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An Exploratory Evaluation of the Next Step Service

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Glossary

Terminology Abbreviations

JCP	Jobcentre Plus
NS	Next Step
NCS	National Careers Service
f2f	Face-to-face
JSA	Jobseekers Allowance
IB	Incapacity Benefit
IS	Income Support
DLA	Disability Living Allowance
ESA	Employment and Support Allowance
ILR	Individualised Learner Record
HMRC	HM Revenue and Customs
DWP	Department for Work and Pensions
NBD	National Benefits Database
NQF	National Qualification Framework

Key findings

- The **Next Step** service is a nationally branded careers and skills advice service that is available free to adults in England aged 19 and over irrespective of their prior skills, qualifications and employment status. Since April 2012, Next Step has been rebranded as the **National Careers Service**.

- Of the **809,000** Next Step customers in the first year of service between August 2010 and July 2011, almost seven in ten were White British (68%); 54% were male; and half were aged between 19 and 34. Almost two thirds (63%) of Next Step customers had a qualification at Level 2 or below, reflecting the relatively low level of prior attainment. The majority of Next Step customers (65%) reported that they were unemployed, of which just over a quarter had been out of work for less than 6 months, while just over one in five Next Step customers had been unemployed for more than three years. More than half of Next Step customers (55%) reported that they were in receipt of JSA, Income Support or Employment and Support Allowance.

- Four-in-five people who accessed Next Step self-referred to the service, with the remainder being referred through Jobcentre Plus. Compared to self-referral, a higher proportion of males are referred to Next Step through Jobcentre Plus (62% compared to 52%). Additionally, proportionately more White British customers and those aged between 25 and 54 were referred through Jobcentre Plus compared to the self-referral route.

- Support can either take place on the telephone, through a web-based service such as e-mail or face-to-face. Overall, almost three-quarters of first intervention sessions were face-to-face, 27% were via the telephone while approximately 1% were web-based. Almost all referrals from Jobcentre Plus led to face-to-face support sessions (98%) compared to only two thirds of self-referrals.

- To undertake a robust analysis, we compared the outcomes of individuals in receipt of Next Step service to a sample of individuals that were not in receipt of the Next Step service but had similar personal and socioeconomic characteristics as the treatment group. We recognise that identifying a control group is particularly challenging because the reason people choose Next Step will possibly be to do with motivation to change one's circumstances which is particularly difficult to assess from existing data. Nonetheless, we thought that using Propensity Score Matching would be a useful first step. A number of Propensity Score Matching models were constructed using different variables to match the treatment and control groups, as well as using different samples of Next Step customers. The use of this econometric approach reduces the potential for bias and results in a better comparison between those in receipt of Next Step support and those individuals not-in-receipt of support. **The PSM modelling approach was successful**. **Across all variables considered, the difference in the means between the treatment and control (matched) groups was substantially less than between the treated and untreated (unmatched) groups. As such, we have some confidence in the subsequent results**.

- Looking at the entire sample of Next Step customers, for which approximately 528,000 have employment and benefits records, 55% of Next Step customers were in employment 12 months prior to the intervention, compared to 59% in the control group. The rate of employment increases for the control group to 63% at the time of intervention, while the employment rate for Next Step customers remains relatively constant at 55% (corresponding to a gap of 8 percentage points (pp) at the time of intervention). **Post-support, the rate of employment for the control group increases further with 65% in employment six months after Next Step customers receive support. In contrast, for those Next Step customers, employment rates increased by 9 percentage points from 55% to 64% in the six months post intervention. The gap in employment rates between the treatment and control groups stood at 1 percentage point six months post-support, implying that approximately 85% of the employment gap had been erased following the receipt of support**.

- Adopting an equivalent approach in relation to JSA, the analysis suggests that the control group exhibited a steady downward trend in the proportion claiming JSA (from 13% twelve months before the intervention to 9% at the time of the intervention and 8% six months post-intervention). Next Step customers experienced an increase in the proportion claiming JSA up until a peak of almost 39% at the point of receiving support, which demonstrates the rapid decline in labour market outcomes prior to engaging with Next Step. **After the receipt of Next Step support, the proportion of Next Step customers in receipt of JSA decreased rapidly to 27% and 21% three and six months post-support respectively. The overall gap between the treatment and control groups was greatest at the time of intervention (almost 30pp), but declined to between 12 and 13 percentage points six months following the intervention. Although the benefit dependency gap was not eliminated, nor does it return to the level that existed 12 months pre-support, from the highest point, the size of the JSA dependency gap was reduced by approximately 59% in the six months post intervention.**

- Despite our best efforts, the control group is too different from the Next Step group in both analyses above to show clear conclusions about the impact of careers advice interventions. However, the analysis describes what has happened to the group of people who accessed Next Steps both before and following the Next Steps intervention, and that is interesting, for example showing a substantial reduction from 39% claiming JSA at the time of the intervention to 21% 6 months later. There will be many reasons why people obtained employment or otherwise left JSA benefit, to which the Next Steps intervention has contributed. Because of the nature of the control group, it has not been possible at this stage to say how large that contribution was. The findings here are clearly consistent with a positive impact of Next Step on moving from JSA benefit. But they are also consistent with there being a negligible effect. At this stage we cannot clearly distinguish between these outcomes. Further work will be needed to obtain a better understanding of the additional benefit of Next Step, as indicated at the end of the Executive Summary.

