

Evidence on Training Opportunities and related training programmes

July 2011

SUGGESTED CITATION

CSRE (2011) *Evidence on Training Opportunities and related training programmes*, Centre for Social Research and Evaluation, Ministry of Social Development: Wellington.

EDRMS id

A5047579



Contents

Summary	2
Introduction.....	2
Evidence on Training Opportunities effectiveness	2
Evidence for other Work and Income training programmes.....	3
International evidence on training programmes.....	3
Analysis.....	4
Effectiveness of Training Opportunities	4
Other evidence on the performance of Training Opportunities.....	8
Does Training Opportunities work better for some groups?	10
Effectiveness of other Work and Income training programmes	12
International evidence on training programmes.....	15
Technical Notes	19
Definition of Training Opportunities participants	19
Likelihood of long-term benefit receipt	19
Outcome measures	19
Impact estimation: propensity matching.....	22
References	27

Summary

Introduction

This report summarises the evidence on the effectiveness of Training Opportunities and compares it with New Zealand and international evidence on training programmes.

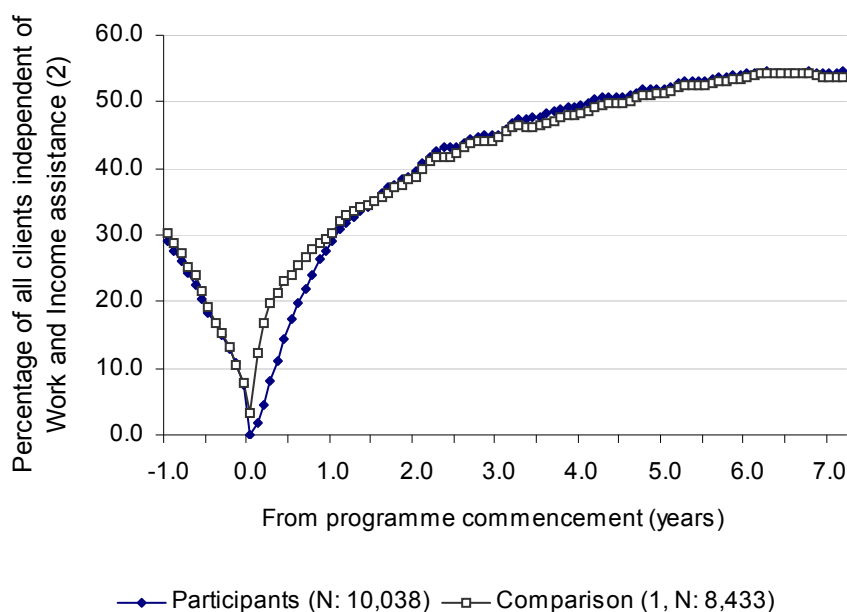
Evidence on Training Opportunities effectiveness

The following evidence is for those who participated in Training Opportunities between 2000 and 2008.

Training Opportunities does not improve the chances of getting a job

Participants in Training Opportunities spend longer on main benefit or employment and training programmes than a matched comparison group (Figure 1). The increased time receiving Work and Income Assistance shows participation in Training Opportunities does not increase the time participants spend in full time employment or tertiary study (see Table 8). The analysis section explains in detail why Training Opportunities is ineffective at increasing participants' time off benefit.

Figure 1: Impact of Training Opportunities (2000-2002) on participants' independence from Work and Income Assistance



- 1: Comparison group is matched to participants based on observed characteristics of participants at programme start.
- 2: No longer receiving a main benefit (eg Unemployment, Domestic Purposes or Sickness Invalid's Benefit) or taking part in Work and Income employment programmes (eg wage subsidy).

Source: Information Analysis Platform, MSD, 2009 (research data not official MSD statistics).

Has Training Opportunities effectiveness changed over time?

The negative impact of Training Opportunities increased for those who participated in the programme between 2003 and 2007 compared to those who participated between 2000 and 2002. Moreover, unlike earlier participants, the negative impact of Training Opportunities persists for much longer for

more recent participants. The analysis section examines why Training Opportunities become less effective over this period.

Does Training Opportunities work better for some groups?

There are some differences in the effectiveness of Training Opportunities across sub-groups. We found Training Opportunities was more successful among:

- female participants over the long-term (ie more than seven years)
- participants at medium or high risk of long term benefit receipt (ie on benefit for next two years).

Conversely, Training Opportunities had a larger negative impact for:

- work-ready participants (clients unlikely to remain on benefit long-term).

Evidence for other Work and Income training programmes

Alongside Training Opportunities, Work and Income provides several other training related programmes. In general these appear to be more successful than Training Opportunities, although they are not necessarily substitutes for the types of skill and training needs that Training Opportunities attempts to provide.

Table 1: Alternative Work and Income training programmes

Programme	Description	Effectiveness
Training for predetermined employment (Straight 2 Work)	Provides training for identified vacancies in industries experiencing skill shortages.	Increases the time participants are independent of Work and Income. Suits situations where participants only require short-term training to fill the vacancy.
Skills Training, Course Participation Grant	Provides funding for short term training (under three months).	Effective at helping ostensibly work ready clients gain the necessary skills to move into employment.
Training Incentive Allowance	Provides funding to undertake tertiary training courses.	Is expected to have a long term benefit, however, it is at least 10 years before the time participants spend off benefit exceeds that of the comparison group.

International evidence on training programmes

Overall, international literature shows a mixed record on the effectiveness of training programmes. These results indicate care is required in the design and implementation of training programmes. International studies identify four important features of effective training programmes. They must:

- be tightly targeted at groups shown to benefit
- be small-scale
- be tightly targeted to the needs of participants who gain qualifications recognised and valued by employers
- have an on-the-job component with strong links to local employers (see also Evidence to date on Training for predetermined employment).

Analysis

Training programmes are the most common form of employment assistance and often the most expensive. These programmes aim to increase the foundational and vocational skills of clients to enable them to compete in the labour market.

In New Zealand Training Opportunities has been the largest programme aimed at improving the skills of Work and Income clients. This analysis summarises the evidence on Training Opportunities and related programmes in New Zealand and internationally. The following section goes from the particular to the general. The analysis starts by examining the effectiveness of Training Opportunities, before comparing it to other Work and Income programmes and finally looking at the international evidence.

Effectiveness of Training Opportunities

This section is a detailed analysis of the effectiveness of Training Opportunities between 2000 and 2008 and examines the reasons why the programme became less effective over this period.

Training Opportunities programme

Training Opportunities is the main training programme for Work and Income clients. Before 2001, it was provided in two forms. The first was remedial programmes to improve the foundational skills of people lacking employability skills, including basic literacy and numeracy. The second was vocational or industry focused training for people lacking relevant labour market skills. Often a client would participate in several of these Training Opportunities programmes with a mix of foundational and vocational components. In 2002, the Ministry of Education reviewed Training Opportunities courses and recommended the programme mainly focus on the foundational needs of clients.¹ Hence, the Government decided that, in future, Training Opportunities would focus on foundational skills.

Based in part on the evidence presented in this report, government agreed to a redesign of the Training Opportunities programme from 2011 onwards. The programme has been re-targeted to those at medium to high risk of long-term benefit receipt. Courses are to be more tightly linked to local labour market demand and client risk of long-term benefit receipt, with longer training programmes (over 13 weeks) available to those at high risk of long-term benefit receipt.

Training Opportunities does not improve the chances of getting a job

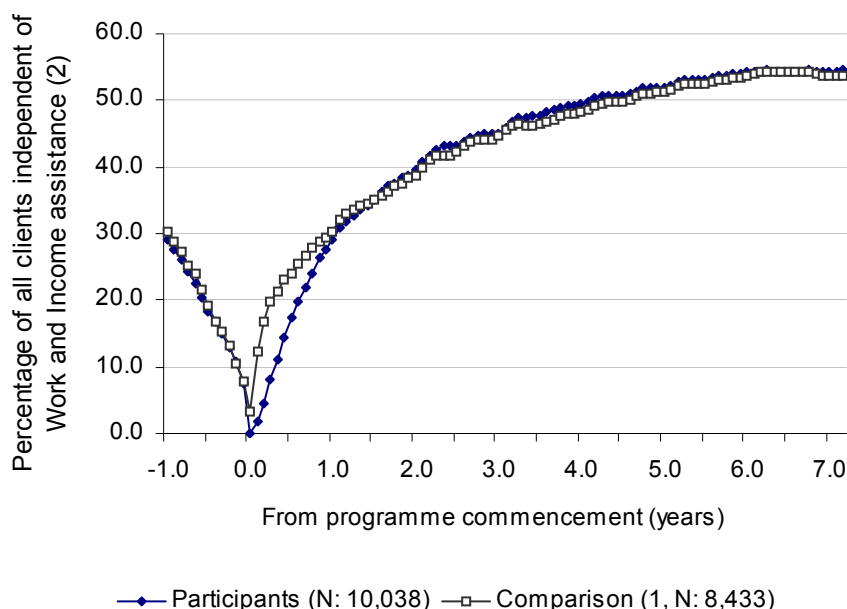
Figure 2 shows the proportion of Training Opportunities participants (2000-2002) Independent of Work and Income Assistance. It follows participants from one year before the programme, starting the programme, and through to 7.2 years afterwards.

