with people who potentially have multiple reasons for transitioning off benefit or are involved in several activities in any month post-transition. We do not believe it has a great deal of influence on the results, for reasons discussed in section 7.8.1.

Terminology

Where the terms in Table 2-2 are used in this report they will be shown in *italics* to make it clear that they have a precise definition.

The three education-related triggers/activities (*Training*, *Tertiary full-time*, and *Tertiary part-time*) are occasionally referred to collectively as *Education*, while the two 'Other' triggers (*Other some income* and *Other very little income*) are occasionally referred to collectively as *Other*. Additionally, the two employment activities (*Substantial employment* and *Less substantial employment*) are occasionally referred to as *Employment*.

It is worth noting that *Detention* refers to Corrections-managed prison and remand spells, but not community sentences, as these do not usually result in the cancellation of a benefit.

Illustration

Most triggers and activities have a one-to-one correspondence, as shown in the table above, so that for most people their trigger is consistent with their post-trigger activity in the first month post-transition. For instance, someone who has a trigger of *Employment* will have an activity in the first month of *Substantial employment*. One exception to this is the *Other some income* trigger. People leaving benefits via this trigger may be classified as being in the *Substantial employmen*t trigger group in their first month off benefits, or *Less substantial employment*. The former would occur if their gross income during the first month off benefits exceeded $1,180 but was not higher than their income pre-exit, while the latter would occur if the same income was between $100 and $1,180 (regardless of how it compares to pre-exit income). Another exception is that the activity *Benefit*s (i.e. a person has returned to a benefit) does not have a corresponding trigger.

However, many different combinations of trigger and activity are possible for subsequent months. For instance, someone may have left to take up employment (so their trigger is *Employment*) but in a given month they may be overseas (so their activity for that month is *Overseas*), or back on *Benefits* or another activity. Understanding the developing patterns of trigger and activity over the months after the transition off benefit is one of the aims of this report.

2.4_ Appendices and code

This report documents some of the main results of our analysis. In addition to the appendices attached to this report, we have also produced a set of electronic appendices (which can be downloaded in Excel format at superu.govt.nz) and a number of SAS programs used to prepare the data. The electronic appendices contain all of the tables and graphs used in the body of this report, and a wide variety of others. Some of the graphs are interactive so that the user can examine people's post-transition activities for any combination of benefit and trigger. The SAS data preparation code reproduces the dataset on which this analysis is based, from a number of core IDI tables. The analysis dataset includes a wider variety of beneficiary characteristics in addition to those described in this report. Other researchers may find this a useful research resource. A full description of the data and methods used is provided in section 7.

03

Why did people move off benefit?

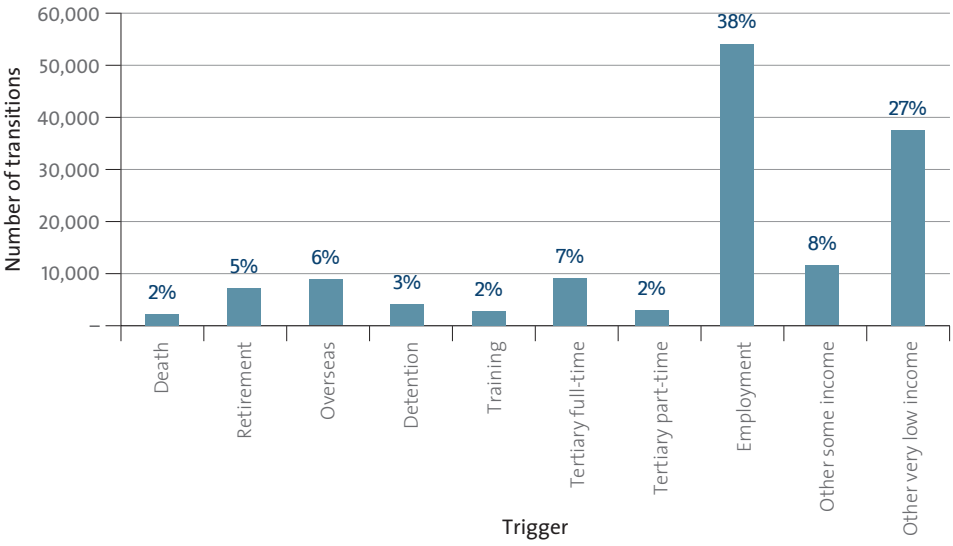
3.1_ Why did people move off benefit?

Key points

- *Employment* was the most common reason for exit (38%), followed by starting an *Education* course (11%).
- Fifteen percent of leavers left due to a change in life circumstances (*Death*, *Retirement*, *Overseas*) or *Detention*.
- For a third of leavers, we could not identify a reason for exit from the data but we have used a Ministry of Social Development (MSD) 'reason for exit' code to understand something more about this group. About one-third of this group (12%) were no longer eligible for a benefit and another third (14%) reportedly left to take up employment or go overseas, but there is no record in the IDI of such activity.

Figure 3-1 outlines the numbers and proportions of people leaving benefit by trigger type.

Figure 3-1 _ Distribution of triggers



We could identify a reason for exit for 65% of people (all triggers excluding *Other*) who left benefit during the 12-month study period. About half of these people left for the purpose of taking up *Employment* (38%) or to start an *Education* course (11% – *Training*, *Tertiary full-time* and *Tertiary part-time* combined). A further 13% left due to a change in life circumstances i.e. *Death*, *Retirement* or going *Overseas*, and 3% left to move into *Detention*.

For the remaining 35%, we could not identify a clear trigger using data on the IDI:

- Three-quarters of this group (27% of the study population) left and had no, or almost no, employment income in the month after leaving (*Other very low income*).
- The remaining quarter (8% of the study population) left and had some employment income (more than $100) in the month afterwards (*Other some income*). However, in many cases that income was still very low: 57% of these leavers had monthly income of less than $1,180.

MSD-recorded data on 'reason for exit' (see section 7) suggests that around one-third of this group (12%) moved off benefit because they were no longer eligible for a benefit, mainly because they re-partnered or because their health status no longer met eligibility criteria. A further third (14%) are recorded by MSD as having left for the purpose of employment or to go overseas. This raises the possibility that we have categorised such transitions incorrectly, but there is no record in the IDI of immediate subsequent employment or overseas trips in these cases. We prefer to place more reliance on the IDI data than the MSD 'reason for exit' code, as the latter may be a statement of intent rather than eventuality and has no independent means of verification.

Due to data limitations, we were not able to reliably infer when someone had moved off benefit to become self-employed. However, the available data suggests that the number doing so is small. Of the 35% with no clear trigger, approximately 1% reported self-employed income for the 2011/12 tax year.

3.2_ How do the patterns differ by benefit type?

Key points

- Both transition rates and reasons for exiting benefits differed by benefit type.
- JWR had the highest proportion of people exiting, followed by EMB and JHD. SLH had the lowest proportion.
- JWR had the highest rate of transition into *Employment* (41%), followed by EMB (24%), JHD (14%) and SPS (8%).
- JHD had the highest transition rate to *Detention*.

3.2.1 _ Transition rates off benefit

As noted in the Introduction, previous work on off-benefit transitions in New Zealand did not have the data to analyse whether people's off-benefit reasons differed by benefit type. We were able to use the IDI to do so. Table 3-1 highlights the key transition statistics by benefit types. Transition rates are calculated as the number of exits divided by the average number of people who received a benefit in any month in the study period. They allow proper comparisons between benefit types to be made because they take proper account of the number of people on benefit.

TABLE 3-1
Triggers and activities

	Benefit transitioned from						Total
	EMB	JHD	JWR	SLC	SLH	SPS	
Average number of beneficiaries	4,821	59,895	88,882	6,898	89,027	90,805	340,328
Transitions	3,459	25,905	82,245	1,407	8,901	20,145	142,062
Transition rate (pa)	**72%**	**43%**	**93%**	**20%**	**10%**	**22%**	**42%**

The benefit types with the most recipients were SPS, SLH, JWR and JHD. In terms of transitions rates, JWR (93%), EMB (72%) and JHD (43%) had lots of people exiting in comparison to the number on benefit, whilst SLH had very few (10%).

3.2.2 _ Analysis by benefit type and trigger

Table 3-2 below divides the headline transition rates detailed in Table 3-1 by each of the trigger types.

TABLE 3-2
Transition rates by benefit type and trigger

Trigger	Benefit transitioned from						Total
	EMB	JHD	JWR	SLC	SLH	SPS	
	%						
Death	0.8	0.5	0.2	0.3	2.1	0.1	**0.7**
Retirement	17.1	2.0	2.0	1.3	3.7	0.0	**2.1**
Overseas	3.3	3.1	5.8	2.1	0.3	1.5	**2.6**
Detention	2.6	2.7	2.0	0.3	0.4	0.4	**1.3**
Training	0.9	0.4	2.6	0.1	0.0	0.2	**0.8**
Tertiary full-time	2.3	3.3	7.5	1.0	0.0	0.6	**2.8**
Tertiary part-time	1.0	1.0	2.4	0.4	0.0	0.5	**1.0**
Employment	24.5	13.6	41.1	5.5	0.7	8.1	**15.9**
Other some income	6.4	2.9	8.1	1.7	0.3	2.4	**3.5**
Other very low income	12.9	13.7	20.9	7.7	2.4	8.4	**11.1**
Total	**71.8**	**43.3**	**92.5**	**20.4**	**10.0**	**22.2**	**41.7**

Not surprisingly, JWR had a higher rate of transition into *Employment* (41%) than EMB (24%), JHD (14%) and SPS (8%). Other benefit types were even lower. JWR also had the highest combined transition rate into the three *Education* triggers.

JHD and EMB had high transition rates to *Detention* (each 3%), followed by JWR (2%). While we could not make a direct comparison, it is highly likely that this was higher than the general population's rate of transition to *Detention*[6]. Further investigation shows that approximately 25% of the transitions to *Detention* from JHD were of people whose incapacity type was coded by MSD as 'Substance abuse', and that the transition rate for these people was around 10%. Around 40% of the transitions to *Detention* from JHD had an incapacity type indicating a mental health issue. The prevalence of mental health issues among the prison population was discussed in Simpson et al.[7]

JHD also had the next highest combined rate after JWR of the three *Education* triggers, but a much lower rate into *Training* courses specifically (0.4% for JHD compared with 2.5% for JWR).

SLH had a low overall transition rate off benefit, with most people leaving due to *Retirement* or *Death* (4% and 2%). The high *Death* and *Retirement* rates are not surprising given that people receiving SLH have been assessed as permanently and severely restricted in their ability to work, and generally have no work obligations (subject to occasional re-assessments), and thus typically remain on the benefit for long periods of time, in many cases until retirement. There were relatively few transitions due to *Employment*. Both *Other* transitions may represent people who become ineligible for the benefit after some time due to a re-assessment adding work obligations if it is found that there is some capacity for work.

EMB had the highest rate of exit to *Retirement* (17%).

While the data did not allow for analysis of age of youngest child for SPS recipients, the overall rate of transition into *Employment* (8%) was quite low. It is worth noting that subsequent to the study period, SPS benefit recipients have been subject to increased work requirements. Moving off a benefit for reasons unknown (*Other some income* and *Other very low income*) was also common for SPS. MSD data on exits from benefit suggest that around half of these leavers became ineligible due to re-partnering.

It should be noted that this analysis is descriptive in nature. It does not allow one to draw conclusions about the influence of the structure and obligations of different benefit types as distinct from the characteristics of people who receive those benefits – the different transition rates are the result of both types of influence.