- We replicated this initial analysis using a range of different ‘cuts’ of data and different Propensity Score Matching models and found that the results were qualitatively unchanged.

Executive Summary

London Economics were commissioned by the Department for Business, Innovation and Skills to undertake an evaluation of the outcomes associated with the Next Step service[1]. The primary aim of the study was to explore the potential for exploiting the new Next Step customer data in order to carry out an analysis of employment and learning outcomes for Next Step customers using a matched dataset consisting of (i) Next Step customer data for the first 12 months of service delivery; (ii) the Individualised Learner Record (ILR) containing the incidence and nature of education and training; (iii) the DWP National Benefits Database (NBD) containing information on benefit dependency; and (iv) the HMRC employment (P45) and earnings (P14) datasets. Given the exploratory nature of the analysis, one of the key aims associated with the evaluation was to develop a series of recommendations based on this initial analysis, particularly in relation to methodological/ data issues, to assist further any analysis potentially undertaken in the future.

The Next Step service

The Next Step service is a nationally branded careers and skills advice service that is available free to adults in England aged 19 and over (and Jobcentre Plus customers aged 18 and over), irrespective of their prior skills, qualifications and employment status. The commissioning, contracting and performance management of the Next Step service is the responsibility of the Skills Funding Agency. Since April 2012, Next Step has been rebranded as the National Careers Service. In line with the stated programme objectives, the service supports customers to:

- Develop their career
- Improve their skills
- Get ready for work
- Find out about the types of support available to them, and
- Find out about funding support their learning

The service is delivered via three channels; adults can speak to an adviser, either on the telephone or face-to-face (f2f), and/or they can access Next Step online (where there is also the facility to e-mail an adviser). The three channels operate as a single integrated service where customers can be referred/ signposted between them to provide the support that best suits their needs.

The targets associated with the Next Step service are to achieve the following:

- 40% of face-to-face service users to enter learning or training;
- 30% of face-to-face service users to enter sustainable employment;
- 15% of face-to-face service users to progress in work;
- 45% of face-to-face service users to become qualified to a higher level; and

[1] Note that the Next Step service has been re-branded since April 2012 and is now known as the National Careers Service

- an expectation that at least 15% of face-to-face service users to have a learning difficulty or disability that could adversely affect their participation in work

Characteristics of Next Step customers

Of the 809,000 Next Step customers in the first year of service between August 2010 and July 2011, almost seven-in-ten were White British (68%); 54% were male; and half were aged between 19 and 34. Almost two thirds (63%) of Next Step customers had a qualification at Level 2 or below, reflecting the relatively low level of prior attainment; however, there were also approximately 8% of customers who had an undergraduate degree or postgraduate qualifications. The majority of Next Step customers (65%) were unemployed, of which just over a quarter had been out of work for less than 6 months, while just over one-in-five Next Step customers had been unemployed for more than three years. More than half of Next Step customers (55%) self-reported that they were in receipt of Jobseekers Allowance, Income Support or Employment and Support Allowance. Approximately one-in-four Next Step customers were either employed or self-employed.

Awareness of Next Step

There were a number of different channels through which clients became aware of the Next Step service and the personal and socioeconomic characteristics of Next Step customers differs significantly depending on the channel. The two most common channels were 'non-media' and Jobcentre Plus, accounting for 46% and 38% respectively. Of those who became aware through Jobcentre Plus, over 60% were male; 69% were aged between 25 and 54 and 72% were White British. As expected, a large proportion (80%) of those who became aware of the Next Step service through Jobcentre Plus were in receipt of Jobseekers Allowance only, while 90% were unemployed and almost 75% had a qualification at Level 2 or below. Compared to the Jobcentre Plus channel, a smaller proportion of those who became aware of Next Step through 'non-media' channels were male (51%); White British (63%); in receipt of Jobseekers Allowance (34%); unemployed (57%); or held a qualification at Level 2 or lower (64%).

Referral to Next Step

Four-in-five Next Step customers self-referred to the service with the remainder being referred through Jobcentre Plus. Compared to the self-referral route, a higher proportion of males were referred to Next Step through Jobcentre Plus (62% compared to 52%). Additionally, proportionately more White British customers and those aged between 25 and 54 were referred through Jobcentre Plus compared to the self-referral route. Approximately the same proportion of customers with learning disabilities self-referred or were referred by Jobcentre Plus.

Of those customers who were referred by Jobcentre Plus, 85% were in receipt of Jobseekers Allowance only, compared to 40% of those who self-referred to the Next Step service. Additionally, the majority (92%) of referrals from Jobcentre Plus were for people who were unemployed. Of the Next Step customers who were unemployed, approximately 45% were recently unemployed although almost 20% had been unemployed for over three years.

Almost three-quarters of Next Step customers who were referred by Jobcentre Plus were low skilled (highest qualification was Level 2 or below), whereas 62% of self-referral customers possessed low skills.

As previously described, interventions can either take place on the telephone, through a web-based service such as e-mail or face-to-face. Overall, almost three-quarters of first intervention sessions were face-to-face, 27% were via the telephone while approximately 1% were web-based. When assessing referrals by type of intervention or support received, it appears that almost all referrals from Jobcentre Plus led to face-to-face interventions (98%) compared to only two thirds of all self- referrals.