From the graph, it appears the proportion of clients Independent of Work and Income Assistance stabilises around 55% after six years. The comparison group in Figure 2 represents the expected outcomes participants would have achieved if they had not participated in Training Opportunities. The difference in outcomes between the participant and comparison group represents our estimate of the

¹ Foundational skills are generally thought of as those skills that form the base on which higher-level generic, vocational and technical skills are built, and include key literacy and numeracy skills (Ministry of Education 2002:4).

impact of Training Opportunities on participants' outcomes. From Figure 2 the main impact of Training Opportunities is that participants have lower outcomes in the first year after starting their course (largely due to the lock-in effect). After this point, the proportion of participants Independent of Work and Income Assistance is either about the same or slightly higher than the comparison group. That is, Training Opportunities has no or, at best, a small positive impact over the long-term.

Figure 2: Impact of Training Opportunities (2000-2002) on participants' Independence from Work and Income Assistance



- 1: Comparison group is matched to participants based on observed characteristics of participants at programme start.
- 2: No longer receiving a main benefit (eg Unemployment, Domestic Purposes or Sickness Invalid's Benefit) or taking part in Work and Income employment programmes (eg wage subsidy).

Source: Information Analysis Platform, MSD, 2009 (research data not official MSD statistics).

Table 2 quantifies the impact of Training Opportunities on selected outcomes during the 6.5 years from participation. The first two columns of data in the table show the total time participants spent in each outcome over the 6.5 years after starting Training Opportunities. For example, participants spent on average 2.7 years Independent of Work and Income Assistance over the following 6.5 years or 41.8 per cent of that time. The last two columns in Table 2 show the impact of Training Opportunities for each outcome. For time spent Independent of Work and Income Assistance, participants spent 1.6 fewer weeks Independent of Work and Income Assistance than the comparison group (not significant).

Overall Training Opportunities made little difference to participants' primary outcomes, but substantially increased the time spent in further training

For the primary outcomes shown in Table 2, we conclude Training Opportunities made no significant difference to time on Main Benefit, Independent of Work and Income Assistance or Tertiary Study. Participants spent slightly more time receiving Work and Income Assistance and in Tertiary Study. Differences were larger for secondary outcomes; with participants spending 11.2 weeks in Further Training Programmes (mainly Training Opportunities). This is in addition to the 15.4 weeks already spent on the programme.

Why does Training Opportunities increase the time participants receive Work and Income Assistance?

The last three rows in Table 2 provide information on the lock-in and post-participation effects of Training Opportunities for participants between 2000 and 2002. Lock-in effects refers to the decrease in exits from benefit while participants are on a programme. The lock-in effect is illustrated in Figure 2 where participants' outcomes track below the comparison group immediately after starting Training Opportunities. For Training Opportunities we estimate that at the end of the participation spell, participants received on average an extra 2.6 weeks of Work and Income Assistance (Table 2).

Table 2: Impact of Training Opportunities (2000-2002) on participants for selected outcomes

	Outcomes		Impact ^b	
	Time	% of 6.5 years	Weeks	% ^c
Lapse period from participation start (years) ^a	6.5			
Primary outcome measures				
Combined positive outcomes ^d	3.4 yrs	51.6%	1.4	0.8%
Independent of Work and Income Assistance ^e	2.7 yrs	41.8%	-1.6	-1.1%
Time off main benefit ^f	2.8 yrs	42.6%	0.3	0.2%
Tertiary Study ^g	4.7 mths	6.1%	0.8	3.9%
Secondary outcome measures				
Part-time work while on main benefit ^h	5.8 mths	7.4%	0.1	0.4%
Programme Staircasing ⁱ	1.9 mths	2.5%	*1.5	22.4%
Repeat participation in the same programme type ^j	4.7 mths	6.1%	*11.2	123.2%
Lock-in and post-participation effects (based on Independence from Work and Income Assistance)				
Average duration of participation spell (in weeks)			15.4	
Lock-in effect ^k			-2.6	
Post-participation effect ^l			1.0	

a: Period after participation start date that outcomes and impacts are measured.

b: Difference in the time spent in each outcome state over the lapse period between participants and the comparison group (based on matching on observables impact method).

c: As a percentage of the counterfactual outcomes (outcomes participants would have achieved without the programme).

d: Combines all positive outcomes for Training Opportunities programmes and includes time spent: Off-main benefit, on Placement programmes, Tertiary study, Part-time work on benefit, on Job Search programmes, on Work Experience programmes.

e: No longer receiving a main benefit or participating in Work and Income programmes.

f: No longer receiving a main benefit (eg Unemployment, Sickness, Invalid's or Domestic Purposes).

g: Receiving either a student loan or allowance.

h: Declaring earnings from work while on a main benefit.

i: Includes participation in programmes that indicate progression towards sustainable employment beyond the current programme type (eg participation in a wage subsidy after finishing a training programme).

j: Additional time spent in the same programme type (eg additional training spells after finishing a training programme).

k: Lock-in effect of the programme on Independent of Work and Income Assistance.

l: The impact of the programme on Independent of Work and Income Assistance after participants complete the programme. The total cumulative impact is sum of the lock-in and post-participation effects.

*: significant at the 95% confidence interval.

Source: Information Analysis Platform, 2009 (research information, not official MSD statistics).

Do Training Opportunities courses improve participants' outcomes after they have completed them?

The post-participation effect is the change in exits from benefit after participants complete a programme. From Figure 2 we can already tell the post-participation effects of Training Opportunities are not large because a similar proportion of the participant and comparison groups are independent of Work and Income Assistance over the long-term. When we quantify the post-participation effect, we

find the programme increased participants' outcomes relative to the comparison group by 1.0 week (Table 6). Because the post-participation effect is less than the lock-in effect, the overall impact of Training Opportunities on Independence from Work and Income Assistance is negative.

Has Training Opportunities effectiveness changed over time?

Table 3 shows how the impact of Training Opportunities has changed over time. For each period after starting Training Opportunities, we can calculate the programme's cumulative impact on participants' outcomes. For example, after one year, participants in 2000-2001 received Work and Income Assistance for 3.1 weeks longer than non-participants did. The equivalent impact at one year for participants in 2007 was 5.8 weeks. Further, we can use the information from earlier participants to understand the likely long-term impact of Training Opportunities for more recent participants.

Table 3: Impact^a of Training Opportunities on time spent independent of Work and Income Assistance^b, by year of participation

Participation year ^d	Lapse period (years from participation start) ^c			
	1	3	5	7
2000-2001	*-3.1	-2.0	-0.5	0.6
2002	*-4.1	*-4.5	*-3.7	
2003	*-5.4	*-7.0	*-8.1	
2004	*-5.9	*-9.5		
2005	*-5.6	*-10.0		
2006	*-8.4			
2007	*-5.8			

a: Estimated change in the time spent independent of Work and Income over the lapse period as a result of the programme (based on matching on observables impact method).

b: No longer receiving a main benefit or participating in Work and Income programmes.

c: Period after participation start date that outcomes and impacts are measured.

d: The period within which participants commenced the programme.

*: impact is statistically significant at the 95% confidence interval, ~: impact could not be estimated.

Source: Information Analysis Platform, 2009 (research information, not official MSD statistics).

Table 3 shows that after 2000-2001 the Training Opportunities has had an increasingly negative impact on the time participants spend Independent of Work and Income Assistance. Moreover, while the trend for the 2000-2001 participants was for the impact to improve in the long-term, this has not been the case for later participants. Instead, we find negative impacts persist or increase.

Why has Training Opportunities had a larger negative impact in recent years?

Table 4 provides some information on why the negative impact of Training Opportunities has increased since 2001. One reason is the time spent on Training Opportunities courses, with the average duration being higher since 2001, except in 2006. The longer time spent on Training Opportunities would also help explain the steadily increasing lock-in effect since 2001. Another reason contributing to the growing lock-in effect is the higher outcomes achieved by the comparison group. The higher outcomes of the comparison group increases the lock-in effect because comparison group outcomes measure the likelihood that participants would otherwise exit to work if they were not on Training Opportunities.

We think there are two reasons for the higher outcomes of the comparison group between 2000 and 2007. The first is that between 2000 and 2008 we experienced a prolonged period of economic growth and a steady decline in people on Unemployment Benefits. Growing labour market demand, especially for low skilled people would both increase the opportunity cost of participating in Training

Opportunities (reflected in the increased lock-in effect) as well as reduce the post-participation effect on exits to work. In other words, high demand for unskilled labour would reduce the premium of any skills gained through the programme.

The second reason is the increasing proportion of work-ready clients going on to Training Opportunities courses. From Table 4 we can see the proportion increased from 28% in 2000-2001 through to 40% in 2007. This proportion has further increased to 49% by 2008. As we explain in the following section, Training Opportunities has a much larger negative impact for work-ready participants than for less work-ready participants. We have not examined in detail why the proportion of work-ready participants has grown, but is likely to reflect:

- the difficulty of filling contracted courses
- the growing proportion of work-ready clients on Unemployment Benefit between 2000 and 2008.²

Note our analysis takes into account any changes in the type of training delivered through Training Opportunities. For example, Training Opportunities providers could have increased work focused training, and this change may have helped to reduce the higher lock-in effect of more work ready participants. Nevertheless, the net effect was still to increase the overall lock-in effect of the programme between 2000 and 2007 as shown in Table 4.