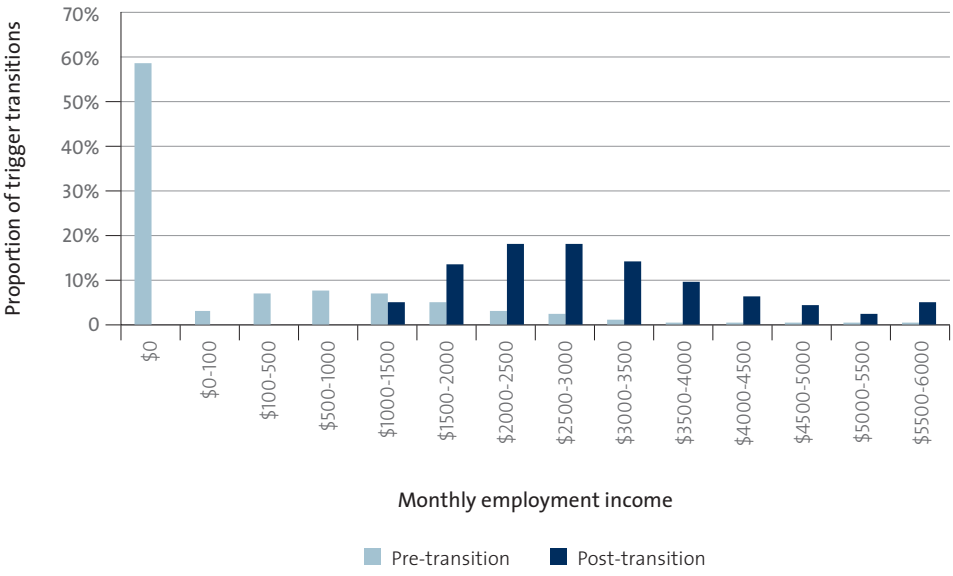
3.3_ Employment income distributions before and after transition

Finally in this section, we examine the levels of employment income in the month immediately before, and the month immediately after transition, for two groups of people: those who leave to take up *Employment* and those who leave for *Other* reasons – i.e. those for whom we could not identify a clear exit trigger. Throughout this report, 'Employment income' means 'Wages and salary' as recorded by the Inland Revenue Department (IRD) in Employer Monthly Schedules.

6 The total number of transitions into detention by JHD were around 4,300, compared to a total prison population (as at 30 June 2012) of approximately 8,600 (Source: Statistics New Zealand, NZ Official Yearbook). Additionally, New Zealand's general incarceration rate at May 2011 was around 0.2% (Source: Clayworth, P. 'Prisons – New Zealand's prisons', *Te Ara – The Encyclopedia of New Zealand*, updated 20 April 2016).

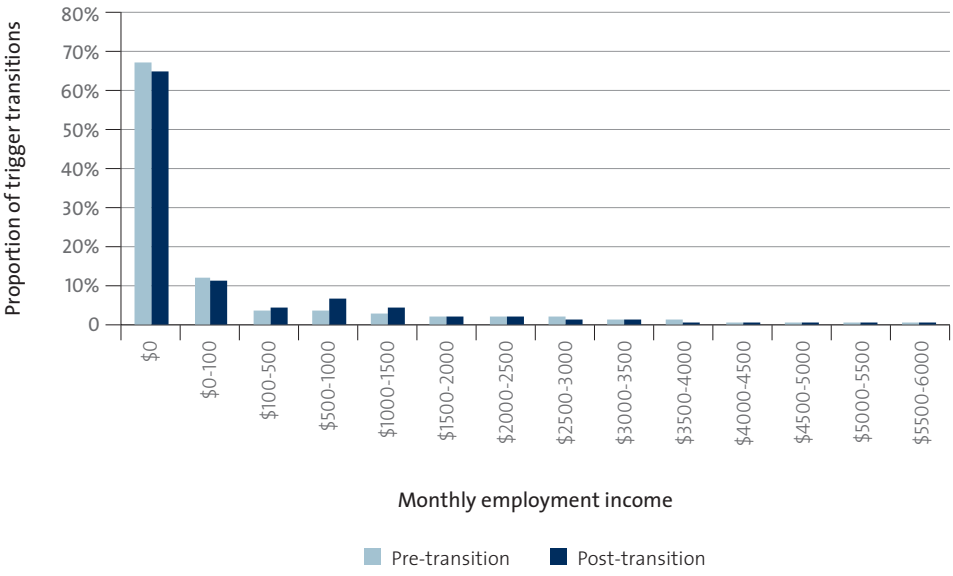
7 Simpson, A.I.F., Brinded, P.M.J, Laidlaw, T.M., Fairley, N., Malcolm, F. (1999). *The National Study of Psychiatric Morbidity In New Zealand Prisons*. Department of Corrections, Wellington.

Figure 3-2 _ Income distribution for the *Employment* trigger



The effect of employment is clear: people move from low or no pre-transition employment income to a post-transition employment income with a distribution that peaks between $2,000 and $3,000 per month. Post-transition, approximately 62% of people have monthly employment income of $2,500 or more. Working full-time at the Minimum Wage would give a monthly income of approximately $2,360.

Figure 3-3_ Income distribution for both *Other* triggers combined



In contrast, the income distribution for those with the *Other* triggers hardly moves at all between pre – and post-transition. Notice that there is a higher proportion of *Other* transitions with low pre-transition income than for *Employment* transitions.

04

What sorts of people leave and how does this differ by reason for leaving?

Key points

- The highest transition rates into *Employment* were for younger people, males, people of European descent, people who had less history with the benefits system, and people who had significant recent work experience prior to transition.
- The highest transition rates into *Education* were for younger people, males, Māori, migrants, and people from the Bay of Plenty, East Coast, Waikato and Wellington regions.
- The highest transition rates into *Other* (i.e. a robust data-sourced reason could not be found for their transition) were for younger people, males, Pacific peoples, and people from the Bay of Plenty, Auckland and Wellington regions.
- The highest transition rates into *Detention* came from younger people (aged between 18–39 years), males, Māori, people who had had greater recent contact with the detention system, and people who had less recent employment. Seventy percent of the transitions into Detention were of people who already had spells in *Detention* over the past five years.

In this section, we focus on the characteristics of people who left benefit for the three main exit triggers, that is:

- people who left for *Employment*
- people who left for *Education* (*Training*, *Tertiary full-time*, and *Tertiary part-time*), and
- people who left for *Other* reasons with no, or almost no, income.

We also briefly consider those who leave for Detention, as it is of interest. Tables showing the distributions for various characteristics, for all the trigger types, can be found in the electronic appendices.

The results are presented as one-way transition rates ('transition rate' is defined in section 3.2.1). We use transition rates since they properly account for the number of people receiving benefits. For instance, there are 32,000 male transitions into *Employment* but only 23,000 female. Is this because males are more likely to exit to *Employment* or because there are more males receiving benefits? The transition rate into *Employment* for males is 22% while for females it is 12%. So males are much more likely to transition to *Employment* than females. However, care should still be taken in interpreting the results since one-way comparisons do not take account of other characteristics – for instance, transition rates into *Employment* are much higher for those who have been on benefit for short durations rather than long. Is this because there are more males who have been receiving benefits for short durations, or is the duration effect additional to the gender effect? The answers to questions of this sort require a multi-dimensional regression analysis that takes into account the effects of all beneficiary characteristics (including benefit type) simultaneously. Such an analysis is outside the scope of this project.

Because of this limitation, we have kept the discussion brief, focusing on some of the more important elements.

4.1_ People who leave for *Employment*

The average transition rate into *Employment* for the study population was 15.9%. Transition rates into *Employment* were highest for males (21.6% compared to 11.7% for females), and for younger people – for example, those aged between 18 and 29 had an average transition rate into *Employment* of 25.1%. New Zealanders of European descent had higher *Employment* transition rates than the study population as a whole, and Asians lower (17.8% and 12.6% respectively). There was also some regional variation: the Southland, East Coast, Bay of Plenty and Nelson regions had higher *Employment* transition rates than the study population, and the Northland and Auckland regions lower.

There is a strong relationship between the length of welfare receipt and transition rates into *Employment* – people with shorter welfare histories had significantly higher transition rates. For example, the transition rate for people with a benefit spell duration of three to six months at the time of transition is 49.7%.

As expected, strong relationships were also observed between *Employment* transition rates and recent employment history characteristics. People who spent a large proportion of time in employment during the two years prior to transition had higher observed *Employment* transition rates, and vice versa. For example, those with between 19 and 24 months of employment had an average transition rate of 42.2%. In addition, for those beneficiaries who had any form of employment income during the year prior to transition, the higher their average income was over that period, the higher the observed *Employment* transition rate. For example, people who earned an average of $2,000 or more during the months that they worked in the year prior to transition had an average *Employment* transition rate of 68.5%.

The overall picture is that the highest transition rates into *Employment* were for younger people, males, people of European descent, people who had less history with the benefits system, and people who were more likely to have had significant recent work experience.

Table 4-1 shows where transition rates deviate most from the study population average, for people who leave benefits for reasons of *Employment*. The electronic appendices contain several more detailed transition rate tables.

TABLE 4-1

Key transition rates by characteristic for *Employment* leavers

Characteristic	*Employment* transition rates	
Gender	**Male**	**Female**
	21.6%	11.7%
Age	**18–29**	**50–65**
	25.1%	8.3%
Ethnicity	**NZ EU**	**Asian**
	17.8%	12.6%
Months employed in the 2 years before transition	**0–3**	**19–24**
	5.5%	42.2%
Average employment earnings in the year prior to transition	**<$500**	**>$2,000**
	6.4%	68.5%
Region	**Southland East Coast Bay of Plenty Nelson**	**Northland Auckland**
	21.0%	13.2%
Months of continuous benefit receipt prior to transition	**3–6**	**60+**
	49.7%	10.7%
Population average	**15.9%**	

4.2 People who leave for *Education*

The average transition rates into *Training*, *Tertiary full-time* and *Tertiary part-time* were 0.8%, 2.8%, and 1.0% respectively – totalling 4.6% for all three *Education* triggers. The highest transition rates into *Education* came from the younger age groups in the population. Sixteen to 19 year olds had a 4.2% transition rate into *Training*, an 11.6% transition rate into *Tertiary full-time*, and a 2.7% transition rate into *Tertiary part-time*. Europeans had a lower transition rate into *Tertiary full-time* (1.9%) compared with Māori (3.3%).

As with *Employment*, there is a strong relationship between the length of welfare receipt and transition rates into *Education* – people with shorter welfare histories had significantly higher transition rates. For example, the transition rate for people with a benefit spell duration of three to six months at the time of transition is 13.0%.

Males had notably higher transition rates than females into both *Training* and *Tertiary full-time* (1.1% and 3.5%), but the transition rates into *Tertiary part-time* for the two genders were similar.

In terms of regional variation, Auckland, Canterbury and Wellington had lower than average transition rates into *Training*. The highest transition rates into both *Tertiary full-time* and *Tertiary part-time* came from Auckland, Bay of Plenty, Waikato and Wellington, while the lowest came from Canterbury and Nelson. Broadly, regions with universities tended to have somewhat higher transition rates into *Tertiary full-time* and *Tertiary part-time*; however, this wasn't true for the Southern and Canterbury regions.

The overall picture is that the highest transition rates into *Education* were for younger people, males, Māori, and people from the Bay of Plenty, East Coast, Waikato and Wellington regions.

Table 4-2 shows where transition rates deviate most from the population average, for people who leave benefits for reasons of *Education*. As with other tables in this section, the electronic appendices contain significantly more detail.