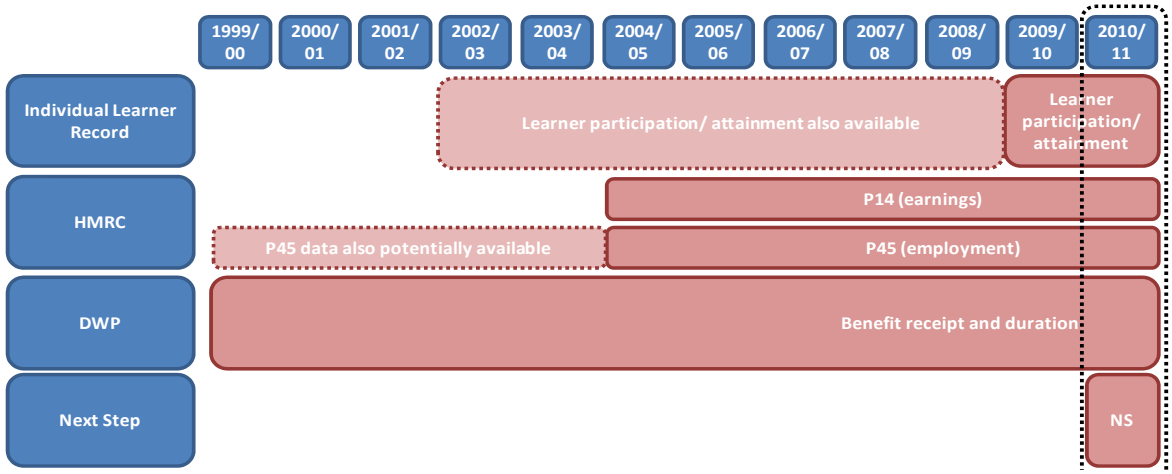
Targeting of priority groups

Next Step customers are entitled to more than one telephone or web-based intervention session. All customers can access one face-to-face funded session, but customers in the specific priority groups can access a further two funded face-to-face sessions. According to the Next Step data, almost all Next Step customers had only one intervention session record open. Just over 6% of customers went on to have more than one intervention session. Of those 27,710 Next Step customers who received face-to-face support for both their first and second sessions, just over 80% were in at least one priority group, while almost 40% faced multiple labour market or education related disadvantages (customers who were in more than one priority group). This indicates that the targeting of the Next Step service does appear to be correctly focusing on those individuals that are perceived to be in the greatest need of support.

Data Matching

Information from the merged ILR and Next Step dataset was matched with the history of earnings, employment and benefits data contained in the P14, P45 and NBD datasets. The resulting dataset combines the earnings, education, employment and benefit histories of 15,804,135 individuals between 1998/99 and 2010/11 (all those kept after the reshaping of the ILR) with information on 691,843 customers (85%) who used the Next Step service and 15,112,292 non Next Step customers. In the original Next Step customer level database, there were 809,463 observations; however, in 104,254 cases, the information on matching ID was unavailable, while in a further 13,366 cases, the data contained duplicate identifiers. Removing these observations left 691,843 Next Step customer observations for further analysis. The ‘shape’ and overlap of the data carried forward for subsequent analysis is presented in Figure 1.

Figure 1: Merged data



Source: London Economics

Implications of merging different data sets and timing issues

One important point to note is that the Next Step administrative data covers August 2010 to July 2011, which implies that there is relatively limited information on the employment, earnings and benefit dependency outcomes following the receipt of Next Step support. One implication of absence of information in the immediate aftermath of the intervention is that consideration needs to be given to the different sample sizes underpinning the analysis. This issue is exacerbated the further beyond the point of intervention travelled. For example, it might be the case that a Next Step customer received support in June 2011. Given this, there may be employment and benefit information 3, 6 and 12 months prior to the receipt to support; however, there will be no employment information either at the time of receiving Next Step support or in the immediate aftermath. In contrast, for an individual receiving Next Step support in September 2010, the merged dataset should contain employment and benefit dependency information both pre-support, but also 3 and 6 months post-support.

Econometric analysis

The general evaluation problem of determining the effects of a particular programme involves the identification of the outcomes that an individual achieves following access to the service. However, at any given time, we cannot observe the same individual being in two different states (receipt of support and non-receipt of support) and therefore we have to rely on constructing the appropriate counterfactual.

A basic analysis involves assessing what happens to those individuals 'before and after' accessing Next Step support. This is the comparison in outcomes between those individuals *treated* as part of the service and those that were *untreated*. However, there may be differences in the personal and socioeconomic characteristics between the treated and untreated groups that account for the different outcomes ("selection bias"), and given the differences within the Next Step customer pool depending on whether individuals self-referred or were referred through Jobcentre Plus, these differences in personal and socioeconomic characteristics are likely to be large.

Therefore, the basic analysis must be augmented by considering the outcomes of individuals in receipt of Next Step service compared with a sample of individuals that were not in receipt of the Next Step service but had similar personal and socioeconomic characteristics as the treatment group. Once this treatment versus counterfactual approach is adopted, comparing outcomes across groups before and after the receipt of support provides a more accurate indication of the true impact of the service.

We recognise that identifying a control group is particularly challenging because the reason people choose Next Step will possibly be to do with motivation to change one's circumstances which is particularly difficult to assess from existing data. Nonetheless, we thought that using Propensity Score Matching would be a useful first step.