Table 4: Analysis of the impact of Training Opportunities over time

Participation year ^f	Average duration ^a weeks	Repeat training within one year ^b weeks	Lock-in effect ^c weeks	Comparison group outcomes over two years ^d weeks	Work-ready participants ^e % of all participants
2000-2001	14.1	7.5	-2.2	29.1	28%
2002	16.7	6.9	-3.0	30.2	29%
2003	15.9	6.8	-3.0	34.5	33%
2004	17.2	6.6	-3.7	35.6	33%
2005	17.2	6.5	-3.6	34.9	34%
2006	15.5	4.9	-3.1	37.0	37%
2007	19.2	9.4	-4.2		40%

a: Average time participants spend on the programme.

b: Additional time spent in the same programme type (eg additional training spells after finishing a training programme).

c: Lock-in effect of the programme on Independent of Work and Income Assistance.

d: Average number of weeks spent Independent of Work and Income Assistance by the matched comparison group.

e: Participants assessed as having a low likelihood of being on benefit long-term when they commence the programme.

f: Year that participants started their Training Opportunities course.

Source: Information Analysis Platform, 2009 (research information, not official MSD statistics).

Other evidence on the performance of Training Opportunities

In addition to MSD's analysis, there has been several analysis of the performance on Training Opportunities in improving participants' outcomes.

² As the number of people on unemployment benefit fell, many less work-ready clients either exited benefit or transferred to Sickness and other benefits. For this reason, the overall proportion of work-ready clients on Unemployment Benefit increased during the period of falling unemployment (2000 to 2008).

1993 Training Opportunities had a negative impact on Employment Service contact

Analysis by Mare (2002) found that participating in training programmes (of which 93% were Training Opportunities) had a negative impact. Participants spent longer (20.1 weeks) in Employment Service contact³ over the following three years than the comparison group, indicating they were less likely to have moved into work than the comparison group. This finding is consistent with the conclusion shown in Table 2. The larger negative impact here compared to Table 2 is likely to be because of differences in methods used rather than substantial changes in programme impact between 1993 and post 2000 period. In addition, analysis of the same Employment Service data by Perry and Maloney (2006) concluded that training programmes had no impact on time participants spent off the unemployment register after three years.

Tertiary Education Commission analysis of Training Opportunities participants' outcomes

The Tertiary Education Commission reported on the outcomes of Training Opportunities graduates in the 12 months after graduating from the programme (Skill New Zealand, 1999). Of the 52 respondents surveyed, 30 had held at least one job, 30 had been unemployed, 22 had undertaken further study or training and five had dropped out of the labour force for family reasons. However, because there was no point of comparison, the analysis was unable to quantify what contribution the programme made to participants' outcomes.

Regardless of their labour market outcome, respondents were unanimously positive about participation in Training Opportunities. Reasons identified by the review that influenced the labour market experiences of Training Opportunities graduates included:

- the support respondents received (particularly during transitional phases)
- their participation in work experience
- their interest in their area of training
- the job search strategy they used (eg networking, initiating contacts with potential employers).

The study also reported the benefits of Training Opportunities were short-lived. Without further education or employment, the intangible benefits, such as motivation and confidence, declined within three to six months after course completion. For industry skills and knowledge participants thought these had a use-by date of six to 12 months (Skill New Zealand, 1999).

Training Opportunities participants' two month outcomes

Training Opportunities providers are required to report on the outcomes of participants at two months after course completion (Table 5). Between 1999 and 2007, just over 30 percent of participants were in full time work, followed by further Training Opportunities (26%) and other outcomes (23%). The limitation of this outcome information is twofold.

1. two months is a relatively short outcome window.
2. outcomes, on their own, do not tell us what difference Training Opportunities made (ie we do not have any indication of the likely outcomes participants would have achieved if they had not participated in Training Opportunities).

³ On the job seeker register or receiving employment assistance.

Table 5: Two month placement outcomes 1999 to 2007

Two-month placement outcome (% of placements)	2000	2001	2002	2003	2004	2005	2006	2007	Average
Employment – Full Time	31.8	31.5	31.1	30.4	30.8	28.6	29.9	28.4	30.5
Employment – Part Time	3.5	3.2	4.3	3.6	3.6	3.9	4.1	3.6	3.7
Return to Training Opportunities	25.7	25.5	25.2	26.3	26.8	27	26.6	28	26.2
Further Progressive Training Elsewhere	7.8	8.7	10	10.5	10.3	10.2	11.5	10.3	9.3
Other (including unemployed, out of the labour Force)	25.8	25.2	23.2	23.2	21.5	20.6	18.6	16.7	22.9
Unknown	5.4	5.8	6.2	6	7	9.7	9.2	13	7.4

Note: 'Year' applies to the year in which a placement ended.

Source: Table 33, Training Opportunities: Statistical Profile 1999 to 2007, Ministry of Education (2009).

Education qualifications gained through Training Opportunities

Training Opportunities also aims to improve participants' foundation and vocational skills. Table 6 shows the number of credits Training Opportunities participants gained. The average number of credits achieved by Training Opportunities participants between 1999 and 2007 is 22, with:

- 30 percent of trainees gained no NQF qualifications
- 35 percent of trainees gained 1-20 credits
- 35 percent of trainees gained more than 20 credits.⁴

Table 6: Credits gained by Training Opportunities participants 1999 to 2007

	Year participant started TOPs course									Average
	1999	2000	2001	2002	2003	2004	2005	2006	2007	
% attaining <u>no</u> NQF credits	27	24	26	29	30	31	32	29	39	30
% attaining 20 credits or less	63	56	60	63	66	67	68	66	74	65
Average credits achieved per trainee ¹	22	25	24	22	21	21	20	22	16	22

1: Participants can and sometimes do participate in Training Opportunities more than once per year, the results above are for each individual placement and therefore some individual participants are counted more than once.

Source: Tertiary Education Commission, Achievement in Targeted Training Programmes, 2008 (www.educationcounts.govt.nz; last accessed 28/4/2009)

Does Training Opportunities work better for some groups?

We have also examined the impact of Training Opportunities for different participant sub-groups (summarised in Table 7 below). Table 7 shows the impact of Training Opportunities for each outcome where the impact is statistically significant.

Training Opportunities decrease time Independent of Work and Income Assistance

Overall, Training Opportunities did not increase the time participants spent independent of Work and Income Assistance. Overall, we found little variation for any of the variables we examined, apart from likelihood of being on benefit long term.

⁴ One credit equals ten hours of notional learning based on abilities of a typical learner undertaking the course (eg accounting for any pre-request qualifications before undertaking the course), see NZQF for more detail (<http://www.nzqa.govt.nz/studying-in-new-zealand/nzqf/qualifications-overview/>).

The important relationship in Table 7 is between participants' assessed work readiness and the impact of Training Opportunities. Here we find that Training Opportunities has a large negative impact for work-ready clients (eg participants unlikely to be on benefit long term). Even for less work-ready clients with medium risk of long-term benefit receipt, they did not benefit from the programme. The explanation for this relationship is the greater lock-in effect for more work-ready clients and the smaller post-participation benefits for participants who already have attributes that make them employable.

Although not reflected in Table 7, we found that Training Opportunities had a small positive impact for female participants. Although not large enough to outweigh the lock-in effect, we expect that the impact on women to become significant over the long term (eg more than seven years). The higher positive impact of training for female participants is a consistent finding from the international literature (OECD, 2001).

Table 7: Impact of Training Opportunities on participant sub-groups for selected outcomes

Participant group (proportion of all participants)		Impact over 6.5 years ^a (weeks ^b)				
		Independent of Work and Income Assistance ^c	Time off main benefit ^d	Tertiary Study ^e	Part-time work while on main benefit ^f	Programme Staircasing ^g
Benefit at participation start	Domestic Purposes (16%)					*1.0
	Sickness Invalids (5%)					
	Unemployed (72%)			*2.4		*1.6
Ethnicity	Maori (41%)	*-6.8				*1.5
	NZ European (38%)					*1.6
	Other (5%)					*1.7
	Pacific People (11%)				*8.1	
Gender	Female (49%)			*3.1	*3.6	*1.1
	Male (51%)			*2.1		*1.2
Likelihood of long term benefit receipt	Low (28%)	*-14.3	*-12.2		*4.3	*1.4
	Medium (40%)	*-6.9		*3.3	*2.9	*1.9
	High (32%)			*4.3	*3.9	*1.6

a: Period after participation start date that outcomes and impacts are measured.

b: Estimated change in the time spent in each outcome state over the lapse period as a result of the programme (based on matching on observables impact method).

c: No longer receiving a main benefit or participating in Work and Income programmes.

d: No longer receiving a main benefit (eg Unemployment, Sickness, Invalid's or Domestic Purposes).

e: Receiving either a student loan or allowance.

f: Declaring earnings from work while on a main benefit.

g: Includes participation in programmes that indicate progression towards sustainable employment beyond the current programme type (eg participation in a wage subsidy after finishing a training programme).