TABLE 4-2

Key transition rates by characteristic for *Education* leavers

Characteristic	*Education* transition rates	
Gender	**Male** 5.7%	**Female** 3.7%
Age	**16–24** 12.6%	**50–65** 1.0%
Ethnicity	**Māori** 5.5%	**NZ EU** 3.4%
Region	**Auckland** **Bay of Plenty** **Waikato** **Wellington** 5.0%	**Canterbury** **Nelson** 3.3%
Months of continuous benefit receipt prior to transition	**3–6** 13.0%	**60+** 0.5%
Population average	**4.6%**	

4.3 People who leave for *Other* reasons

The average transition rate into *Other* was 14.5%. Transition rates were higher for males (17.8%), the young (23.4% for those aged 19–29) and those with short benefit spell durations (33.0% for duration three to six months). There is minor regional and ethnic variation.

Transition rates for both of the *Other* triggers varied significantly across recent employment history characteristics. Transition rates into *Other* where average income in the year prior to transition was less than $500 were 11.7%, compared to 29.2% for average earnings above $2,000.

Table 4-3 shows where transition rates deviate most from the population average, for people who leave benefits for *Other* reasons. As with other tables in this section, the electronic appendices contain significantly more detail.

TABLE 4-3

Key transition rates by characteristic for *Other* leavers

Characteristic	*Other* transition rates	
Gender	**Male** 17.8%	**Female** 12.1%
Age	**18–29** 23.4%	**50–65** 7.8%
Ethnicity	**Pacific** 18.1%	**NZ EU** 13.3%
Months employed in the 2 years before transition	**0–3** 11.5%	**19–24** 17.1%
Average employment earnings in the year prior to transition	**<$500** 11.7%	**>$2,000** 29.2%
Months of continuous benefit receipt prior to transition	**3–6** 33.0%	**60+** 3.4%
Population average	**14.5%**	

4.4 People who leave for *Detention*

Transition rates into *Detention* were significantly higher for males and people aged between 18 and 39 (males have a transition rate of 2.6%, while the combined transition rate for ages 18 to 29 is 2.1%, compared to the population average of 1.3%). Transition rates were significantly higher for Māori and lower for Asians (2.2% and 0.3% respectively compared to the population average of 1.3%). Transition rates into *Detention* were also lower for people with a higher proportion of time worked in the two years prior to transition (combined rate of 0.9% for those who worked between seven and 24 months, compared to the population average of 1.3%).

Finally, transition rates into *Detention* were significantly higher for people who had been subject to previous detention in the five years prior to transition (the combined transition rate for people with five or more months spent in detention during the five years prior to transition was 24.1%, compared to the population average of 1.3%). In fact, 70% of transitions to *Detention* were from people who had already had time in *Detention* in the last five years.

Table 4-4 shows where transition rates deviate most from the population average, for people who leave benefits to begin a *Detention* spell. As with other tables in this section, the electronic appendices contain significantly more detail.

TABLE 4-4

Key transition rates by characteristic for *Detention* leavers

Characteristic	*Detention* transition rates	
Gender	**Male** 2.6%	**Female** 0.2%
Age	**18–29** 2.1%	**50–65** 0.3%
Ethnicity	**Māori** 2.2%	**Asian** 0.3%
Months employed in the 2 years before transition	**0–6** 1.4%	**7–24** 0.9%
Months spent in detention in the 5 years before transition	**0** 0.4%	**5–60** 24.1%
Population average	**1.3%**	

05

What do people do after they have left and where do they end up?

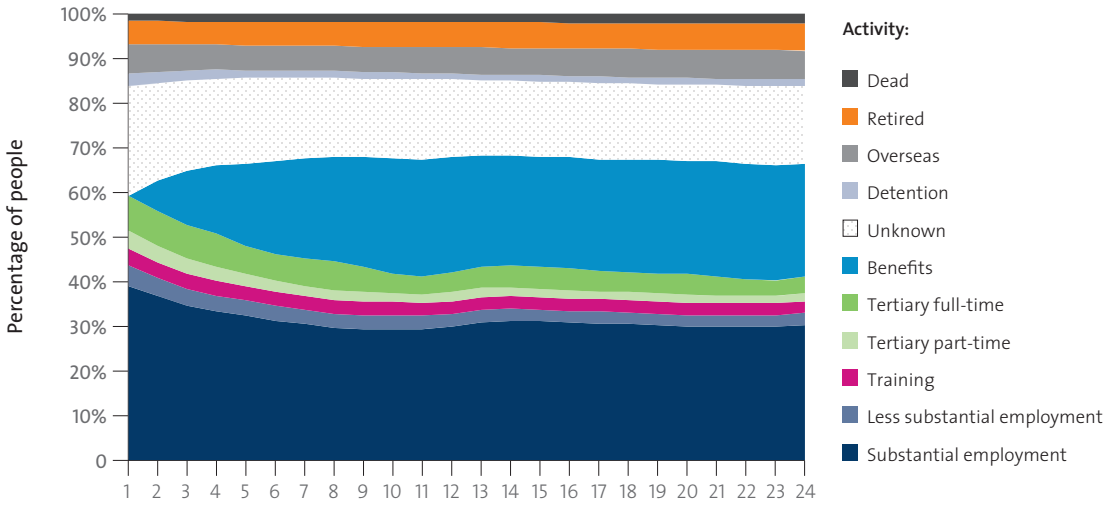
Key points

- Twenty-four months after moving off benefit, most people were in *Substantial Employment* (30%), back on *Benefits* (25%), or in an *Unknown* activity with monthly employment income (as observed by the IDI) of less than $100 (18%).
- There was considerable change in the type of activity over the first 12 months after moving off benefit, but little change between 12 and 24 months. In particular, the proportion returning to *Benefits* grows quickly to 25% after approximately one year.
- Being in *Employment* after 24 months was most likely if a person's trigger was *Employment*. This was followed by the *Other* triggers, and then the *Education* triggers. The *Detention* trigger was the trigger least likely to be associated with being in *Employment* after 24 months (excluding *Death* and *Age*).
- Returning to *Benefits* was most likely for those whose trigger was *Detention*, followed by *Tertiary full-time* and *Tertiary part-time*, and those who left for *Other* very low income reasons. Returning to *Benefits* was least likely for those who left to go *Overseas*, followed by those who left for *Employment*, and those who enrolled in a *Training* course.

5.1_ Overall patterns

Figure 5-1 shows the proportions of people in each activity group over 24 months following their off-benefit transition.

Figure 5-1 _ Activities over time



Approximately 39% of people who transitioned off benefit were in *Substantial employment* during their first month of no benefit receipt. This proportion gradually declined to around 30% after 12 months and then remained stable. Most people who did not remain employed returned to *Benefits*. Around 25% of transitions off benefits returned to *Benefits* after 12 months – this held almost constant through to 24 months.

A total of 16% of people who transitioned were studying in either a tertiary course (*Tertiary full-time* or *Tertiary part-time*) or a *Training* course during their first month of no benefit receipt. Like *Substantial employment*, this proportion also gradually declined over time to around 9% after 12 months (declining slightly further to 8% after 24 months). It is probable that some of this group were finishing their *Education* courses and then moving into *Employment*, and that others returned to *Benefits* after either finishing their course or not completing their studies.

The proportion of people who showed no signs of any defined activity after transition (e.g. *Overseas*, *Detention* or *Education*) and had employment income of less than $100 in each month (*Unknown*) stayed relatively constant (declining from an initial 24% to 17% by month 12, and then plateauing through to month 24).

Finally, there is a small increase in the proportion of people in *Substantial employment* around months 12 to 14 and perhaps again at months 23 and 24. We suspect that this increase is due to seasonal workers regaining employment after a year. However, it has proved exceptionally difficult to isolate the various different types of seasonal workers, and to characterise this group as one of them.

5.2_ Churn between activities

After around 12 months, the proportions of the study population in each activity were very stable – this result broadly held across most combinations of triggers and benefits. However, although the proportions of people in each activity were stable, there was still a moderate amount of churn with individuals moving between activities. To give some idea of the magnitude of this movement, Table 5-1 shows the proportions of people at 12 and 24 months post-transition who had been in the same activity category for the last three months.

TABLE 5-1

Proportion of people in each activity category who have been in that category for the last 3 months

Activity	Months after transition	
	12	24
	%	
Dead	98	98
Retired	98	99
Benefits	83	88
Overseas	81	83
Detention	79	82
Training	83	83
Tertiary full-time	61	66
Tertiary part-time	64	66
Substantial employment	81	83
Less substantial employment	24	24
Unknown	79	80

Table 5-1 shows that, although there is moderate churn for most activity types except *Tertiary full-time* and *Tertiary part-time* (high) and *Less substantial employment* (very high), it is reasonable to regard people's activity in a single month as reflective of their activity in the surrounding months.

5.3_ How long-term activity differs according to reason for leaving and benefit type

The detailed picture of how benefit type and reason for leaving a benefit influenced what people did after leaving benefits is relatively complicated. To make sense of the broad picture, in this section of the report we concentrate on what people were doing at 24 months post-transition and, in particular, the proportions of people ending up in the major categories of interest, namely being in *Substantial employment* (with monthly income of at least $1,180), and returning to *Benefits*.

Employed with substantial income

Table 5-2 shows the proportions of people who were in Substantial employment at 24 months by benefit type and trigger.

TABLE 5-2

Proportions in *Substantial Employment* at 24 months by benefit and trigger

Trigger	Benefit transitioned from						Total
	EMB	JHD	JWR	SLC	SLH	SPS	
	%						
Overseas	11	9	16	6	5	10	**13**
Detention	7	7	10	0	0	4	**7**
Training	29	33	34	0	38	38	**34**
Tertiary full-time	27	18	24	25	40	24	**23**
Tertiary part-time	41	23	29	0	23	36	**29**
Employment	46	48	50	54	45	53	**50**
Other some income	42	37	41	40	36	39	**40**
Other very low income	13	13	19	14	3	10	**15**
Total	**24**	**25**	**35**	**25**	**5**	**30**	**30**

On average, 30% of those transitioning off benefit were in *Substantial employment* (income over $1,180) at 24 months. As expected, those who leave benefit to go into *Employment* were the most likely to be in *Substantial employment* (50%) at 24 months. Those who left for *Other* reasons but had some employment income in month 1 (*Other some income*) also have high levels of *Substantial employment* at 24 months (40%), suggesting that this group may not have been very different from those who have been classified as leaving due to *Employment*. Those who left for *Detention* were the least likely to be in *Substantial employment* in month 24 (only 7%) – for context, 28% of the group who left for *Detention* were in *Detention* in month 24.

These employment outcomes for those leaving benefits to take up *Education* are markedly better than for people who leave for *Other very low income* reasons; however, they are worse than for those who leave to take up *Employment* directly. The chances of being employed for people who leave for *Tertiary full-time* or *Tertiary part-time* are markedly worse than for those with a *Training* trigger. However, this is not the whole story for *Education*, as Table 5-3 below shows that those who leave benefits to take up *Tertiary full-time* or *Tertiary part-time* are more likely to return to *Benefits* than people who transition for any other reason except *Detention*. It may be that the outcomes for *Education* would be different if we analysed post-transition behaviour over a longer period, although the shape of Figure 5-4 and Figure 5-5 suggests that they are starting to level off at the 24-month point.

Table 5-2 also shows the proportion of people who were in *Substantial employment* by the benefit type that they were on pre-transition. EMB, SLH and SLC have very small numbers. Of the remaining benefit types, the figures for individual trigger types are not very different, suggesting that, for instance, the outcomes for those who leave to take up *Employment* are not very different for different benefit types. The main feature of this table is that outcomes for those receiving JHD are a little worse than for JWR and SPS, which may reflect ongoing health conditions for some.