It is a substantial challenge to identify the separate impact of Next Step among all the other things that people do once they are motivated to do something. If people do want to get a job, then Next Step is almost certainly a useful thing to do. But if you don't look for a job, then you are not likely to get one whether you go to Next Step or not. And if you do look for a job, you are quite likely to get one, again whether you go to Next Step or not. It is almost certain that Next Step provides *some* benefit, whether in finding a job at all, or in finding a job you like, or in finding a better job, or in some other way. But identifying the separate impact of this is always likely to be difficult.

Propensity Score Matching model

To achieve this, using information from the various merged data sets on the 528,528 Next Step customers with available benefit and employment information, we undertook a number of *Propensity Score Matching* models to determine the characteristics of those individuals receiving the support (the *treatment group*), and *matched* this sample of individuals with a equally sized sample of individuals (*control group*), who have similar observable characteristics as those in receipt of Next Step support but who did not access the service (on the basis of their personal, socioeconomic and labour market outcomes prior to the commencement of the Next Step service).

For robustness, we repeated the analysis using a number of different treatment and counterfactual groups. Specifically, we compared (1) the population of Next Step customers with a control group of individuals drawn from the entire population of individuals contained in the merged data set. We repeated this approach for (2) Next Step customers aged between 16 and 64, as well as for (3) Next Step customers that had received the service early in its lifetime (pre January 2011). We also considered (4) Next Step customers who had had some interaction with the Further Education and Skills system with a group of individuals who had not been in receipt of the Next Step service, but had also had some interaction with the FE & Skills system.

Propensity Score Matching results

The Propensity Score Matching model matched well on all variables. Specifically, the use of this modelling approach reduced the potential for selection bias and resulted in a better comparison between those in receipt of Next Step support and those not-in-receipt of support. For instance, where there was a 11 percentage point difference in the proportion of females between the treated and untreated samples (43% compared to 54%), this was reduced to 0.3 percentage points following the PSM analysis (42.7% compared to 43.0%). Across all variables considered, the difference in the means between the treatment and

control groups was substantially less than between the treated and untreated groups (e.g. the mean age gap was reduced by 1.2 years (1.7 to 0.5 years), the employment proportion gap was reduced by 9.6 pp (10.1 pp to 0.5 pp), the benefit proportion gap was reduced by 9.2 pp (9.7 pp to 0.5pp) while the JSA proportion gap was reduced by 5.9 pp (6.0.pp to 0.1 pp). As such, we have some confidence in the effectiveness of the Propensity Score Matching model and the subsequent results.

However the evidence presented cannot be interpreted as necessarily showing a causal impact of the Next Step service on labour market outcomes: Next Step customers tend to show a declining trend in labour market outcomes up to the intervention date (especially in relation to benefit dependency) and although they recover quite strongly after the intervention, we are not able to assess to what extent they would have experienced a similar recovery in the absence of the service.

Findings in relation to employment

Looking at the entire sample of Next Step customers for which 528,528 have employment and benefits records, 55% of Next Step customers were in employment 12 months prior to the intervention, compared to 59% in the control group. The rate of employment increases marginally for the control group to 63% at the time of intervention, while the employment rate for Next Step customers remains relatively constant at 55% (corresponding to a gap of 8 percentage points). Post-support, the rate of employment for the control group increased marginally with 65% of this group in employment 6 months after the Next Step customers received support. In contrast, for those in receipt of Next Step support, the average employment rate increased by 9 percentage points from 55% to 64% in the six months post intervention. The gap in employment rates between the treatment group and counterfactual group stood at 1 percentage point six months post intervention, implying that approximately 85% of the employment gap had been erased following the receipt of Next Step support.

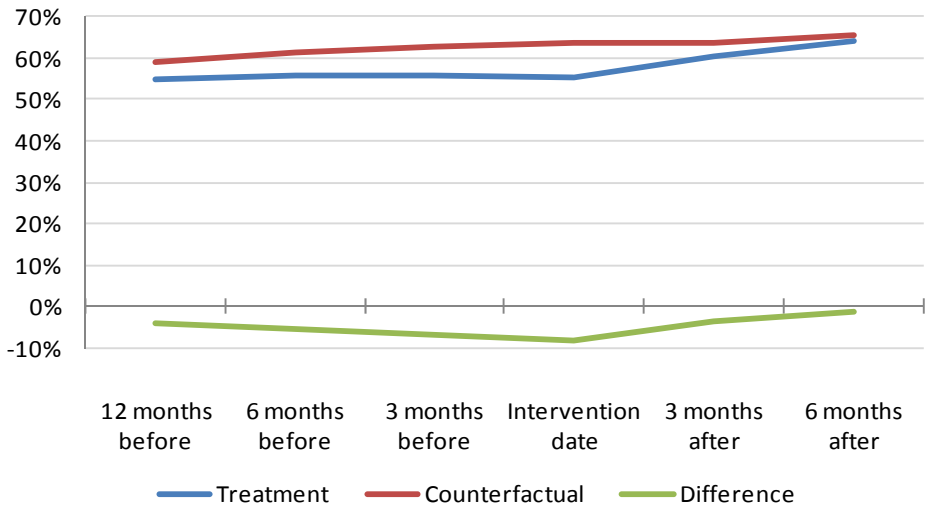
Table 1: Proportion of individuals in employment, entire matched sample