*: significant at the 95% confidence interval.

Source: CSRE (2009).

Training Opportunities increases take up of Tertiary Study

Alongside employment, Training Opportunities has a focus on further tertiary study. From Table 7 we can see the programme is successful in increasing the time participants spend in tertiary study, particularly for those expected to be on benefit long-term (a 30 percent increase). However, the take up of tertiary study is low overall. Across all sub-groups, participants spent an average of 4.5 months in tertiary study over the following 6.5 years.

Increased part-time work while on benefit

We see that part-time work while on benefit increases for certain groups. However, we need to take some care since the part-time work is dependent on whether people are on benefit. Therefore, where Training Opportunities alters the time people are on benefit, then a change in part-time work could reflect relative changes in the composition of participants and comparison group who remain on benefit. This warning applies to the results in Table 7 for part-time work among Sickness and Invalid's Beneficiaries and those with low and medium likelihood of long-term benefit receipt.

Increased Programme Staircasing

For almost all sub-groups we see evidence of Programme Staircasing (participation in programmes other than Training Opportunities that indicate progress towards full-time employment). Largest impacts were recorded for:

- Other ethnic groups
- Participants with high likelihood of long-term benefit receipt.

Effectiveness of other Work and Income training programmes

Alongside Training Opportunities Work and Income have several other training based programmes, here we compare the effectiveness of Training Opportunities to these other programmes.

This section provides analysis of the impact of training programmes on selected outcomes for participants. Table 8 shows the impact of participating in training programmes on selected outcomes (participants outcomes are in the Technical Notes). The impact estimates are based on the difference in the time participants and comparison group spend in each outcome. A positive value means participants have spent more time in that outcome than the comparison group.

Course Participation Grant

Introduced in April 2007 the Course Participation Assistance grant provides non-taxable, non-recoverable financial assistance towards the actual and reasonable costs for clients participating in short-term (generally less than 12 weeks long) employment related training courses or programmes. The objective of the Course Participation Assistance grant is to help clients take part in training and work related skills development by providing financial assistance to help with the extra costs incurred through participation in the course or programme.

Effectiveness of Course Participation Grant

Because Course Participation Grant is a new programme, we do not have information on its long-term impact. Nevertheless, the early results are encouraging with small increases in part-time work and participants being Independent of Work and Income Assistance after one year.

Skills Training / Targeted Training

Skills Training helps disadvantaged clients into employment by addressing their specific employment barriers. Participants are expected to develop:

- job related skills to assist them into employment
- job search skills to a sufficient standard to undertake job search activity and secure employment.

Two examples of Skills Training are:

- English as a second language courses that include job search methods for long-term unemployed migrants with professional qualifications
- training for call centre operations.

Table 8: Impact of training programmes on selected outcomes

	Programme						Straight 2 Work
	Skills Training	Course Participation Grant	Training Opportunities	Training Incentive Allowance DPB	Job Plus Training		
Lapse period from participation start (years) ¹	5.0 yrs	1.0 yr	4.5 yrs	4.5 yrs	6.5 yrs	2.5 yrs	
Impact of training programmes on primary outcomes (in weeks)²							
Combined positive outcomes ³	*6.3	0.5	*-3.0	-10.2	*15.2	*7.5	
Independent of Work and Income Assistance ⁴	*3.6	0.6	*-6.4	*-10.2	*15.2	*7.5	
Time off main benefit ⁵	*4.4	0.2	*-3.5	*-9.0	*17.5	*10.5	
Tertiary Study ⁶	-0.3	0.2	-0.2	*24.0	*-2.6	-1.0	
Impact of training programmes on secondary outcomes (in weeks)²							
Part-time work while on main benefit ⁷	0.6	0.6	~	~	~	~	
Programme Staircasing ⁸	*1.4	*1.3	*0.8	0.1	0.0	0.0	
Repeat participation in the same programme type ⁹	*2.3	*1.4	*10.6	*13.3	*0.2	*0.7	

1: Period after participation start date that outcomes and impacts are measured.

2: Estimated change in the time spent in each outcome state over the lapse period as a result of the programme (based on matching on observables impact method).

3: Combines all positive outcomes for training programmes, including time spent: Off-main benefit, on Placement programmes, Tertiary study, Part-time work on benefit, on Job Search programmes, on Work Experience programmes. For Training Incentive Allowance, Straight 2 Work and Job Plus Training combined positive outcomes only includes time spent Independent of Work and Income Assistance.

4: No longer receiving a main benefit or participating in Work and Income programmes.

5: No longer receiving a main benefit (eg Unemployment, Sickness, Invalid's or Domestic Purposes).

6: Receiving either a student loan or allowance.

7: Declaring earnings from work while on a main benefit.

8: Includes participation in programmes that indicate progression towards sustainable employment beyond the current programme type (eg participation in a wage subsidy after finishing a training programme).

9: Additional time spent in the same programme type (eg additional training spells after finishing a training programme).

*: impact is statistically significant at the 95% confidence interval, ~: impact could not be estimated.

Source: Information Analysis Platform, 2009 (research information, not official MSD statistics).

Effectiveness of Skills Training / Targeted Training

Skills Training increases the time participants are Independent of Work and Income Assistance and staircasing onto further employment and training programmes when compared to the comparison group (Table 8).

Job Plus Training

Skill Investment Subsidy replaced Job Plus Training in April 2007. Job Plus Training was used for:

- pre-employment training (where the client attends a training course before starting work)
- on-the-job training (where the employer or training provider provides initial training on-the-job).

An agreement is set up with the trainer/employer detailing the training to be provided and the standard to be achieved. Job Plus Training has a number of elements similar to the Straight 2 Work programme and therefore provides a useful guide to the long-term impact of this type of training programme.

Effectiveness of Job Plus Training

Job Plus Training has consistently shown a positive impact on participants' time spent Independent of Work and Income Assistance.

Straight 2 Work

Straight 2 Work involves selecting potential participants within industries with existing employment opportunities. Selected participants receive relevant training before being placed with employers. Straight 2 Work pre-employment training lasts for up to 12 weeks, with a post-employment support component of up to three months. The training (often combined with work experience) is relevant to an industry within which there are existing employment opportunities. Work experience placements can act as a trial period of employment for both the employer and the participant to see whether they suit.

Effectiveness of Straight 2 Work

Because Straight 2 Work started in 2004, we cannot observe the long-term impact of the programme. But we expect the programme to have a similar long-term positive impact as Job Plus Training. Further, the impact of Straight 2 Work is larger at equivalent lapse periods for more recent participants than for those who participated in 2004 (CSRE, 2008). Such results suggest that Straight 2 Work will also have a larger long-term positive impact for more recent participants.

Straight 2 Work – Literacy and Numeracy

Literacy and numeracy training has been provided concurrently to vocational training to some Straight 2 Work trainees since 2007. Providers and some employers identified lack of foundation literacy and numeracy skills among participants as one reason for early withdrawals or failure to achieve and sustain work placements.

No effectiveness information is available for the literacy and numeracy component of Straight to Work programmes. However, the number of contracted contact hours between learners and literacy and numeracy tutors is far less than considered necessary for low-skilled learners to increase their literacy and numeracy skills (CSRE, 2007). This finding highlights the tension between providing necessary training and being able to fill the vacancy in a reasonable period for the employer.

Training Incentive Allowance (TIA)

TIA was introduced for clients on DPB in November 1983 in response to the Wylie Review. The review found that female sole parents were disadvantaged when re-entering the workforce (Wylie, 1980). Wylie argued that female sole parents re-entering the workforce face a combination of competing pressures on time, low wages, gender pay gap, lower real wage because of childcare costs, low-skilled employment and less employee-friendly conditions. TIA was designed to increase the quality of employment that a client can gain to help offset the higher work related costs faced by sole parents.

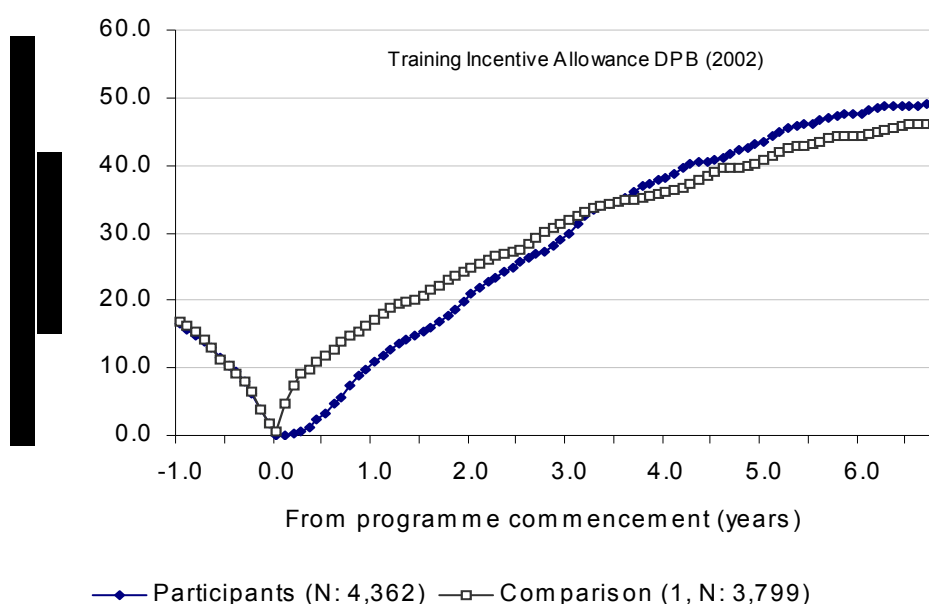
TIA provides financial assistance to people receiving DPB, Invalid's Benefit, Widow's Benefit or Emergency Maintenance Allowance. The goal of TIA is to enable participants to undertake employment related training to improve their work skills and increase their prospects of getting full-time or part-time employment. Between 1996 and 2001 most TIA participants undertook job skills related training, usually at a polytechnic or technical institute (CSRE, 2004).