There is a large amount of variation in overall outcomes across the benefit types. This reflects a different distribution of reasons for exit within each benefit. For example, the largest percentage of people leaving benefits for reasons of *Employment* come from JWR – a significant factor in explaining why the largest percentage of people who are in *Substantial employment* 24 months later also come from JWR.

Returning to benefit receipt

Table 5-3 shows the proportions of people who had returned to a benefit after 24 months by benefit type and trigger. This table only relates to people who are receiving benefits 24 months after their initial off-benefit transition. Some of the study population may have returned to a benefit earlier than this, and then transitioned off again (and thus are not on benefits at month 24) – such cases do not contribute to the figures below.

TABLE 5-3

Proportions on *Benefits* at 24 months by benefit and trigger

Trigger	Benefit transitioned from						Total
	EMB	JHD	JWR	SLC	SLH	SPS	
	%						
Overseas	23	28	16	23	42	25	**21**
Detention	44	57	48	67	71	64	**55**
Training	29	27	27	0	0	35	**27**
Tertiary full-time	27	42	32	33	20	33	**34**
Tertiary part-time	18	39	31	33	31	32	**32**
Employment	28	26	21	20	34	25	**23**
Other some income	24	28	24	23	29	27	**25**
Other very low income	24	32	28	23	23	36	**30**
Total	**20**	**30**	**24**	**22**	**13**	**30**	**25**

On average, 25% of those transitioning off benefits had returned after 24 months. Those who left to go Overseas were least likely to return to *Benefits*. As expected, those who left benefit to go into *Employment* were also less likely than average to return to *Benefits* after 24 months. Those who leave for *Detention* and *Other very low income* reasons are the most likely to return to *Benefits*.

Those who left benefits to go into *Detention* were very likely (e.g. 57% for JHD) to return to *Benefits*, irrespective of which benefit they were receiving pre-transition. Of the two benefits that contribute most to the transitions into *Detention*, more from JHD returned to *Benefits* than those from JWR. Combining this insight with those from section 3.2.2, we can see that people who transitioned from JHD were more likely to end up in *Detention*, and their subsequent outcomes were worse than for people transitioning from JWR.

People transitioning from JHD and SPS were more likely than for other benefit types to return to *Benefits*. SLC and EMB were least likely to return to *Benefits*. After 24 months, the majority of SLC clients were either in *Substantial employment* (26%), or *Unknown* (24%). As highlighted earlier, a large proportion of EMB clients had aged out of the benefit system (*Retired*) after two months (26%).

Combining Table 3-1 and Table 5-3, we can characterise the different benefit types in terms of both rate of transition off benefit and rate of return to *Benefits*, as shown in Table 5-4 below.

TABLE 5-4

Benefit types in terms of rates of transition off benefit and return to *Benefits*

Rate of transition off benefit	Rate of return to *Benefits*	
	Low	High
Low	SLC, SLH	SPS
High	EMB, JWR	JHD

Although heavily simplified, Table 5-4 highlights the difficulty in staying off a benefit for people receiving a SPS benefit (a low rate of exit but a high rate of return) and JHD benefit (high churn generally).

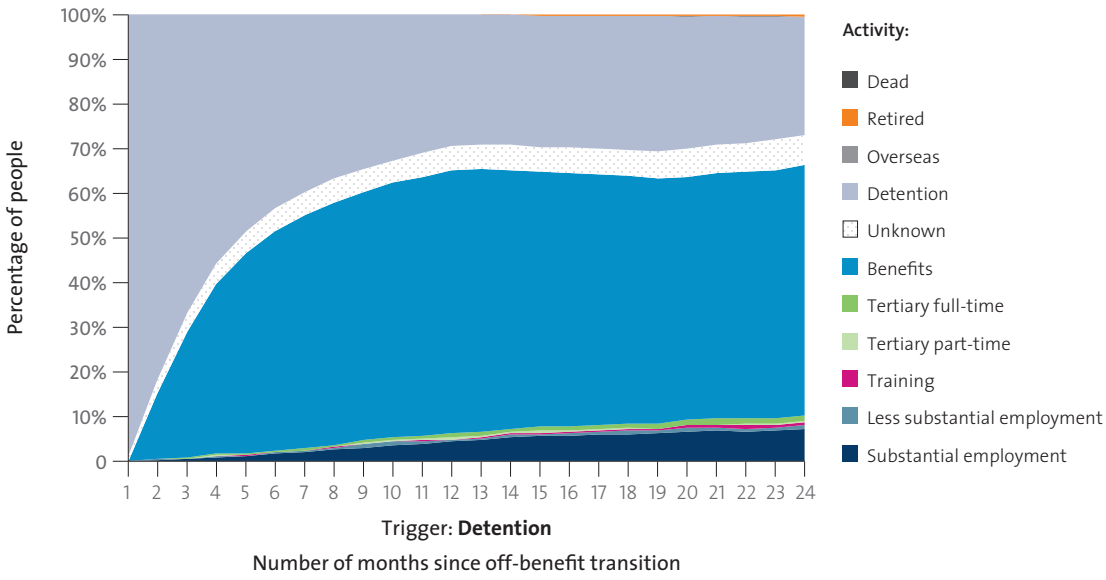
5.4_ Patterns over time for different triggers

This section examines post-transition activities over time in more detail for combinations of triggers and for those leaver groups who have particular features of interest. All combinations are available in the electronic appendices spreadsheet – including by individual benefit types.

Trigger: *Detention*

Figure 5-2 shows activities over 24 months for the 3% of people who left benefits to begin a Corrections-managed prison or remand spell (*Detention*).

Figure 5-2 _ Activities over time for *Detention* trigger (all benefits)



Trigger: **Detention**

Number of months since off-benefit transition

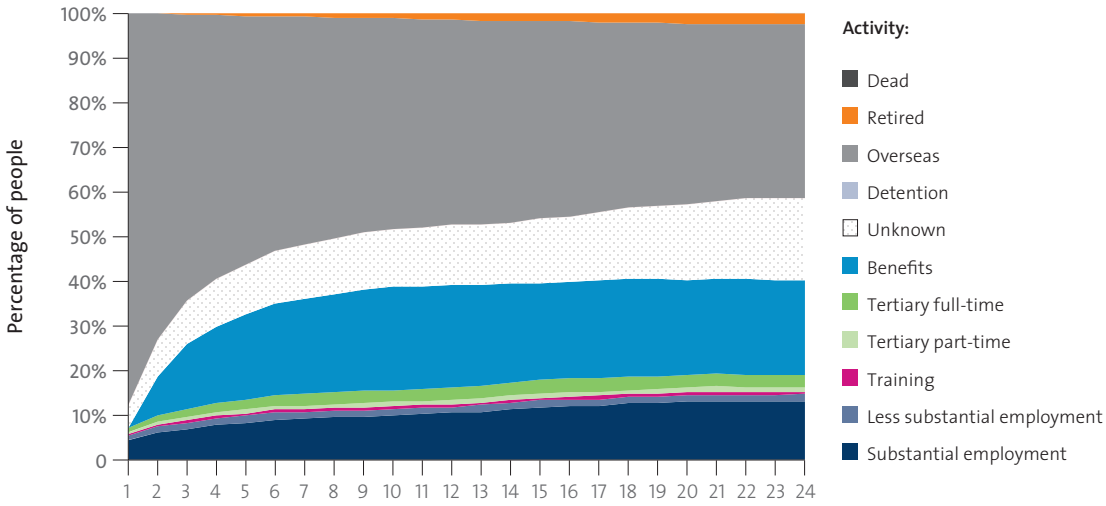
The decline in the percentage of people still in *Detention* after moving off a benefit is determined by the distribution of sentence length, as well as any modifications made to sentence length e.g. for good behaviour.

It appears that the large majority of people who finish their Corrections-managed *Detention* sentences return to *Benefits* immediately – two smaller groups end up in *Substantial employment* and *Unknown*.

Trigger: *Overseas*

Figure 5-3 shows activities over 24 months for the 6% of people who left benefits to go *Overseas*.

Figure 5-3 _ Activities over time for *Overseas* trigger (all benefits)

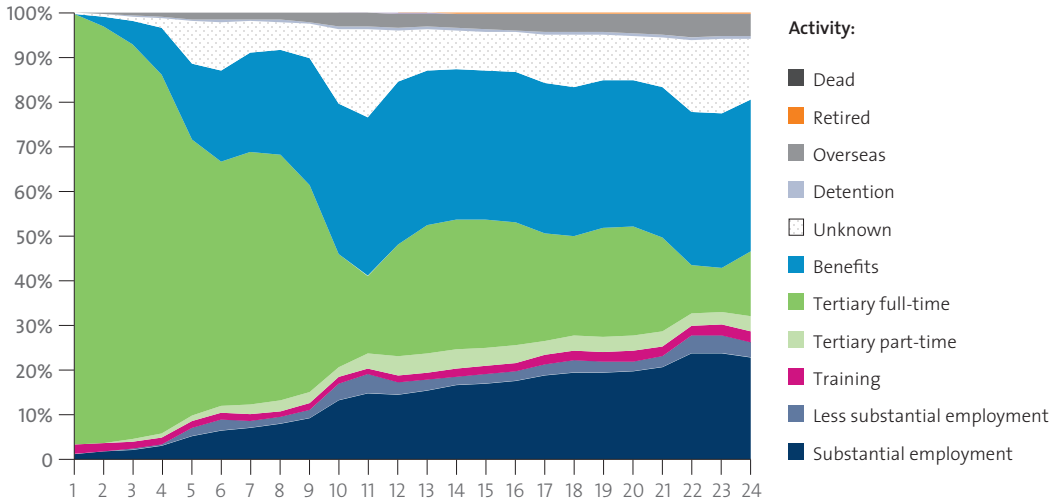


Of those who left benefits due to leaving the country, 12% returned during month 1, and subsequent activities were mostly split between *Substantial employment* and *Unknown*. By month 24, around 60% of this group had returned to New Zealand, making the remaining 40% potential longer-term emigrations. Most who returned during the first nine months or so returned to *Benefits*.

Trigger: *Tertiary full-time*

Figure 5-4 shows activities over 24 months for the 7% of people who initially left benefits to take up a *Tertiary full-time* education course.

Figure 5-4 _ Activities over time for *Tertiary full-time* trigger (all benefits)



Trigger: **Tertiary full-time**

Number of months since off-benefit transition

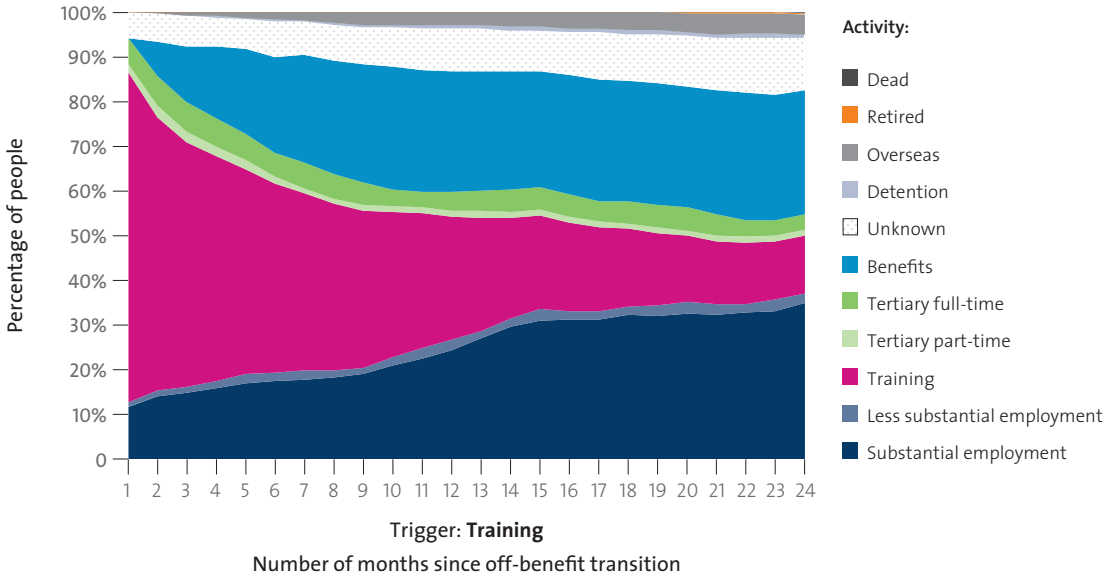
Of those who left benefits due to the commencement of a *Tertiary full-time* course, only a small number were still studying 24 months later. This may imply that most of the courses were relatively short or that some of these people did not complete the full course. Just under half of the 80% of people who ceased studying or training over the 24-month period returned to *Benefits*. Only around 23% went on to *Substantial employment*.