	Treatment	Control	Difference (pp)
12 months before	54.7%	59.0%	-4.3pp
6 months before	55.8%	61.5%	-5.7pp
3 months before	55.8%	62.6%	-6.8pp
Intervention	55.4%	63.5%	-8.1pp
3 months after	60.3%	63.7%	-3.4pp
6 months after	64.1%	65.3%	-1.2pp

Note: Maximum sample size = 1,057,576 (sample size for the treatment group and counterfactual stands at 528,528 each). Maximum sample size occurs 12 months prior to receipt of Next Step support by Next Step customers. As presented in Table 17, the available sample size at different points pre and post support varies depending on the point at which Next Step support is received. For those receiving Next Step support later on in the first year, there is increasingly limited information relating to employment and benefit dependency, thereby resulting in declining sample sizes over the period of analysis

Source: London Economics' analysis

Figure 2: Proportion of individuals in employment, all Next Step customers



Source: London Economics' analysis

To further test the robustness of the results and overcome potential issues in relation to data unavailability, we replicated the analysis using three further samples of Next Step customers (or 'cuts' of data). Following the analysis of pre- and post-support outcomes for all individuals for whom there was employment information, we restricted the sample to those individuals aged between 16 and 64. We also undertook an analysis of any Next Step customers who received support early in the service's lifespan (pre January 2011). We also considered just those individuals who had been identified within the ILR database as having some interaction with the FE sector prior to the introduction of Next Step.

These alternative sample restrictions were adopted to reduce the extent of any possible uncertainty in the results that might arise as a result of the inclusion of a number of Next Step customers that might be outside the working age population, or in the case of those individuals receiving early support, ensuring that employment or benefit dependency data suffers to the least extent from attrition. The analysis of those individuals with ILR identifiers was also undertaken to further control for the possibility of unobserved differences between the treatment and control groups, and in the absence of consistent information on prior attainment, offered the best approach for assessing the impact of Next Step over and above the role of education, training and qualification acquisition.

In addition to the different 'cuts' of data, we also replicated the initial analysis consisting of all Next Step customers for whom data existed using a number of alternative Propensity Score Matching model specifications. In particular, we used different combinations of labour market and benefit dependency variables to assess the extent to which the results might be sensitive to the matching model.

The results were unchanged irrespective of the Propensity Score Matching model variables used for matching or the different 'cuts' of data. All analyses demonstrated that the gap in employment incidence between the treatment and control groups is greatest at the point of intervention; however, following the intervention, the gap between the treatment and counterfactual declines significantly (by between 70% and 86%).

Table 2: Summary of sensitivity analysis on impact of Next Step employment outcomes				
Counterfactual	**Control 1**	**Control 2**	**Control 3**	**Control 4**
Description	**All Next Step customers**	**Next Step customers aged 16-64**	**Early intervention**	**Next Step customers with ILR flag**
Number of observations	**1,057,056**	**1,014,564**	**431,088**	**382,412**
At intervention	-8.1 pp	-8.7 pp	-8.7 pp	-10.6pp
3 months post intervention	-3.4 pp	-3.7 pp	-3.4 pp	-5.8pp
6 months post intervention	-1.2 pp	-1.3 pp	-1.2 pp	-3.1pp
Reduction in gap by 3 months post intervention (%)	58.0%	57.5%	60.9%	45.3%
Reduction in gap by 6 months post intervention (%)	85.2%	85.1%	86.2%	70.7%

Source: London Economics' analysis

Although the analysis appears to indicate that the proportion of the employment gap bridged under by Next Step customers with an ILR flag is less than under the analysis looking at all Next Step customers (71% compared to 85%), in fact, there is a limited difference between the model results. Specifically, the proportion of Next Step customers (and their control group) in employment under the first PSM model stood at 55% compared to 63% at the point of intervention, and 64% compared to 65% respectively six months post intervention. In contrast, the comparable employment probabilities for Next Step customers with an ILR flag (and their control group) under the final PSM model stood at 54% and 65% at the point of intervention compared to 63% and 66% respectively six months post intervention.

Findings in relation to benefit dependency

Following an equivalent approach in relation to Jobseekers Allowance, we used the entire sample of Next Step customers (consisting of 528,528 records) to produce the following results. The analysis presented in Table 3 indicates that the control group exhibits a steady downward trend in the proportion in receipt of Jobseekers Allowance (from 13% twelve months before receipt of support to 9% at the time of intervention and 8% six months post intervention). The treatment group (Next Step customers) experiences an increase in the proportion of people on JSA up until a peak of almost 39% at the date of receiving support, demonstrating the rapid decline in labour outcomes prior to the intervention. After the receipt of Next Step support, the proportion of treated individuals in receipt of JSA declines to 27% and 21% three and six months after the intervention respectively. The overall gap between the treatment and control groups is (again) greatest at the time of intervention (almost 30 percentage points), declining to between 12 and 13 percentage points six months following the intervention. Although the benefit dependency gap is not eliminated, nor does it return to the level that existed 12 months pre-support (where is was 6 percentage points), from the highest point, the size of the JSA dependency gap is reduced by approximately 59% in the 6 months post intervention.