In 2004 and 2005, MSD restricted the eligibility of TIA to those courses that qualify for student component funding. The expectation is that TIA will be used to support participation in higher-quality courses and those more likely to result in employment. In 2009, courses eligible for TIA funding were further restricted to courses at NCEA level 3 or below (equivalent to secondary school qualifications).

Effectiveness of Training Incentive Allowance

While Table 8 shows TIA has not increased the time participants are Independent of Work and Income Assistance, Figure 3 suggests a positive impact may emerge over the long term. What is clear from Figure 3 is that TIA has a substantial lock-in effect (indicated by participant's lower outcomes relative to the comparison over the first three years). Although the proportion of participants Independent of Work and Income Assistance exceed the comparison group after four years, the difference is small and therefore it would take a long time before these benefits would outweigh the lock-in effect of the programme.

Figure 3: "As at" outcomes of participants in Training Incentive Allowance (TIA) and comparison¹ group



1: Comparison group are matched to participants based on observed characteristics of participants at programme start.
 2: No longer receiving a main benefit (eg Unemployment Benefit) or Work and Income employment assistance (eg wage subsidy).
 Source: Information Analysis Platform, 2008 (research information, not official MSD statistics).

Current evidence indicates a longer outcome period than reported in previous evaluations

The findings reported here supersede the results reported for TIA in 2004 (CSRE, 2004). The previous evaluation found the programme had a positive cumulative impact for DPB participants over the five-year outcome period. The explanation for the difference in findings is likely to be the use of a greater number of observable characteristics in the current analysis than was used by Adamson (2004). However, we have not undertaken a detailed analysis to explain the difference in findings.

International evidence on training programmes

This section reviews the international evidence on training programmes to place New Zealand's experience in context.

Importance of education and vocational skills

Low educational attainment is common

Low educational achievement is common among people receiving income support in New Zealand and internationally (Singley, 2003).

Low educational attainment is a substantial barrier to employment

Overall, there is strong evidence that leaving school early – combined with low levels of education – increases the risk of poor labour market prospects for employment and earnings. Across the general population, continuing education and training is strongly associated with ease of finding a job, duration of employment and further training once in the labour market (OECD, 2004). This evidence on the general benefits of education and training is one reason for the popularity across countries of providing training programmes targeted to low skilled beneficiaries.

Review of training programme effectiveness

Training is one of the most expensive programmes both in overall cost and on a per-participant basis. International literature reviews suggest mixed results (Betcherman, Olivas, & Dar, 2004; Higgins, 2003; Kluve et al., 2007; OECD, 2001), concluding that most training programmes do not show a positive impact and, where they do, the costs are high compared with the benefits. Similarly, a recent synthesis of US welfare-to-work programmes (which primarily target sole parents) suggests that vocational training and work experience components did not contribute to improved programme impacts (Greenberg, Cebulla, & Bouchet, 2005). Conversely, a recent meta-analysis of employment programmes found that training (classroom and on-the-job) had positive impacts in the medium term (two years) (Card, Kluve, & Weber, 2009). Therefore, it appears some training programmes are successful, with reviews identifying features of more successful programmes (see “What makes for successful training programmes” below).

Mandatory education programmes for sole-parents on welfare (United States)

Analysis of welfare to work programmes for sole parents in welfare in the United States have shown that mandatory education-first programmes result in few benefits for participants, government or society overall (Greenberg, Deitch, & Hamilton, 2009). Comparing work-first and training-first approaches, the conclusion was that work-first approaches increased employment and earnings more quickly than training-first approaches. Further, over five years there was no evidence that training-first approaches produce higher impacts for long-term employment or earnings outcomes than work-first approaches (Hamilton, 2002).

Job Corps programme: youth vocational training programme (United States)

The US Job Corps programme provides comprehensive services for disadvantaged youth and covers: basic education, vocational skills training, health care, education and counselling in both residential and non-residential settings. The programme targets disadvantaged 16 to 24-year olds and seeks to increase employment and earnings for programme participants. Compared to New Zealand residential programmes, Job Corps has more coverage and attracts a higher funding level (Schochet, McConnell, & Burghardt, 2003; Schochet, Burghardt, & McConnell, 2006; Schochet, Burghardt, & McConnell, 2008). Table 9 shows the results of an evaluation of Job Corps (1995 participants).

Job Corps increased participants' educational qualifications and literacy

Job Corps was successful in achieving its immediate objective of providing training, with participants gaining school and vocational qualifications as well as modest improvements in literacy and numeracy scores.

Educational gains did not result in a sustained increase in employment

However, these educational and literacy improvements did not translate into increased long-term employment. Instead, Schochet, Burghardt et al. (2006) concluded that Job Corps initially lead to increases in employment over the first four years, but from five years onward, there was no discernible impact on time in employment or earnings from work. The gain in educational qualifications did not shift participants onto a higher employment and income track relative to the control group. However, the evaluation did find positive but, non-significant (95% CI), impacts on earnings of older participants (20-24 years). These positive impacts are thought to occur because older participants remain longer on the programme, are more motivated and well-behaved according to programme staff (Schochet et al., 2006).

Table 9: Impact of Job Corps on selected outcomes

Outcome	Participant outcome	Impact ¹	Comment
Education and Training (within four years after assignment)			
Participation in education or training	71.7%	*28.9 ppt	Includes Job Corps training itself.
High School (GED) Credential	41.6%	*20.9 ppt	
High School Diploma	5.3%	*-2.2 ppt	
Vocational technical or trade certificate	37.5%	*22.3 ppt	
College degree (2 or 4 year)	1.3%	-0.3 ppt	
Literacy and Numeracy (at 2.5 years after assignment)			
Prose proficiency score	251	3.7	
Document proficiency score	258	1.6	
Quantitative proficiency score	235	*4.9	
Employment and earnings (over six years from assignment)²			
Average yearly income from work	\$4,925	-\$26	in 1995 USD
Average time in work	85.7%	*6.2 ppt	Includes time on Jobs Corps vocational training
Criminal offending (within four years after assignment)			
Arrested or charged	28.8%	*-5.2 ppt	
Convicted	22.1%	*-4.3 ppt	
Average time in jail	6.0 wks	-0.8 wks	
Ever been a victim of crime ³	21.9%	*-3.1 ppt	
Cost-benefit			
Costs	\$13,844		
Benefits	\$3,544	-\$10,300	\$0.26 return for every dollar spent.

1: estimated per participant impact, * indicates impact significant at the 95% confidence interval. Impact is the difference in outcomes between participants and control group, a positive value means the participants' outcomes are higher than the control.

2: based on social security earnings records and derived from Table 5 (page 24).

3: asked at 12 months after assignment.

Source: Schochet, Burghardt et al. (2006)

Job Corps participants were less likely to receive criminal convictions

Over the four years from commencing Job Corps participants were less likely to be arrested or convicted for criminal offences and reported being less likely to have ever been a victim of crime than those in the control group.

Job Corps overall costs exceeded its benefits

Schochet, Burghardt et al. (2006) estimated a net-benefit to society of Job Corps and concluded the programme costs exceeded its benefits (\$0.26 of benefits for every dollar of costs, or net-cost of \$10,300 1995USD per participant). However, for the 20-24 year old participants, they concluded the programme had a net-benefit of \$16,800 (1995USD) per participant (or \$1.90 of benefits for every dollar of costs).

What makes for successful training programmes

As Higgins (2003) and others point out, not all training programmes are the same. To dismiss training as an intervention for those who have left school without qualifications still leaves the problem of helping these people enter an increasingly skilled labour market. International studies identify four important features of effective training programmes. They must:

- be tightly targeted at groups shown to benefit
- be small-scale
- be tightly targeted to the needs of participants who gain qualifications recognised and valued by employers
- have an on-the-job component with strong links to local employers (see also Evidence to date on Training for predetermined employment).

Technical Notes

Definition of Training Opportunities participants

Training Opportunities participants are defined as anyone recorded in the MSD administrative systems as having commenced a Training Opportunities placement. We note there are some inconsistencies between TEC and MSD records of TOPs participants. Specifically MSD administrative data does not capture all Training Opportunities placements.