One of the more interesting features of this particular graph is the seasonal (and temporary) transfers between *Tertiary full-time* and *Unknown* – these appear approximately every six months, which likely corresponds to university breaks between semesters. The breaks around months 6 and 12 are also where the largest jumps in people returning to *Benefits* occur.

Trigger: *Training*

Two percent of people left benefits to begin a *Training* education course.

Figure 5-5 _ Activities over time for *Training* trigger (all benefits)



Trigger: **Training**

Number of months since off-benefit transition

Of those who left benefits for a *Training* course, only 74% were still studying in a *Training* course during month 1. This percentage continues to decline over the 24-month observation period. Most people who left *Training* courses in the first nine months appeared to return to *Benefits*. After nine months, the proportion of people ending up in *Substantial employment* started to grow more rapidly. This may suggest that a large proportion of people leaving *Training* courses within nine months of them starting are not completing the course, or if they are, these courses are not very effective at helping people to find *Substantial employment* after completion.

06

Risk factors for moving back on benefit

Key points

- The durations of both the current and any previous benefits spell are strong risk factors, with longer durations implying a greater risk of being back on *Benefits* compared with being in *Employment*.
- The more months employed in the 24 months prior to transition and, for the *Employment* trigger, the higher the immediate post-transition employment income, the lower the risk of being back on *Benefits*.
- Youth were at a greater risk of being back on *Benefits*.
- Those with previous interactions with Child, Youth and Family (CYF) were also at a greater risk of being back on *Benefits*. Of those who left *Benefits* for *Employment*, 15% had previous interactions with CYF (21% for those who left for *Other* reasons).

6.1 Introduction

One of the limitations of the descriptive analysis described up to this point in the report is that the analysis does not attempt to separate the contribution of different factors to the outcomes. To understand these contributions, we have applied regression analysis to the two largest trigger groups: *Employment* and *Other very low income*.

For each of these trigger groups, we have fitted a logistic regression model to distinguish between the characteristics of those who had returned to *Benefits* at 24 months from those who were in *Employment*. People who were not on *Benefits* or in *Employment* at 24 months were not included in the models since we wanted a 'clean comparison' between those in *Employment* and those on *Benefits*.

The intention of the regression analysis is to understand the separate contributions of different risk factors, known at the time of leaving the benefit, to returning to *Benefits* in the longer term, as this may provide useful policy and operational insights. We note, however, that significant changes have been made to the welfare system following the time period under analysis, so this analysis may not be relevant for the post-reform environment.

The risk factors that we included in our analysis were loosely based on the results of machine learning models built on the same data using many different candidate risk factors. In practice, where the machine learning suggested that a group of correlated variables were significant risk factors, we selected one or two representatives from the group. A more detailed modelling process would undoubtedly find other effects in addition to those we have shown here.

Therefore the results in this section should be considered as broad indicators of the contribution of the selected risk factors to the outcome. Note also that, although we use the term 'contribution', the analysis only reveals correlations. Any conclusions on causation would require more detailed analysis and likely a prospective trial.

The models themselves are complex with many different parameters. In our opinion, the easiest way to understand the results is to show the sensitivity of the risk of being back on *Benefits* to changes in the risk factors. We show the sensitivity of moving each risk factor away from a 'base' value for an individual who has all risk factors set to the 'base' values. This individual is called the 'base case'. We have usually selected the 'base; value for each parameter as the one that relates to the largest group of individuals who share it in the model population. For example, the study population has more males than females, thus male is the 'base' gender, and the female risk factor represents the level of risk of a return to *Benefits* that females exhibit, relative to males.

6.2_ *Employment* trigger

For those in the dataset – that is, those who left benefits for the *Employment* trigger – the average probability of being back on *Benefits* at month 24 is 30%. The probability of being back on *Benefits* for the base case is 19%. Table 6-1 shows the base case and how the risk varies for changes in various risk factors. For each risk factor, the base case is the value with a 0% risk factor (e.g. for gender, male is the base case).

TABLE 6-1

Risk factors for being back on *Benefits* for those who left benefit for *Employment*

Risk Factor	Values for risk factors and relative risk (%)				
Duration of current spell (months)	**3** -8%	**5** 0%	**15** 9%	**25** 18%	**35** 23%
Additional total duration (months)	**0** 0%	**5** 18%	**10** 40%	**30** 46%	**90** 67%
Industry worked in during the first month after transition	**H,M,P,R,T,U** 0%	**A,C** 6%	**B,F,G,J,K,L** -15%	**D,I,Q** -25%	**E,N,O,S** -7%
Ethnicity	**NZ European, Asian** 0%	**Māori, Other** 25%	**Pacific** 9%	**Unknown** -25%	
Region	**Auckland, Australia, Central, Nelson, Taranaki, Waikato, Wellington, Other** 0%	**Canterbury** -24%	**East Coast, Bay of Plenty, Northland** 10%	**Southland** 9%	
Employment earnings in the first month after transition	**$1,180** 0%	**$2,000** -11%	**$3,000** -23%	**$4,000** -34%	**$6,000** -43%
Number of CYF events	**0** 0%	**2** 7%	**4** 39%	**6** 72%	**8** 103%
Months employed in the 2 years before transition	**0** 0%	**8** -11%	**12** -30%	**18** -53%	**24** -62%
Overseas trips in the 5 years before transition	**0** 0%	**1** -6%	**3** -18%	**5** -29%	**7** -29%
Benefit before transition	**JWR, SPS, SLC** 0%	**JHD, EMB** 23%	**SLH** 38%		
Age at transition	**18** 79%	**24** 35%	**35** 0%	**45** 8%	**60** 67%
Gender	**Male** 0%	**Female** 8%			
Industry and ethnicity	**A and Asian** 61%	**A and Pacific** 29%	**All other combinations** 0%		
Industry and region	**A and Plenty** 27%	**C and Southland** 52%	**All other combinations** 0%		
Industry and benefit	**A and EMB, JHD** -12%	**All other combinations** 0%			

Note:

1. The 'risk' in Table 6-1 is the relative change in probability of being back on *Benefits*, as opposed to being in *Employment*, during month 24. For some characteristics that can take a large number of values (e.g. both duration characteristic variables), risk factors are displayed only at key selected values rather than every possible value, to give readers a summarised picture of how risk varies across that characteristic. The electronic appendices contain tables from which every possible risk factor for these variables can be derived.
2. The industry code key is given in section 7.10.

There is a great deal of information in Table 6-1. Rather than describe every feature, we give some examples of how to interpret it, and then draw out some of the more interesting features.

Examples of interpretation

Risk increases with the increasing duration of the current spell on benefits. The base case is at five months of duration and those with only three months' duration have an 8% lower risk, while those of 25 months' duration have an 18% higher risk. The total duration of previous spells is an even stronger risk factor. Those with previous spells totalling 10 months have a 40% higher risk than those with no previous spell.

Industry is a significant risk factor. The industry code key is given in section 7.10 for those who want to examine the detail of the industry groups. Those industries in the low-risk group (with a – 25% relative risk) are: Electricity, Gas, Water and Waste Services (D); Transport, Postal and Warehousing (I); and Health Care and Social Assistance (Q).

The number of months with employment income in the last 24 months is a strong risk factor, with those who have more months of income having a decreased risk of returning to *Benefits* (e.g. those with 12 months' employment have a 30% decreased risk). There is a similar relationship with the level of post-transition employment income: higher incomes lead to a lower chance of returning to *Benefits*. These relationships suggest that a person's familiarity with being in the workforce and the quality of their post-transition employment, are both important factors in reducing their risk of returning to a benefit.

Age is a significant risk factor, with those in their mid-thirties having the least risk of returning to *Benefits*. Younger (79% for age 18) and older (67% at age 60) have a much higher risk of returning to *Benefits*.

Finally, we note the strength of the risk factor relating to the number of Child, Youth and Family (CYF) events. There are two types of CYF event:

- **CNP event.** A 'care and protection client intake event' occurs when a person believes a child or young person is being (or is likely to be) harmed, ill-treated, abused, neglected, or deprived and they report the matter to CYF or the Police. CYF also receive reports when there are concerns regarding a child or young person's behaviour, or insecurity of care.
- **YJU event.** A 'youth justice client intake event' occurs when a child or young person is alleged to have committed an offence and the matter is referred by the Police (or other enforcement agency), a Youth Court or a Family Court. Where a child or young person appears before the court, they may also be placed in the custody of CYF following arrest.

People with a high number of CYF events have a much higher risk of returning to *Benefits*. Some caution needs to be exercised here because the CYF data is only available from 1991. This means that some or all of the CYF events of people aged approximately 19 or older will not be recorded in the data. However, we do not think it likely that this missing data changes the overall conclusion that a CYF history is associated with a higher risk. Note that we are not claiming that there is any causality in this relationship (nor in any of the other relationships identified in this paper), but rather that having a CYF history is associated with other (causal) risk factors that result in an increased chance of returning to *Benefits*.

6.3_ *Other very low income* trigger

For those in the *Other very low income* dataset, the average risk of being back on *Benefits* at month 24 is 63%. The risk of being back on *Benefits* for the base case is 47%. Table 6-2 shows the base case and how the risk varies for changes in various risk factors.

TABLE 6-2

Risk factors for being back on *Benefits* for those who left benefit for *Other Very Low Income* reasons in the month after transition

Risk factor	Values for risk factors and relative risk (%)				
Duration of current spell (months)	**3** 0%	**10** 6%	**20** 10%	**50** 10%	**70** 16%
Additional total duration (months)	**0** 0%	**5** 9%	**20** 9%	**50** 14%	**80** 18%
Ethnicity	**NZ European, Asian** 0%	**Māori** 7%	**Pacific, Other** 7%	**Unknown** -13%	
Region	**Auckland, Central, Waikato, Bay of Plenty, Southland** 0%	**Canterbury** -15%	**East Coast, Northland, Wellington, Other** 3%	**Nelson** -7%	**Taranaki** -4%
Number of CYF events	**0** 0%	**1** 3%	**2** 5%	**4** 10%	**6** 13%
Months employed in the 2 years before transition	**0** 0%	**8** -14%	**12** -16%	**18** -27%	**24** -27%
Benefit before transition	**JWR, SLC** 0%	**EMB, SPS** 6%	**JHD** 11%	**SLH** 22%	
Age at transition	**18** 65%	**24** 42%	**35** 0%	**45** 9%	**60** 91%
Gender	**Male** 0%	**Female** 7%			
Gender and CYF event type	**Female and event type is CNP only** 9%	**Female and event type includes YJU** 15%			
Benefit and ethnicity	**JWR and Pacific** -4%				

Note:

The 'risk' in Table 6-2 is the relative change in probability of being back on *Benefits*, as opposed to being in *Employment*, during month 24.