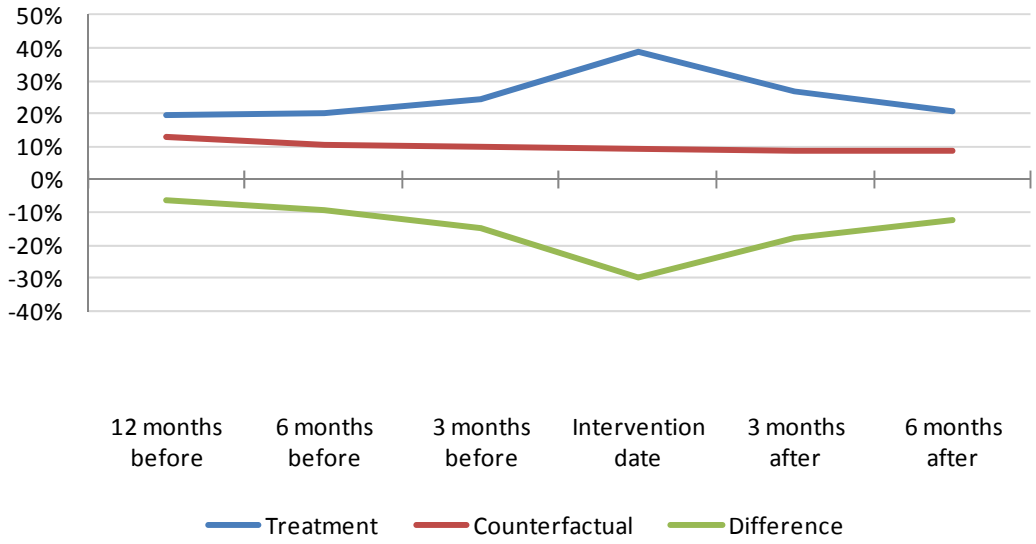
Table 3: Proportion of individuals on JSA, entire matched sample

	Treatment	Control	Difference
12 months before	19.3%	12.8%	6.5pp
6 months before	20.0%	10.6%	9.4pp
3 months before	24.2%	9.6%	14.6pp
Intervention	38.9%	9.2%	29.7pp
3 months after	26.7%	8.6%	18.1pp
6 months after	20.6%	8.4%	12.2pp

Note: Maximum sample size = 1,057,576 (sample size for the treatment group and counterfactual stands at 528,528 each). Maximum sample size occurs 12 months prior to receipt of Next Step support by Next Step customers. As presented in Table 17, the available sample size at different points pre and post support varies depending on the point at which Next Step support is received. For those receiving Next Step support later on in the first year, there is increasingly limited information relating to employment and benefit dependency, thereby resulting in declining sample sizes over the period of analysis

Source: London Economics' analysis

Figure 3: Proportion of individuals on JSA, all Next Step customers



Source: London Economics' analysis

In Table 4, replicating the analysis undertaken in relation to employment, a summary of findings relating to JSA dependency outcomes using the different 'cuts' of data is presented. This illustrates that across the different samples, the analysis indicates that there is a positive impact associated with the receipt of Next Step support, with the gap in JSA dependency between the various treatment and control groups being cut by between 35% and 42% three months post support and by between 59% and 66% six months post-support[2].

[2] The analysis demonstrates that although the treatment and control groups have been matched based on their labour market and benefit dependency histories in 2009, there is a wide divergence in outcomes between the various treatment and control groups up to the point of intervention, followed by post service convergence. In the academic literature (see for instance Ashenfelter (1978) and Heckman (1999)), this has been referred to as the 'Ashenfelter dip', whereby this deterioration in outcomes prior to the receipt of service is explained by differences in the personal characteristics between the treatment and counterfactual, which if controlled for appropriately would reduce the estimated impact of the service. The impact of the 'Ashenfelter dip' may be more of an issue with respect to the findings relating to benefit dependency (given the significant pre-service deterioration between the groups) but less of an issue in

Table 4: Summary of sensitivity analysis on impact of Next Step benefit outcomes

Counterfactual	Control 1	Control 2	Control 3	Control 4
Description	All Next Step customers	Next Step customers aged 16-64	Early intervention	Next Step customers with ILR flag
Number of observations	**1,057,056**	**1,014,564**	**431,088**	**382,412**
At intervention	29.7pp	31.3pp	31.5pp	28.8pp
3 months post intervention	18.1pp	19.2pp	18.1pp	18.7pp
6 months post intervention	12.2pp	12.3pp	12.2pp	12.4pp
Reduction in gap by 3 months post intervention (%)	39.1%	38.7%	42.5%	35.0%
Reduction in gap by 6 months post intervention (%)	58.9%	60.7%	61.3%	65.9%

Source: London Economics' analysis

Despite our best efforts, the control group is too different from the Next Step group in both analyses above to show clear conclusions about the impact of careers advice interventions. However, the analysis describes what has happened to the group of people who accessed Next Steps both before and following the Next Steps intervention, and that is interesting, for example showing a substantial reduction from 39% claiming JSA at the time of the intervention to 21% 6 months later. There will be many reasons why people obtained employment or otherwise left JSA benefit, to which the Next Steps intervention has contributed. Because of the nature of the control group, it has not been possible at this stage to say how large that contribution was. The findings here are clearly consistent with a positive impact of Next Step on moving from JSA benefit. But they are also consistent with there being a negligible effect. At this stage we cannot clearly distinguish between these outcomes.