Likelihood of long-term benefit receipt

An important question in who receives employment assistance is how well it is targeted to those most likely to require assistance to achieve sustainable employment. To put this another way, are clients who receive assistance likely to remain on benefit long-term and therefore more likely to require some assistance to move into employment? To answer this question we developed a measure called the Likelihood of Long-Term Benefit Receipt (LLTBR) score to determine who will remain on benefit long-term and who will leave quickly. The scores reflect whether participants have a low, medium or high likelihood of long-term benefit receipt. For further detail on the LLTBR score, see CSRE (2006).

Outcome measures

Table 10: Outcomes of participants in training programmes

	Programme			
	Skills Training	Course Participation Grant	Training Opportunities	Training Incentive Allowance DPB
Lapse period from participation start	5 yrs	1 yr	4.5 yrs	4.5 yrs
Time spent in each outcome from participation start date¹				
Combined positive outcomes	2.8 yrs	6.1 mths	2.2 yrs	1.0 yrs
Independent of Work and Income Assistance	2.3 yrs	3.3 mths	1.7 yrs	11.9 mths
Time off main benefit	2.3 yrs	4.0 mths	1.7 yrs	1.0 yrs
Tertiary Study	3.7 mths	2.9 wks	3.2 mths	9.6 mths
Part-time work while on main benefit	4.3 mths	1.2 mths	4.4 mths	9.7 mths
Programme Staircasing	1.8 mths	1.8 mths	1.6 mths	1.0 wks
Repeat participation in the same programme type	1.3 mths	3.1 wks	3.1 mths	4.5 mths

1: Refer to impact tables for definitions for each of the outcome variables.

Source: Information Analysis Platform, 2009 (research information, not official MSD statistics).

Table 11: Outcomes of participants in training for pre-determined employment programmes

	Programme	
	Job Plus Training	Straight 2 Work
Lapse period from participation start (years)	6.5 yrs	2.5 yrs
Time spent in each outcome from participation start date¹		
Combined positive outcomes	3.5 yrs	1.2 yrs
Independent of Work and Income Assistance	3.5 yrs	1.2 yrs
Time off main benefit	3.6 yrs	1.3 yrs
Tertiary Study	3.7 mths	1.8 mths
Part-time work while on main benefit	4.5 mths	1.6 mths
Programme Staircasing	0.0 days	0.0 days
Repeat participation in the same programme type	1.5 days	5.1 days

1: Refer to impact tables for definitions for each of the outcome variables.

Source: Information Analysis Platform, 2009 (research information, not official MSD statistics).

Lapse period from participation start

We measure participants' outcomes from when they start a programme such as Training Opportunities. How long since participants started the programme will determine the period we can measure participants' outcomes. From experience, outcomes measured over relatively short periods (less than two years) do not provide a full picture of the difference a programme makes to participants' outcomes.

Combined positive outcomes

The Combined Positive Outcomes measure is a global measure that attempts to capture all positive outcomes for a given programme. The measure is based on ranking outcomes according to their proximity to full time employment (Table 12), including employment programmes themselves. For a given programme, the Combined Positive Outcomes measure includes all outcomes that are closer to full time employment than the programme being evaluated. In the case of Training Opportunities, which is defined as a Training Programme (level 9), Combined Positive Outcomes measure includes the outcomes identified in levels 1 to 8. In cases where positive outcomes overlap, then this overlapping period is counted only once.

Main benefit

Main benefits include:

- Domestic Purposes Benefit - Care of Sick or Infirm
- Domestic Purposes Benefit - Sole Parents
- Domestic Purposes Benefit - Women Alone
- Emergency Benefit
- Emergency Maintenance Allowance
- Independent Youth Benefit
- Invalids Benefit

- New Zealand Superannuation
- Orphans Benefit and Unsupported Childs Benefit
- Sickness Benefit
- Unemployment Benefit
- Widows Benefit

Independent of Work and Income Assistance

Independence from Work and Income Assistance means a person is no longer receiving a main benefit (eg Domestic Purposes, Unemployment, Sickness or Invalid's) or participating in a Work and Income employment programme. People receiving supplementary income but not on a main benefit are defined as being Independent of Work and Income Assistance.

Independent of Work and Income Assistance is our proxy indicator for full time employment. However, it has some drawbacks. In particular, there are many reasons people are Independent of Work and Income Assistance other than employment, and some of these are negative or neutral (eg prison, death and emigration). Our assumption is that any impact on Independence from Work and Income Assistance is primarily through the programme changing the length of time participants are in full time employment.

Table 12: Combined Positive Outcome levels

Combined Positive Outcomes level	Outcome	Comments
1	Full time employment	Cannot be reliably measured using MSD administrative data.
2	Independent of Work and Income Assistance	Proxy measure for people achieving full time employment.
3	Placement programmes: Self-employment assistance, wage-subsidies, in-work support, training for pre-determined employment	These programmes are designed to move people into unsubsidised employment.
4	Tertiary study	Unfunded through Work and Income. Based on receipt of Student Loans or Allowances.
5	Off-benefit	People can be off main benefit, but continue to receive employment assistance (see level 3).
6	Part-time work whilst on benefit	Based on declared earnings from work.
7	Job search programmes	Includes Job Search Service programmes.
8	Work experience programmes	Includes Taskforce Green, unsubsidised work placement and Activity in the Community.
9	Training programmes	Funded by Work and Income (eg Training Opportunities and Skills Training).
10	Work confidence programmes	Includes Outward Bound and Limited Services Volunteers.
11	Information services and case management	Includes Careers Advice.
12	Health interventions	Includes PATHS

Time off main benefit

Time off main benefit measures the time a person spends not in receipt of a main benefit but they can still be receiving supplementary assistance. Off main benefit differs from Independent of Work and Income Assistance in that off main benefit includes people participating in Work and Income employment programmes whilst Independent of Work and Income Assistance does not.

Tertiary study

We define a person as being in 'tertiary study' where they have either drawn down funding for a student loan or received student allowance payments. The duration of study is defined either by the duration the student loan is active (and reflects the period of study) or when a person receives student allowance payments, whichever is greater. The measure will miss instances where a person undertakes study without recourse to either loan or allowance funding. In addition, the duration of student loan and allowance payments may not always accurately reflect the actual time a person is studying. An obvious example is where a person ends a course prematurely.

Part-time work whilst on benefit

This measure is based on declared earnings from work when a person is receiving a main benefit. All clients receiving a main benefit and in part-time work must regularly declare supplementary income. There is likely to be under-reporting of earnings from work and therefore our measure will underestimate the level of part-time work whilst on benefit.

Programme staircasing

Staircasing is based on the idea of moving people through a logical sequence of programmes to move them into employment. The purpose of the programme staircasing measure is to provide an indication of whether staircasing has occurred. The measure uses the same ranking of employment programmes as the Combined Positive Outcomes (see Table 12). Any time spent in programmes at levels closer to employment than the programme being evaluated is counted in the staircasing outcome measure. The measure is indicative only as it does not take into account the sequence of subsequent programmes or the time between programme participation spells.

Repeat participation in the same programme type

Repeat participation in the same programme type shows whether people are repeating a programme. In some instances, this may be appropriate; for example, Training Opportunities and Training Incentive Allowance often involve several repeat spells to complete the training or education course.

Impact estimation: propensity matching

To estimate whether a programme such as Training Opportunities improved participants' likelihood of achieving a positive outcome, We ask the counterfactual question: what outcomes would have occurred had the participant not gone on the programme?

By definition, it is not possible to observe the counterfactual outcomes of participants. The solution is to identify a proxy for the counterfactual, usually a group of non-participants whose outcomes are used for comparison purposes. The challenge is to ensure the proxy is an accurate representation of participants' counterfactual outcomes. Specifically, other than programme participation, are there other reasons for any differences between the outcomes of participants and those of the comparison group (ie selection bias)? There is no foolproof means to remove selection bias; rather, various methods are able to control it to a greater or lesser degree. In general, randomisation is the considered the best

method to estimate the counterfactual outcomes of participants (ie it requires fewer assumptions than alternative approaches).

Matching on observable characteristics

One approach is to construct a matched group of non-participants who have the same (or similar) characteristics as the participants. The simplest method is to find a non-participant with an identical profile to that of each participant. However, such methods are limited by the probability that two people share the same set of observable characteristics. The more characteristics included in the match, the less likely that for each participant there is a matching non-participant. As a result, these methods require the arbitrary selection of only a few matching variables.

An alternative approach, used in this analysis, involves a logistic regression model to regress observable characteristics against programme participation. Logistic regression produces an estimate of the probability that a given client is a participant in a programme. Using this probability (called “the propensity score”) it is possible to match participants and non-participants based on the similarity of their propensity scores. If the propensity score is properly specified, the participants and matched comparison groups will have a similar observable characteristic profile (eg similar duration, benefit type, age, number of children).

Conditional Independence Assumption

The Conditional Independence Assumption (CIA) states that controlling for differences in observable characteristics between participant and comparison group also controls for unobserved differences between the two groups. Estimating impact by controlling for observable characteristics requires the CIA to hold. If it does, the only statistically significant difference between participant and comparison group will be their participation in the programme. Any resulting estimates would be unbiased. In other words, the only explanation of differences in outcomes between the two groups would be whether they participated in the programme. If the CIA fails, the estimate will be biased. Here differences in outcomes could be due to unobserved differences between participants and comparison, as well as the impact of the programme.