It should be noted that with the exceptions of the 'Industry in first month after transition' and 'Employment earnings in first month after transition' variables, both models included the same sets of parameters. These two variables are specific to the cohort of people who left benefits for *Employment*, and thus are only included in the *Employment* model. Although both models included the 'CYF event type' variable, it was only statistically significant in the *Other very low income* model, thus it does not appear in the risk table for the *Employment* model.

Again, duration for this spell and previous spells is a risk factor, with longer durations meaning a greater likelihood of being on *Benefits*, although the effects are not as strong as for the *Employment* trigger. The ethnicity, regional, months employed in the last 24 months, and gender relationships are similar to those for the *Employment* trigger, although the strength of their effects is, overall, a little weaker. Transitioning off SPS leads to a mildly higher risk. Age shows a similar relationship to the *Employment* trigger, except that there is a markedly higher risk for older people.

Finally, CYF event history is a risk factor common to both triggers, but for the *Other very low income* trigger it is stronger for females, particularly those who have had a YJU event.

6.4_ Implications for resource targeting

Although it was not an explicit purpose of the modelling for this project to develop predictive risk modelling, the model described in section 6.2 suggests that there may be potential in applying predictive risk modelling to those who leave to take up *Employment*. For instance, of the approximately 55,000 people who left to take up *Employment*, the model suggests that approximately 5,000 could have been identified in advance to have more than a 50% probability of being back on *Benefits* at the 24-month point. It might be possible to manage the identified people through their transition to *Employment* and reduce the chances of them returning to *Benefits*. This is a complex area – those who are most at risk of returning to *Benefits* may not be those who respond the most to an increase in management focus and therefore it is not clear that concentrating on this group of people is the best use of limited resources. We raise it as an example of where the analysis in this report might be extended to have more operational value.

6.5_ Key similarities and differences between the outcomes of the *Employment* and *Other very low income* groups

The modelling results show that the two trigger groups behave similarly to one another with respect to the impact of some characteristics on long-term outcomes, and quite differently for others. This section gives an overview of the key similarities and differences.

First, it should be noted that the *Employment* trigger group have better overall outcomes than the *Other very low income* group (where 'better outcomes' is taken to mean a lower proportion of people having returned to a benefit after two years following their off-benefit transition). The average estimated probability of people who exited via the *Employment* trigger returning to *Benefits* two years later, as opposed to being in *Employment*, is 30%. This compares with an equivalent figure of 63% for the *Other very low income* group.

Between the two groups, notable characteristics that have similar impacts include duration on benefits, ethnicity, and age relativities. In both groups, the longer the duration of the current benefit spell, and the longer the lifetime duration spent on benefits, the higher the chance of having returned to *Benefits* two years after transition. As for ethnicity, in both groups Māori and Pacific peoples have relatively worse outcomes than people of European or Asian descent, though the relative differences are much more pronounced for the *Employment* trigger group. With respect to age, both groups show poorer outcomes for the youngest and oldest people in the population, with those aged between roughly 30 and 50 having the lowest rates of returning to *Benefits*.

The two groups share many similarities with respect to the benefit transitioned from (for example, JWR and SLC share the best outcomes, and SLH has the worst), but also many differences. The relative difference in outcomes of JWR and SLH recipients is much more substantial in the *Employment* group than the *Other very low income* group. Reasons for this are likely to include the method of exit – a person transitioning from JWR into *Employment* has a higher chance of maintaining that employment over a two-year period compared to a person exiting from SLH into *Employment*. By comparison, a person exiting benefit via the *Other very low income* trigger has a generally high chance of returning to benefits and a low chance of obtaining eventual employment, with the benefit type being transitioned from having a much smaller impact (see section 5.3). A similar difference occurs between the trigger groups for people exiting from SPS. In the *Employment* trigger group, the difference in outcomes between JWR and SPS exits is negligible, while in the *Other very low income* trigger group, SPS exits perform worse. This may also be related to the method of exit – it is possible that people exiting from SPS in the *Other very low income* group are leaving for quite different reasons (e.g. changes in family/partner/children circumstances) from JWR exits, or that they have different unobserved underlying characteristics, though this cannot be confirmed using the analysis methods in this section.

Another important characteristic with different impacts between the two trigger groups is months employed in the two years prior to transition. For the *Employment* group, the largest improvements in outcomes are achieved for increases in pre-transition months of employment at low levels (for example, large marginal gains are made by going from 0 to 4, or 4 to 8 months of recent employment). For the *Other very low income* group, outcome improvement occurs at the high levels of this variable (between around 18 and 24 months of employment in the two years prior to transition). One possible interpretation of this result is that given an exit to *Employment* has already occurred, the number of months employed prior to transition aren't very significant in predicting outcomes two years later. On the other hand, for people exiting via the *Other very low income* trigger, the more months worked in the two years prior to exit (right up to the maximum possible of 24), then the higher the chance of first obtaining a job, and then retaining it, over the two years post-transition.

07

Data and method

7.1_ The IDI

This project was undertaken using data from Statistics New Zealand's Integrated Data Infrastructure (IDI). The IDI is a data platform that integrates together longitudinal microdata originating from a variety of government ministries, departments and agencies. The data relates primarily to individuals, households and firms.

Every data record stored on the IDI possesses a series of unique identifiers generated by Statistics New Zealand. Those identifiers appear in all data tables. This enables two things. First, it means it is possible to link individuals across each dataset stored on the IDI. Second, it is also possible to create longitudinal time series datasets that contain collections of recorded events occurring over the lives of individuals, and details of their interactions with various government agencies.

Because data stored on the IDI has been contributed by a number of government agencies with differing data recording and retention policies, there is a great deal of variation in the type, quality, and length of history of data available across different datasets. This has a number of implications, discussed in Section 7.4.

7.2_ Overview of method

At the beginning of the project, we undertook exploratory analysis on the IDI in order to make an assessment of the datasets available, and the variables that could be used to identify or describe off-benefit transitions. We used the information derived from this exploratory analysis to:

- select a study population
- establish a collection of probable reasons for why people transition off benefit
- establish a collection of activities that could be tracked for up to two years post-transition.

The study population is described in section 7.5, and the collections of reasons for exit and post-transition activities in sections 7.6 and 7.7.

We used benefit spell data from MSD's Benefit Dynamics Dataset (BDD) to identify off-benefit transitions occurring over the period of interest (July 2010 to end of June 2011). The BDD and various other datasets (detailed below) were individually manipulated to generate a variety of characteristics relating to individuals making transitions, and then merged together to create a comprehensive analysis dataset.

After subjecting each transition to a number of checks to ensure the robustness of the analysis dataset, we assigned each transition a reason for exit. We used descriptive statistics to analyse the different types of off-benefit transitions occurring, and the characteristics of people making them. Post-transition activity patterns and outcomes over 24 months were also analysed using descriptive statistics. A more formal GLM modelling approach, described in section 6.1, was undertaken in order to better describe the differences in individual characteristics that lead to an individual moving back onto a benefit.

7.3_ Datasets used and variable construction

In this project, data stored on the IDI was used to:

- identify off-benefit transitions that occurred during 2010/11
- establish and analyse the probable reason or reasons for these transitions
- generate and assign a variety of characteristics to individuals who make transitions
- describe the activities and longer-term outcomes for individuals over a two-year period after their transition
- conduct supplementary analysis around any of the above where further analysis could reveal insights.

These tasks required the manipulation and linking together of a number of different datasets on the IDI. This section describes the key features of each dataset used, and how it was used.

7.3.1 _ The Benefit Dynamics Dataset (BDD)

We used the BDD primarily to construct a monthly history of benefit receipt for every welfare recipient since 1993. Using this history, we identified off-benefit transitions, and generated several welfare characteristic variables, including the benefit type from which the person transitioned. This data source allowed us to establish basic demographic details of individuals – such as age, gender and ethnic group.

The BDD contains a number of tables, most of which were used in the process of generating the above information. The 'spel', 'dist', 'ptnr', 'chd', and 'incp' tables contain a variety of details relating to each benefit spell dating back as far as 1993. We linked together the information in these tables to establish which months each individual was receiving benefits, and when they were, the benefit type. We used the 'swn' table, which provides static details relating to each person who has ever had a benefit spell, to generate demographic information for the study population.

Section 7.4.1 discusses the structure of the BDD data in further detail, including the way in which it has been processed.

7.3.2 _ Inland Revenue Department tax data

We used tax data from the Inland Revenue Department (IRD) to establish employment as a reason for transitioning off benefits or as a post-transition activity, and also to generate employment-related characteristics such as the number of months worked over the two years prior to transition, income (if any) after transitioning, and characteristics of employer worked for.

We used three data tables to generate this information. First, the Employer Monthly Schedule (EMS) table records, for every employer in New Zealand, income paid to all employees on a monthly basis, alongside a number of corresponding tax deductions (for example, the ACC earners levy deduction). We used this table to establish which months an individual was working in, prior to and after transition, and how much they were earning ('earnings' are defined as gross 'Wages and salary' payments – they do not include the effect of for example ACC levies or tax credits). We generated employer-level characteristics, such as average numbers of employees and total turnover, from this table by aggregating employee-level information.

The second IRD table used was the Customers table, which records various details for every entity that has an IRD number. We used this to obtain the industry (SIC) code for each employer who had employed a member of the study population, prior to or after their transition. This enabled us to analyse transition types and longer-term outcomes by industry, and also to ascertain whether an employee had changed industry when moving to a new employer.

The third and final IRD table we used was the 'ird_rtns_keypoints_ir3' table, which records annual return information for individuals pertaining to non-zero partnership, self-employment, or shareholder salary income. We used this table to establish where transitioning individuals had positive self-employed income during the year of their transition, or in the year following. Despite being a potential explanatory factor in establishing reasons for exit, we did not rely upon this information for establishing reasons for exit, for the reasons discussed in section 7.4.2.

7.3.3 _ Ministry of Education tertiary and industry/targeted training course data

Datasets from the Ministry of Education were used to establish the commencement of a training or tertiary course as a reason for transitioning off benefits. We also used this data to identify months in the two years following transition where study in either of these course types was the primary activity. Education data could not be used to generate characteristic variables as its history is very limited and therefore, for instance, the achieved level of education could not be determined for most transitioning beneficiaries.

We used three tables to generate this information. The industry training and targeted training tables provide a variety of details relating to each year in which a person is enrolled in a training course. We extracted start and end dates, and used these to establish when training courses had commenced, and the number of months the course lasted.

The 'qualification enrolments' tertiary table was used similarly to establish the commencement dates of tertiary courses and the months in which the individuals were actively studying. Full-time and part-time tertiary study were distinguished from another using the 'study_type' variable.

7.3.4 _ Department of Corrections sentencing and remand data

Sentencing and remand data from the Department of Corrections was used to establish a Corrections-managed detention period as a reason for transitioning off benefits or as a post-transition activity. This data was used to generate detention-related characteristics such as the number of months spent in detention over the five years prior to transition, and the most serious crime category of an individual's recent convictions (if any).

We generated this information with one data table – the 'ov_major_major_management_periods' table. This table contains a dated time series of all Corrections-managed periods for every individual who has ever had one. Where two or more periods occurred concurrently (e.g. parole and community detention), trumping rules have been applied by Corrections so that the most serious sentences are prioritised during the period of overlap. For the purposes of this project, we considered only prison and remand spells, as other spell types such as community detention would not be expected to result in benefit cancellation.