Conclusions and recommendations

Given the extensive thought and effort that has been undertaken to generate a matched data set that is appropriate for subsequent analysis, we would recommend that the current analysis is repeated as new information on labour market outcomes becomes available. As with other work undertaken using a number of the data sets considered in this project, the assessment of Next Step customer outcomes over time would yield results that are more useful and comprehensive from a policy perspective than those that can currently be presented. In particular, in addition to the consideration of the medium term outcomes achieved by Next Step customers compared to the various control groups, as more post-support data becomes available, the analysis could be replicated to consider different characteristics of the Next Step service (such as alternative referral routes or different formats or intensities of support).

respect of employment outcomes given the relative stability of the employment outcomes (for both the treatment and counterfactual groups) pre intervention.

Timing and scope of future analysis

The data re-organisation and matching provides a strong basis for the examination of the labour market and benefit histories of Next Step customers in the years prior to the receipt of Next Step support; however, given the fact that the Next Step administrative data is limited to the period August 2010 to July 2011, some issues arise. Specifically, there is a scarcity of information in relation to the outcomes achieved by those individuals following the receipt of support against either the wider group of individuals not accessing Next Step support (the 'untreated') or the more selective group of individuals with similar observable characteristics as those accessing support (the 'counterfactual'). As such, irrespective of the methodological approach adopted, currently it is only possible to have confidence in the outcomes achieved by Next Step customers in the immediate aftermath of the support (3 or 6 months). Despite undertaking a number of different analyses using a range of different samples of Next Step customers, the results only characterise the *immediate* outcomes achieved by participants.

- Given the current focus on the immediate labour market outcomes achieved by Next Step customers, we would recommend that the Department replicates this analysis on an ongoing basis as additional information becomes available. In the first instance, limiting the analysis to those Next Step customers receiving support in the first 12 months of operation alongside the incorporation of an additional 12 months labour market and benefits data would be most fruitful, as this would provide additional certainty in relation to the outcomes achieved of the first cohort of customers in the first 18 months post-support. In addition, given the fact that the acquisition of education, training and qualifications generally lasts several months, this extension work would also allow for the assessment of whether the Next Step service has resulted in additional qualification attainment amongst recipients.
- Once the baseline analysis has become more established, in the second instance, we would recommend that the analysis is undertaken every 12 months thereafter. This medium term strategy would allow for the assessment of the outcomes of the first cohort of Next Step customers in the 30 months post support, as well as the second cohort of Next Step customers in their first 18 months post support. This would greatly assist our understanding of whether the impact of Next Step is temporary or permanent.

Understanding different referral routes and support intensity

The information on the characteristics of Next Step customers by referral route is hugely important. Specifically, Next Step customers referred through Jobcentre Plus are more likely to be male, white-British, have lower levels of educational attainment, more likely to be unemployed, more likely to be in receipt of Jobseekers Allowance and marginally younger.

- Given the clear differences in the personal characteristics within the Next Step customer population, any longer term analysis of the effectiveness of the Next Step service needs to consider the outcomes of Next Step customers by referral route as it is certainly possible to categorise those referred through Jobcentre Plus as facing greater labour market and educational challenges compared to those individuals self-referring.

- As the data collection element of the Next Step service further embeds and becomes richer, there will also be the possibility of assessing the impact of the support depending on the number or nature of support sessions that Next Step customers receive. Specifically, given the fact that certain priority groups are eligible to receive a number of face-to-face sessions, we would recommend that further analysis is undertaken on the extent to which more intensive support alleviates the labour market and education barriers faced by those furthest away from the active labour market.

Data gaps and availability

There are a number of gaps in the Next Step customer data that limit the comprehensiveness of the analysis. Specifically, from a base of almost 909,000 records, approximately 3% of records were removed because of missing information on date of birth and 1% because of missing information on ethnic origin. However, once multiple intervention records were removed (legitimately) when moving from intervention level to Next Step customer level, a further 104,000 customer records were removed because of missing matching identifiers (13% of customer records), while a further 13,336 Next Step customers were removed from the analysis because of duplicate information (2% of Next Step customers).

We would recommend, as far as is possible, that the information collected on Next Step customers is as comprehensive as possible, as there is the opportunity of increasing the available sample, and thereby improving the degree of certainty associated with the results generated.

Methodological development

There are some methodological developments that could be considered in future in relation to the approach for selecting the treatment and control groups. Specifically, although we considered a range of Propensity Score Matching models and a range of different 'cuts' of data', the deterioration on the benefit dependency outcomes (in particular) of the treatment group compared to the control groups prior to the receipt of the service, with a subsequent reversal (the 'Ashenfelter dip') does raise a question in relation to whether the modelling approach adequately controls for the differences between the groups. We believe that more research in relation to how the control group is selected so that the true impact of the service on recipient outcomes would be beneficial. In particular, Next Step customers seem to have a higher probability of being in receipt of labour market related benefits immediately prior to the intervention date, a trend not shown in the control group (the two groups were matched on benefit dependency in the year prior to the commencement of next steps, but not on benefit status around the intervention date). Matching on the detailed labour market history may potentially reduce the potential bias between the two groups.