The main limitation of this method is that it relies on available and measurable information about people eligible to receive Work and Income Assistance. It is rare that comprehensive information exists about the types of people who participate in the programme or those who could form part of the comparison group. The analysis relies on the information available on MSD’s administrative databases. This increases the risk of biased estimates. The second limitation of the CIA is that it is not possible to determine whether it has been violated or to what extent.

Table 13 summarises the variables currently included in the propensity matching of comparison group to programme participants. The emphasis is on historical variables and, in particular, the two years prior to the start date.⁵

Table 13: Observable characteristics included in the propensity matching of the comparison group

Area	Variable	Presentation of variable in the analysis
Demographics	Gender	Female, Male
	Age	Age in years

⁵ Start date refers to the date participants commenced the programme (the actual date is usually three days prior to recorded participation start) or the date the non-participants were selected for inclusion in the comparison group.

Area	Variable	Presentation of variable in the analysis
		Age group (16–<18 yrs, 18–<20 yrs, 20–<25 yrs, 25–<30 yrs, 30–<35 yrs, 35–<40 yrs, 40–<45 yrs, 45–<50 yrs, 50–<55 yrs, 55–<60 yrs, 60–<65 yrs)
	Ethnicity	Māori, NZ European, Pacific people, Other
Residency	Migrant	Yes, No
	Time in NZ	1–2 yrs, 4–8 yrs, 8–12 yrs, 12+ yrs, New Zealand
	English preferred language	Yes, No
Labour market skills	Education	None; NCEA Lvl 1, <80 credits, NCEA Lvl 1, 80+ credits; NCEA Lvl 2; NCEA Lvl 3; Other school qualifications; NCEA Lvl 4; Post-secondary; Degree/prof qualifications
	Numeracy literacy barrier	Yes, No
	Language verbal barrier	Yes, No
	Income in six months prior to benefit commencement	No income, Under \$250, \$250 to \$499, \$500 to \$749, \$750 to \$999, Over \$1,000
Family status	Client has an identified partner	Yes, No
	Age of youngest child	0–5 yrs, 6–13 yrs, 14+ yrs, No child
	Number of children	Categorical (ie No child, 1 child, 2 children, etc)
Health and disability	Employment barriers identified: Disability, Alcohol and drug, Intellectual, Mental illness, Mobility and agility, Sensory, Unspecified (7 variables)	Yes, No
	Number of current incapacities	0 incapacity, 1 incapacity, 2 incapacities, 3 incapacities, 4 incapacities
	Current incapacity 1 to 4 (4 variables)	Accident, Cancer, Cardiovascular, Congenital, Musculoskeletal, Nervous sensory, No incapacity, Other psychological, Other unspecified
	Identified incapacity in the previous 2 years: Accident, Cancer, Cardiovascular, Congenital, Musculoskeletal, Nervous sensory, Pregnancy, Substance abuse, Schizophrenia, Other psychological, Other unspecified (11 variables)	Yes, No
Labour market context	Territorial local authority area	64 categories
	Work and Income region	12 categories
	Quarter of start date	2004Qtr1, 2004Qtr2, 2004Qtr3, etc
Other	Ex-prisoner	Yes, No
Independence from Work and Income Assistance	Dependent on Work and Income Assistance in each of the 24 months prior to start date (24 variables)	Yes, No
Benefit information	Current benefit	Unemployment/Independent Youth, Domestic Purposes/Widow's/Emergency, Sickness, Invalid's, Supplementary only, No benefit
	Duration on current benefit	Categorical (<3 months, >3–6 months, >6–12 months, >1–2 years, >2–4 years, >4–6 years, >6–8 years, >8–10 years, Over 10 yrs, Unspecified)
		Continuous (days)
	Years on main benefit over previous 10 years	Categorical (0 years, <1 year, 1 year, 2 years, ..., 10 years)
	OnBenAt18	Yes, No, Too old
	Benefit status in each of the 24 months prior to start date (24 variables)	Unemployment/IYB, DPB/Widow's/EB, Sickness, Invalid's, Supplementary only, No benefit
Register duration	Current register duration	Categorical (< 3 months, >3–6 months, >6–12 months, >1–2 years, >2–4 years, >4–6 years, >6–8 years, >8–10 years, Over 10 years, Unspecified)
		Continuous (days)

Area	Variable	Presentation of variable in the analysis
Employment programme participation	Current participation in: Into-work support, Job search, Matching and placement, Training, Wage subsidy, Work confidence, Work experience, Other (8 variables)	Yes, No
	Participation in the previous 5 years in: Into-work support, Job search, Matching and placement, Training, Wage subsidy, Work confidence, Work experience, Other (8 variables)	No participation, Under 1 month, 1 to 3 months, 3 to 6 months, 6 months to 1 year, 1 to 2 years
	Programme participation in each of the 24 months prior to start date (24 variables)	Into-work support, Job search, Wage subsidy, Work confidence, Work experience, Training, Matching and placement, Other, No participation
Participation in tertiary study	Received student loans or allowances in each of the 24 months prior to start date (24 variables)	Yes, No
	Proportion of time receiving student loans and allowances in last 5 years or since 2000	Categorical (0 years, <1 year, 1 year, 2 years, ..., 5 years)
Part-time work	Average weekly declared earnings in each of the 24 months prior to start date (48 variables)	Categorical (No income, >\$0–\$80, >\$80–\$180, >\$180–\$300, >\$300)
		Continuous (nearest dollar)

Propensity matching Training Opportunities participants

As Table 13 illustrates, the participants and comparison group are matched on a large number of variables. Table 14 summarises the results of the propensity matching balancing test. The balancing test simply involves checking whether there are significant differences in the observable characteristics of the participant and comparison group. Statistical theory tells us that if we use the 95% confidence interval, no more than 5% of these individual tests should be significant. The last column in Table 14 confirms this is the case for Training Opportunities, where there are very few significant differences in the average profile of the participants and comparison group for the variables listed in Table 13.

Table 14: Summary of balancing test results for Training Opportunities propensity matching

Intervention	Variables tested	Number of classes (eg variable categories)	% of Variable classes with a significant difference (95%CI)
Training Opportunities (2000-2001)	212	838	0.6%
Training Opportunities (2002)	212	888	1.4%
Training Opportunities (2003)	212	891	1.1%
Training Opportunities (2004)	188	846	1.3%
Training Opportunities (2005)	187	842	0.4%
Training Opportunities (2006)	189	878	2.1%
Training Opportunities (2007)	216	956	3.1%

Participant and comparison group observations

Table 15 shows the number of individuals in the participant and comparison group. Because the propensity matching was with replacement; that is, an individual comparison group member can be selected for matching more than once. Matching with replacement does mean there are fewer comparison members than participants reducing the sensitivity of any tests of significance. The average weighting for the comparison group is around 1.19.

Table 15: Participant and comparison group observations

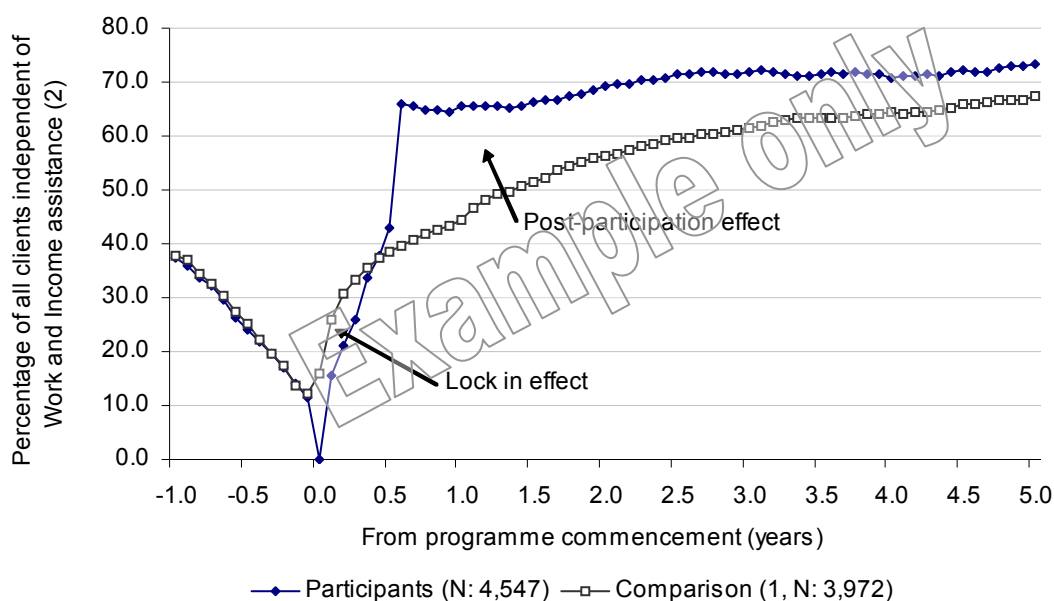
Programme	Observations		Average weight
	Participants	Comparison	
Training Opportunities (2000-2001)	4,871	3,970	1.23
Training Opportunities (2002)	4,775	4,134	1.16
Training Opportunities (2003)	4,749	4,082	1.16
Training Opportunities (2004)	4,702	3,939	1.19
Training Opportunities (2005)	4,697	3,974	1.18
Training Opportunities (2006)	4,695	3,900	1.20
Training Opportunities (2007)	4,709	3,990	1.18

Cumulative outcome measure

How clients' outcomes are measured can influence the conclusions about a programme's effectiveness. In this report we present clients' outcomes using a cumulative measure (ie the sum proportion of time clients spent Independent of Work and Income Assistance in the first year after starting the programme). An alternative would be to measure the proportion of clients Independent of Work and Income Assistance exactly one year after starting a programme. The problem with the latter "point in time" (or "as at") measure is that it ignores changes in clients' outcomes over time and therefore is a partial picture.