7.3.5 _ Child, Youth and Family event intake data

We used event intake data from Child, Youth and Family (CYF) to generate a characteristic measuring the number of events an individual transitioning off benefits had been involved in during their youth. We recorded the type of each event (either 'Care and protection' or 'Youth justice'), and used this as an additional characteristic.

We used the 'CYF intakes' table to generate this information. This table contains information on CYF intake events going back to 1991, including the start date of the event and the business area that the event fell under, which was used to classify events between 'Care and protection' and 'Youth Justice'. We note that older beneficiaries will not have any CYF data recorded i.e. for people aged approximately 19 years or older their CYF events will be left censored and for people older than approximately 38 years their CYF events will be missing.

7.3.6 _ Department of Internal Affairs death records

We used the deaths data table from DIA to establish death as a reason for transitioning off benefits, as well as for identifying deaths occurring in the two years following transition. This table contains various details about deaths and unresolved disappearances in New Zealand, including the month in which a person was known to have died, or in which they were last seen. We performed a death record search from around the date of off-benefit transition and including the following two years for each member of the study population. We assigned death as a reason for exit wherever a match was found in close enough proximity to the off-benefit transition. We compared the results of this process against MSD's recorded 'reason for exit' variable, with a very high match rate. Where a death record was found, we assigned an activity of *Dead* for that month and all following.

7.3.7 _ Ministry of Business, Innovation and Employment immigration records

We used data from the Ministry of Business, Innovation and Employment (MBIE) to establish when leaving New Zealand on an overseas trip was the reason for exiting benefits, and to identify months spent overseas as a post-transition activity. We also used these datasets to generate overseas trip history variables and to establish whether individuals in the study population were migrants to New Zealand or not (a 'migrant' is defined as any person who had a New Zealand visa application approved since 1997).

We used the 'movements' table, containing a record of each departure and arrival back in New Zealand, to generate a monthly record of months spent overseas for each welfare recipient. We used the 'decisions' table, which contains details on visa applications and their outcomes, to flag study population members who were migrants to New Zealand.

7.4_ Data limitations and considerations

The IDI is built from collections of data tables, contributed by various government agencies, and linked together by Statistics New Zealand. There are substantial differences in the quality, quantity, and length of history of data between collections. These differences arise primarily because each government agency has different operational requirements for its data, and protocols for recording and storing information. This section briefly highlights some of the data limitations and considerations associated with core datasets we used in this project, beginning with a discussion of the base unit of analysis adopted – the calendar month.

7.4.1 _ Calendar months as a base unit of analysis

MSD's Benefit Dynamics Dataset (BDD) is built around individual benefit spells, with each spell being clearly defined by a start and an end date. Brief spells off benefits that last less than 14 days before a return are not recognised – the BDD treats these as part of a continuing benefit spell. This feature of the BDD data has no implications for this project – as calendar months are the base unit of analysis, and the criterion for being 'on benefits' in a particular calendar month is receipt of any benefit payment during that month. With this definition, any spell off benefits for 14 days or less and with an actual benefit spell either before or after would result in a classification of 'on benefits' for that month (or two months if the short off-benefit spell crossed between two calendar months).

Although the spell-based nature of the BDD would, in theory, allow for exact dates of transition to be established, and for follow-up activities to be measured in months from this date, we instead adopted units of calendar months throughout this project. The reason is that many of the other data tables used in the project, in particular the IRD EMS table, are recorded by calendar month, which restricts analysis to that basis.

One implication of using calendar month as the base unit of analysis is that some off-benefit transitions are recognised up to almost one month after they actually occur. Another is that very short off-benefit spells taking place over a two-month interval may not be recognised at all. For example, a client who receives benefits for the first week of a particular month, then transitions off benefits for a five-week period before returning, would be classified as being 'on benefits' during that month and the month following under a calendar-month basis of analysis, despite a five-week off-benefit spell straddling the two months. This logic equally applies to recognising two months of consecutive employment, where there may be a five-week spell of no employment in the middle.

7.4.2 _ Self-employed income data

Another important limitation of the IRD data is that self-employed income declarations apply to whole-year periods ending 31 March. Off-benefit transitions cannot accurately be attributed to self-employment income, as it is not possible to determine how much income in a year containing the month of transition was earned around the time of the transition, before it, or after it. In addition, our understanding is that self-employed income is not always declared accurately for the year in which it was earned. A proportion of transitions that have been classified as exiting benefits for unknown reasons with very limited employee income actually occurred due to self-employed income. However, of people who were classified as leaving for unknown reasons, only 1% of the study population reported self-employed income in the year to 31 March 2012, so we do not see this as a significant issue.

7.4.3 _ Transition types that are not easily identified using datasets on the IDI

A moderate proportion of off-benefit transitions occur for reasons that are difficult to clearly identify using data on the IDI – these mainly comprise changes in circumstances that lead to benefit ineligibility, such as a new partner or a change within the family (e.g. age of youngest child), or a failure to continue meeting the ongoing requirements of the benefit being received.

The BDD contains a 'reason for exit' code, recorded by MSD when a client leaves the welfare system, which could be used to explore the distribution of exit reasons where they cannot otherwise be identified using IDI data. This code is not audited and may be unreliable – thus we have not used it to determine the reason for moving off benefit. However, we have used it to give additional insight about those people where we have been unable to infer a reason for leaving from the IDI data directly.

7.4.4 _ Other minor issues and limitations

Other more minor limitations of the datasets used include the following:

- We could not accurately attribute ethnic group for every member of the study population, and therefore we had to classify a small percentage as a separate 'unknown' group. Likewise, we could not allocate a Standard Industrial Classification (SIC) industry division to every employer employing a member of the study population, resulting in an 'unknown' industry division.
- The IRD data does not indicate the number of days worked in a month, or whether the nature of employment is permanent, casual, or short-term. As such it is not possible to make commentary on hourly wages, or examine how outcomes vary for different employment types.
- Due to the very limited history of education data, it was not possible to generate education characteristic variables such as 'highest qualification achieved'. This issue also limited the choice of study period to the years after 2007, as it would not have been possible to identify all education-related exits prior to 2007.
- At the time of analysis, data in the IDI had not been updated far enough for an additional post-2013 welfare reform cohort to be generated and compared to the 2010/11 cohort.

7.5_ The study population

7.5.1 _ Some considerations underpinning the study population definition

We considered various factors in defining the study population used for this project, some of which we discuss briefly in this section. First, we considered the length of time that an individual would need to have spent on benefits prior to their exit for inclusion. Some of the exits from the welfare system are of people that have only been in receipt of benefits for a very limited amount of time. One example is students who finish tertiary degrees, and then spend two months looking for work and receiving a Jobseeker benefit before securing a job. This group of people is very likely to have different outcomes from those who have been in receipt of benefits for longer periods of time. We considered that these short-term recipients were not a useful focus of this research project. Therefore we imposed a minimum duration of benefit receipt of three months upon the study population. This resulted in the exclusion of approximately 16,500 people (10% of the originally adopted study population).

Second, we considered the time period over which off-benefit transitions would be measured. The selected period needed to be long enough that a reasonable volume of transitions for analysis would have occurred, but short enough that transition behaviour was relatively time-invariant over the period. The selected period also needed to:

- be as recent as possible
- allow for two years of post-transition monitoring for each member – the period over which we wanted to observe post-transition behaviour. Our exploratory analysis indicated that post-transition activity groups had mostly stabilised one year following transition, except for *Education*. To give more visibility of the *Education* outcomes it was decided to monitor activity for two years post-transition.
- avoid proximity to two major system shocks, the 2008/09 global financial crisis and the 2012/13 welfare reforms.

Taking these factors into account, the time period selected was the year occurring from 1 July 2010 through 30 June 2011.

Finally, we considered the benefit types to be included. Some benefit types are categorised by infrequent payments made in response to particular events, as opposed to a regular stream of payments. We excluded clients receiving such benefits from the analysis, since receiving such a benefit in one period but not the next may not be considered a true 'off-benefit transition'. Further, some benefit types have small volumes of clients receiving payments, and even smaller volumes of clients transitioning off. We also excluded these benefits (Widow's benefit and Orphan's benefit) from the analysis.

7.5.2 _ The study population definition

Consequently, we defined the study population adopted for this study as follows:

- **Benefit duration:** people who had been in continuous receipt of one or more of the selected benefit types (see below) for at least the three months immediately prior to their off-benefit transition
- **Period of time:** off-benefit durations occurring between the months of July 2010 and July 2011
- **Benefit types:** beneficiaries who had been receiving any of the following benefits types immediately prior to their transition (note: for ease of communication the following benefit types are expressed here by their post-welfare reform names, despite the study period being prior to welfare reform – a table in section Table 2-2 translates between pre – and post-reform benefit designations):
  1. Jobseeker Support – Work Ready (includes Youth Payment)
  2. Jobseeker Support – Health Condition, Injury or Disability
  3. Sole Parent Support (includes Young Parent Payment)
  4. Supported Living Payment – Health Condition, Injury or Disability
  5. Supported Living Payment – Carer
  6. Emergency benefit
- **Age:** people who were aged above 15 years old at the time of their transition off benefits.

If any member of the study population had more than one off-benefit transition during the study period, only their first transition was counted as an 'off-benefit transition' – subsequent movement between being back on *Benefits* and other activity states was captured in our two-year observation window post-transition.

7.5.3 _ Data reconciliation

Although we do not show the results here, we have reconciled the number of transitions off benefit and the number of people receiving benefits with the numbers emerging from the data preparation underlying our Valuation of the Benefit System for Working-age Adults, which we carry out for MSD annually (see www.msd.govt.nz/documents/about-msd-and-our-work/newsroom/media-releases/2016/nz-msd-valuation-2015-final-27-jan-2.pdf for our latest report). The numbers for the same period reconcile very well by benefit type so we are confident in the data preparation underlying this report.

7.6_ Hierarchy of triggers for exit

In order to analyse off-benefit transitions, we defined a collection of 10 'reasons for exit', referred to throughout this report as **triggers** (for exiting the welfare system). We allocated each member of the study population a trigger based on their behaviour in the months immediately prior to, and the month following their exit. The collection of rules used to make this allocation takes the form of a hierarchy so that, in the cases where a person shows signs of having transitioned for multiple reasons, the reason that is highest in a defined hierarchy is the one that we allocated.

The table below describes all 10 triggers for exit, and the hierarchy of rules that define how each person is allocated to one. It is worth noting that eight of these triggers can be clearly identified and defined by data stored in the IDI. The composition of reasons for exit in the remaining two '*Other*' groups is mostly known, as discussed in section 7.9, but not easily confirmed with IDI data.

TABLE 7-1

Trigger hierarchy

Trigger for exit	Abbreviation	Assigned if a person:
Death	Death	Dies during months -2 through to 1
Reached age 65+	Retirement	Is aged greater than or equal to 65 - 1/12 at the end of month 0
Overseas	Overseas	Departs on an overseas trip during months -1 through to 1, and spends at least 14 days overseas during this time
In detention	Detention	Spends 14 days or more in remand or prison during months -1 through to 1
Started a targeted/ industry training course	Training	Begins a targeted or industry training education course in any month during months -2 through to 1
Started a full-time tertiary course	Tertiary full-time	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	Tertiary part-time	Begins a formal tertiary education course for which they are studying part-time in any month during months -2 through to 1
Employment	Employment	Has a gross income ('Wages and salary') of $1,180 or more during month 1, and their gross income during month 1 is greater than the average gross income during months -2 and -1
Other with income ≥ $100	Other some income	Does not fall into any of the above trigger groups, and has a gross income of $100 or more during month 1
Other with income < $100	Other very low income	Does not fall into any of the above trigger groups, and has a gross income of less than $100 during month 1

Note:

We refer to the last month of benefit receipt as 'month 0'. The month following this, being the first month with no benefit receipt, is month 1, and so on.