Figure 4 illustrates the difference between "point in time" ("as at") and cumulative measures using an example programme. Figure 4 tracks the outcomes of a group of programme participants and a matched comparison group. Taking a "point in time" approach, the impact of the programme varies considerably over time. In the first three months after starting the programme, participants' outcomes are **less** than those of the comparison group, implying a negative impact. However, at one year the situation is reversed, with participants' outcomes exceeding those of the comparison group. But, even at this point, the size of the programme's impact will vary according to the lapse period selected.

Figure 4: Proportion of participants and comparison¹ independent of Work and Income Assistance² over time



1: Comparison group is matched to participants based on observed characteristics of participants at programme start.
 2: No longer receiving a main benefit (eg Unemployment Benefit) or Work and Income employment assistance (eg wage subsidy).

The cumulative impact measure calculates the total time participants are off benefit at each lapse period (see Table 16). After six months (lapse period 0.5), participants and comparison groups had spent about the same amount of time independent of Work and Income Assistance. However, since participants' outcomes exceed the comparison group after this time (see Figure 4), the cumulative impact steadily increases over each successive lapse period.

Lock-in effect and post-participation effect

Related to measuring outcomes cumulatively are the concepts of programme lock-in (or locking-in) and post-participation effects. To help understand these two concepts, Figure 4 shows the impact of an example programme on the time participants spend Independent of Work and Income Assistance. The lock-in effect occurs during the time participants are on the programme, and generally means participants are less likely to become independent of Work and Income Assistance. To take up the example programme, participants spend an average of three months on the programme (from lapse period 0 to 0.3 in Figure 4). As the figure shows, during this period the outcomes of participants are less than those of the comparison group.

The post-participation effect is the benefit of the programme. In the example, Figure 4 demonstrates that the programme had a large positive post-participation effect from about three months after commencing the programme. After this point (lapse period 0.6 onwards), the outcomes of participants exceed those of the comparison by a wide margin.

The cumulative impact is the sum of the lock-in and post-participation effects. By definition, for a programme to have a positive cumulative impact the post-participation effect has to exceed the lock-in effect.

Table 16: An example of Impact¹ of illustrative programme on the cumulative time participants spend independent of Work and Income Assistance²

Lapse period (years)	Time spent independent of Work and Income Assistance over each lapse period					
	Participants		Comparison		Impact	
	Weeks	% of lapse period	Weeks	% of lapse period	Weeks	% of comparison
0.5	6.7	26%	8.2	32%	-1.5	-19%
1.0	23.4	46%	18.9	37%	4.5	24%
1.5	40.3	52%	31.4	41%	8.8	28%
2.0	57.6	56%	45.4	44%	12.3	27%
2.5	75.7	59%	60.3	47%	15.4	25%
3.0	94.1	61%	75.9	49%	18.2	24%
3.5	112.5	63%	92.0	51%	20.6	22%
4.0	130.9	64%	108.4	53%	22.5	21%
4.5	149.3	65%	125.0	54%	24.3	19%
5.0	167.9	65%	142.1	55%	25.8	18%

1: Impact estimates are based on matching on observables method.

2: Independent of Work and Income Assistance means a person is no longer receiving a main benefit or participating in Work and Income employment programmes.

References

Betcherman, G., Olivas, K., & Dar, A. (2004). *Impacts of Active Labor Market Programs: New Evidence from Evaluations with Particular Attention to Developing and Transition Countries* (Social

- Protection Discussion Paper Series No. 0402). Washington, D.C.: The World Bank. Retrieved from <http://info.worldbank.org/etools/docs/library/251019/day6DiscussionPaperSeries0402April6Se1.pdf>
- Card, D., Kluve, J., & Weber, A. (2009). *Active Labour Market Policy Evaluations: A meta-analysis* (Discussion paper No. 4002). Bonn: IZA Institute for the Study of Labour. Retrieved from <http://ftp.iza.org/dp4002.pdf>
- CSRE. (2004). *Training Incentive Allowance Phase 2 Evaluation*. Wellington: Centre for Social Research and Evaluation, Ministry of Social Development. Retrieved from <http://www.msd.govt.nz/about-msd-and-our-work/publications-resources/evaluation/training-incentive-allowance/index.html>
- CSRE. (2006). *Predicting future benefit receipt: 2006 statistical model*. Wellington: Unpublished internal report, Centre for Social Research and Evaluation, Ministry of Social Development.
- CSRE. (2007). *Straight 2 Work with Language, Literacy and Numeracy Evaluation Report*. Wellington: Internal report, Centre for Social Research and Evaluation, Ministry of Social Development.
- CSRE. (2008). *Sustainable Employment Annual Report: Annex 1 Evidence by Programme Type*. Wellington: Internal report, Centre for Social Research and Evaluation, Ministry of Social Development.
- CSRE. (2009). *Impact of Training Opportunities on outcomes of participant sub groups: Technical Report*. Wellington: Internal report, Centre for Social Research and Evaluation, Ministry of Social Development.
- Greenberg, D., Cebulla, A., & Bouchet, S. (2005). *Report on a meta-analysis of welfare to work programmes*. Maryland: University of Maryland. Retrieved from http://www.acf.hhs.gov/programs/opre/welfare_employ/meta_analysis/reports/report_wtw/meta_analysis.pdf
- Greenberg, D., Deitch, V., & Hamilton, G. (2009). *Welfare to Work program benefits and costs: a synthesis of research*. New York: Manpower Demonstration Research Corporation. Retrieved from <http://www.mdrc.org/publications/511/full.pdf>
- Hamilton, G. (2002). *Moving People from Welfare to Work Lessons from the National Evaluation of Welfare-to-Work Strategies*. New York: Manpower Demonstration Research Corporation. Retrieved from <http://www.mdrc.org/publications/52/summary.html>
- Higgins, J. (2003). *Labour Market Programmes for Young People: A Review*. Wellington: Ministry of Social Development.
- Kluve, J., Card, D., Fertig, M., Gora, M., Jacobi, L., Jensen, P., et al. (2007). *Active Labor Market Policies in Europe: performance and perspectives*. Berlin: Springer.
- Mare, D. (2002). The impact of employment policy interventions. *Labour Market Bulletin*, 2000-2002(1), 57-100. Retrieved from <http://www.dol.govt.nz/publication-view.asp?ID=89>
- MoE. (2009). *Training Opportunities: Statistical Profile 1999 to 2007*. Wellington: Ministry of Education,.
- OECD. (2001). *What works for whom: a review of OECD countries' experiences with active labour market policies*. Paris: Organisation For Economic Co-Operation And Development.
- OECD. (2004). Improving Skills for More and Better Jobs: Does Training Make a Difference? In OECD (Ed.), *Employment Outlook* (pp. 183-224). Paris: Organisation For Economic Co-Operation And Development.

- Perry, G., & Maloney, T. (2006). Evaluating Active Labour Market Programmes in New Zealand - What Works and What Does Not. *47th Annual Conference of New Zealand Association of Economists (NZAE)*, Wellington.
- Schochet, P., Burghardt, J., & McConnell, S. (2006). *National Job Corps Study and Longer-Term Follow-Up Study: Impact and Benefit-Cost Findings Using Survey and Summary Earnings Records Data*. Princeton: Mathematica Policy Research. Retrieved from <http://www.mathematica-mpr.com/labor/jobcorps.asp>
- Schochet, P., Burghardt, J., & McConnell, S. (2008). Does Job Corps Work? Impact Findings from the National Job Corps Study. *American Economic Review*, 98(5), 1864-1886.
- Schochet, P., McConnell, S., & Burghardt, J. (2003). *National Job Corps Study: Findings Using Administrative Earnings Records Data*. Princeton: Mathematica Policy Research,. Retrieved from <http://www.mathematica-mpr.com/labor/jobcorps.asp>
- Singley, S. (2003). *Barriers to Employment among Long-term Beneficiaries: A Review of Recent International Evidence*. Wellington: Ministry of Social Development, Unpublished report.
- Skill New Zealand. (1999). *Training Opportunities: Research into longer term outcomes*. Wellington: Skill New Zealand.
- Wylie, C. R. (1980). *Factors affecting the participation in the workforce of female heads of one parent families*. Wellington: Department of Social Welfare.