7.7_ Hierarchy of activities post-transition

We defined a collection of 11 possible 'activities' that could be undertaken over the 24 months following transition, and allocated one to every member of the study population. The rules governing allocation of activity in each post-transition month only depend on activities undertaken in that particular month. Once more, we used a hierarchy of allocation rules to allocate activities, to deal with the cases where a person showed signs of having undertaken multiple activities during a particular month. The table below describes all 11 activities, and the hierarchy of rules that define how each person was allocated to one.

TABLE 7-2
Activity hierarchy

Activity	Code	Assigned if, during the month of interest, a person:
Dead	Dead	Dies during the month of interest, or any month prior to the month of interest
Aged 65+	Retired	Is aged greater than or equal to 65 and 1/12 years at the end of the month of interest
Back on benefits	Benefits	Receives any welfare benefits during the month of interest
Overseas	Overseas	Spends 14 or more days overseas during the month of interest
In detention	Detention	Spends 14 or more days in remand or prison during the month of interest
Studying in a targeted/ industry training course	Training	Is studying in a targeted or industry training education course during the month of interest
Studying in a full-time tertiary course	Tertiary full-time	Is studying in a formal tertiary education course full-time during the month of interest
Studying in a part-time tertiary course	Tertiary part-time	Is studying in a formal tertiary education course part-time during the month of interest
Substantial employment	Substantial employment	Has a gross income of $1,180 or more during the month of interest
Less substantial employment	Less substantial employment	Has a gross income between $100 and $1,180 during the month of interest
Nil employment	Unknown	Does not fall into any of the above activity groups

7.8_ Important features of the trigger and activity hierarchies

7.8.1 _ Ordering of education and employment states

Both of the trigger and activity hierarchies prioritise *Education* over *Employment*. This means that if a client meets the conditions for an *Education* and *Employment* trigger or activity simultaneously, they will be allocated to *Education* over *Employment*.

It is worth noting that most people who enrolled in *Tertiary full-time courses* do not have enough income to be counted as being 'substantially' employed, so it is reasonable to classify them with an *Education* state as the primary trigger. Most people who are enrolled in *Training* courses are also earning employment income that justifies the adopted structure that separates these transitions into their own group, different from a pure *Employment* categorisation. For *Tertiary part-time* education, it is less clear – some people in this group have income but not many have enough to be considered to be in 'substantial' employment. People transitioning off benefits via the *Tertiary part-time* education trigger make up just 2% of the total study population.

Reversing the priority of *Education* and *Employment* triggers results in switching some people from the *Education* triggers, as shown in Table 7-3.

TABLE 7-3

Effect of switching *Education* and *Employment* priority

Trigger (with *Education* prioritised over *Employment*)	Benefit transitioned from (with *Employment* prioritised over *Education*)									
	DEA	AGE	OVS	DET	EMP	TRA	FTT	PTT	OTI	OTN
DEA	2,400									
AGE		7,242								
OVS			8,937							
DET				4,287						
TRA					1,848	978				
FTT					828		8,541			
PTT					1,014			2,310		
EMP					54,216					
OTI									11,775	
OTN										37,689

The table shows that reversing the *Employment* and *Education* codes would move 1,848 transitions from *Training* to *Employment*, 828 transitions from *Tertiary full-time* to *Employment*, and 1,014 from *Tertiary part-time* to *Employment*.

7.8.2 _ The $1,180 income threshold

We used an income threshold of $1,180 to define the *Employment* trigger for exiting benefits. We also used this threshold to separate *Substantial employment* from *Less substantial employment* as a monthly activity. This figure arises from the following calculation:

20 hours × minimum wage ($14.75) × 4 weeks

This represents the monthly employment income for a person who works 20 hours per week at the minimum wage, with an average of four weeks of work per month. One of the reasons why we selected this threshold was that 20 hours or more of work per week represents the eligibility threshold for the In-Work Tax Credit (IWTC) for single parents, which is not available to welfare beneficiaries. A person working at least 20 hours per week at the minimum wage or higher (and thus earning the credit) should in theory be earning enough to make them ineligible for benefits.

7.8.3 _ Part-time and full-time tertiary education statuses

To classify education status as *Tertiary full-time* or *Tertiary part-time* we have used the 'study_type' variable as found on the Ministry of Education datasets. For informal qualifications, such as continuing education or night classes, there is no 'study_type' code – such courses are ignored for the purposes of assigning triggers and activities.

7.9_ Comparison of triggers with MSD 'reason for exit' codes

In this section we:

- compare the 'reason for exit' code to the reasons we have derived directly from the IDI data to give an understanding of the 'reason for exit' codes' reliability, and
- show the distribution of grouped 'reason for exit' codes for those people for whom we have been unable to derive the reason for leaving from the IDI data, so as to give some insight for this group of people.

There are more than 150 MSD 'reason for exit' codes. We have grouped those reasons that account for more than 100 people in our study population into 10 groups, as shown below in Table 7-4.

TABLE 7-4

Groupings for MSD 'Reason for exit' code

Code grouping	Codes in group
Age 65	Qualify for pension
Death	Client died (non-accident), Death by accident
Detention	In prison
Education	Full-time student
Employment	In employment/returned to work, In seasonal employment, Placed in work, Not unemployed, Excess income
Not eligible (change in domestic circumstances)	Reconciled, Commenced living de facto, Married, Child left care/ Not dependent
Not eligible (medical)	Does not meet medical qualification
Not eligible (obligations)	Failed obligations, Lack of medical coverage, Non-return of Dec/ renewal form, Not registered as jobseeker, Left top course, 13 wk VU imposed, Non-review of IYB, Overseas < 4 weeks
Other	Non-payment > 8 weeks, Lack of representation, Other, Granted ACC/exceeds benefit, Address unknown, Unspecified, Stopped on customer's request, Other (letter to be produced), Change in notional rate, Caregiver's benefit cancelled
Transfer	System xferred to another ben, Granted other benefit, Separated, End of school year
Codes with less than 100 exits	Not documented in this report

Table 7-5 show the correspondence between our trigger definitions and the grouped 'reason for exit' code for the whole study population.

TABLE 7-5

Grouped reason for exit codes versus trigger for the study population

Reason for exit group	Trigger										Total
	Death	Retired	Overseas	Detention	Employment	Training	Tertiary full-time	Tertiary part-time	Other some income	Other very low income	
Death	2,295	45	0	0	0	0	0	0	0	396	2,736
Age 65	0	1,281	0	0	0	0	0	0	0	51	1,332
Overseas	0	453	4,356	0	126	12	12	15	72	2,082	7,128
Detention	0	0	0	3,585	18	0	6	0	18	309	3,936
Education	0	9	132	9	135	156	6,666	1,428	162	1,311	10,008
Employment	9	42	1,740	90	44,151	1,827	1,008	1,131	6,282	10,125	66,405
Not eligible (change in domestic circumstances)	0	12	195	30	798	84	258	189	1,035	6,369	8,970
Not eligible (medical)	0	0	6	0	12	0	6	0	9	75	108
Not eligible (obligation)	21	81	1,254	366	4,602	354	378	210	1,902	7,746	16,914
Transfers	12	5,178	126	24	816	111	558	126	282	2,055	9,288
Other	42	87	1,032	153	3,423	228	420	180	1,908	7,077	14,550
Total	**2,379**	**7,188**	**8,841**	**4,257**	**54,081**	**2,772**	**9,312**	**3,279**	**11,670**	**37,596**	**141,375**

8 These codes are verbatim from MSD data.

Overall, the correspondence is reasonable, except that for a significant proportion of the study population the 'reason for exit' code is employment-related but the beneficiary appears not to earn employment income subsequent to exit.

7.10 Other definitions

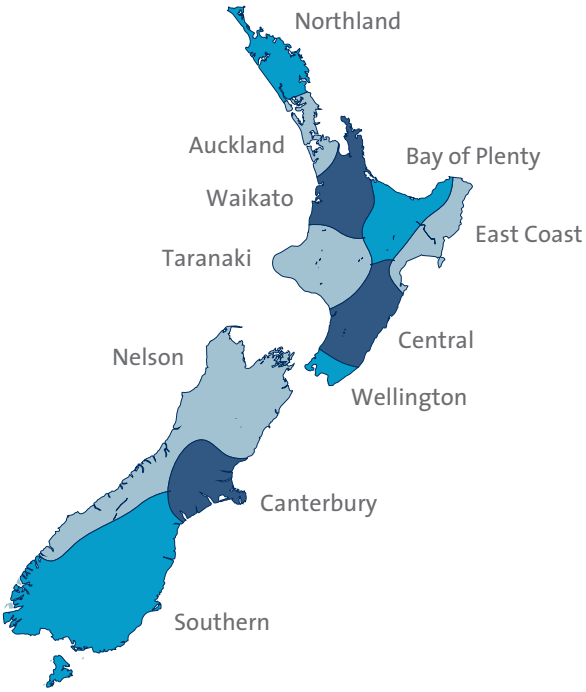
Throughout this paper, we make reference to employment industries using a single letter abbreviation (e.g. 'A'). These abbreviations refer to Standard Industrial Classification (SIC) Division level groupings of job codes. The table below translates each single letter abbreviation into the corresponding SIC Division.

TABLE 7-6
Industry division abbreviations

Industry division letter	Industry
A	Agriculture, Forestry and Fishing
B	Mining
C	Manufacturing
D	Electricity, Gas, Water and Waste Services
E	Construction
F	Wholesale Trade
G	Retail Trade
H	Accommodation and Food Services
I	Transport, Postal and Warehousing
J	Information Media and Telecommunications
K	Financial and Insurance Services
L	Rental, Hiring and Real Estate Services
M	Professional, Scientific and Technical Services
N	Administrative and Support Services
O	Public Administration and Safety
P	Education and Training
Q	Health Care and Social Assistance
R	Arts and Recreation Services
S	Other Services
T	Unknown Type 1 (NZ Stats Code)
U	Unknown Type 2 (NZ Stats Code)

To describe variation in outcomes geographically, we also refer to 12 separate 'regions' throughout the paper. The first 11 of these regions refer to the entirety of New Zealand, and correspond to Work and Income regions, as depicted in the figure below. The 12th 'region' is Australia, where a small number of beneficiaries are coded as residing.

Figure 7-1 _ Work and Income regions of New Zealand



08

Disclaimers, reliances and limitations

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.

The opinions, findings, recommendations and conclusions expressed in this report are those of Taylor Fry, not Statistics NZ or Superu.

Access to the anonymised data used in this study was provided by Statistics NZ in accordance with 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 confidentialised to protect these groups from identification.

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 Integrated Data Infrastructure available from www.stats.govt.nz.

The results are based in part on tax data supplied by Inland Revenue to Statistics NZ under the Tax Administration Act 1994. This tax data must be used only for statistical purposes, 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

This report is being provided to Superu as one of the deliverables under the contract entitled 'Ministerial Social Sector Research Fund: Off-benefit transitions' and dated 15 February 2016. Third parties should place no reliance on this report that would create any duty or liability by Taylor Fry to the third party.

In undertaking this review, we have relied upon the accuracy of information contained in the IDI and described in section 7. We have used the information without independent verification. It has been reviewed where possible for reasonableness and consistency.

Families Commission Kōmihana ā Whānau

The Families Commission operates under the name Social Policy Evaluation and Research Unit (Superu)