Introduction and Terms of reference

Terms of reference

London Economics were commissioned by the Department for Business, Innovation and Skills to undertake an evaluation of the outcomes associated with the Next Step service. The primary aim of this study was to explore the potential for exploiting the new Next Step customer data in order to carry out an initial exploratory analysis of employment and learning outcomes for Next Step customers using a matched dataset consisting of (i) Next Step customer data for the *first* 12 months of service delivery between August 2010 and July 2011; (ii) the Individualised Learner Record (ILR) containing information on the level and type of education and training undertaken; (iii) the DWP National Benefits Database (NBD) containing information on benefit dependency; and (iv) the HMRC employment (P45) and earnings (P14) datasets. Given the relative newness of the data being considered, one of the key aims associated with the evaluation was to develop a series of recommendations based on this initial analysis, particularly in relation to methodological/ data issues, to assist with further analysis potentially undertaken in the future. The report is set out as follows:

The remainder of this chapter outlines some of the background and context associated with the Next Step service during the first year of service. Section 2 provides a detailed description of the Next Step dataset, while Section 3 presents the approach undertaken by London Economics merging the various data sets as well as a summary methodology. In section 4 of the report, we provide a detailed exposition of the labour market histories and outcomes of Next Step customers, while in Section 5 of the report, we provide a comparison of the labour market histories of those individuals receiving the Next Step service compared to all individuals not receiving the service (known as the 'treated' versus 'untreated' comparison). In Section 6, we provide information on the analysis undertaken to generate a comparison group of 'untreated' individuals with similar personal characteristics and labour market histories as those receiving in the Next Step service. We then provide a detailed analysis of the relative employment and benefit dependency outcomes between the treatment and counterfactual groups pre- and post-intervention[3] to assess the impact of the Next Step service on labour market outcomes. This element of the analysis considers the relative outcomes over time across the main sample of Next Step customers; a restricted sample of Next Step customers of working age; and a sample of Next Step customers who received support during its early stages of the service. In this section, we also undertook some additional analysis to assess the impact of the Next Step service on customers who had received some form of education and training and who were identified within the ILR. Section 7 concludes.

[3] Note that 'intervention' may mean different things for different customers. Specifically, 'intervention' refers to the entire portfolio of support received by a customer. In other words, for some individuals, an 'intervention' may refer to the support received within a single session, while for other Next Step customers, the 'intervention' may refer to two of three sessions of support or assistance. Throughout the report, we differentiate between 'interventions' and 'intervention sessions'.

Background and context

Description of the Next Step service

The Next Step service is a nationally branded careers and skills advice service which is available free to adults in England aged 19 and over (and Jobcentre Plus customers aged 18 and over), irrespective of their prior skills, qualifications and employment status. The commissioning, contracting and performance management of the Next Step service is the responsibility of the Skills Funding Agency. In line with the stated service objectives, the Next Step service supports customers to:

- Develop their career
- Improve their skills
- Get ready for work
- Find out about the types of support available to them, and
- Find out about funding support their learning

The service is delivered via three channels; adults can speak to an adviser, either on the telephone or face-to-face (f2f) and they can access Next Step online (where there is also the facility to e-mail an adviser). The three channels operate as a single integrated service where customers can be referred/ signposted between them to provide the support that best suits their needs. The web service provides the first point of contact with the service for many customers.

Customers are able to access the following tools and services on the website:

- **Skills Health Check**, using psychometric techniques to enable individuals to diagnose and assess their skills, abilities, personal attributes, preferences, and career and work objectives
- **CV builder**, providing a variety of templates for effective CV structure and headings, with guidance on how to complete a CV
- **Labour market information**, including:
    - sector information provided by Sector Skills Councils (updated on a quarterly basis)
    - comprehensive information on career paths, setting out the qualifications, skills and experience required for specific careers and jobs
- **Course search**, enabling individuals to search the Next Step Course Directory with access to course information for all colleges, private and third sector training providers accredited to receive public funding by the Skills Funding Agency, and information on provider quality drawn from the Framework for Excellence
- **Entitlement checker** enabling individuals to get information on their potential entitlement to public funding for training, covering support with tuition fees and

learner support funds to help with other costs (transport, childcare, books and equipment)

- a wide range of online **information and advice** including access to advisers via email, web forums and articles on relevant work and skills issues, and
- a **Lifelong Learning Account**, which is a free personal online space to help manage learning and careers including saving CVs and searches, storing personal action plans and checking funding and learning

Customers can access the telephone and web channels as many times as they require. All customers can access one face-to-face funded session. However customers in the specific priority groups[4] can access a further two funded sessions.

Service aims and key performance indicators

The capacity to handle requests for information and advice increased in 2009-10 in response to the economic downturn, and reflects increased demand for careers advice from adults at risk of redundancy or recently unemployed. It was expected that, given the economic circumstances, the capacity in the face-to-face channel in 2010-11 would be maintained at broadly this target level, helping around 700,000 individuals and delivering over 1 million advice sessions. However, the capacity of the telephone and online channels were expected to be increased so that the service could handle 1 million calls per annum and 250,000 emails seeking advice. The online channel of the service would have capacity to handle up to 20 million sessions per annum.

It is expected that 50% of all customers who create an action plan with an adviser or through the online channel should enter training, gain sustainable employment or progress in work. Within that, the face-to-face channel of the service will operate to a set of national outcome targets/key performance indicators (KPIs). These will encourage the effective targeting of this constrained resource where it is most required and a focus on good outcomes for individual customers.

The targets associated with the Next Step service are to achieve the following:

- 40% of face-to-face service users to enter learning or training;
- 30% of face-to-face service users to enter sustainable employment;
- 15% of face-to-face service users to progress in work; and

[4] Low-skilled adults (i.e. without a full level 2 qualification, especially women who are locked in low-skilled, low prospects jobs); Young adults aged 19-24 without a level 3 qualification; Adults facing redundancy, newly redundant or at a distance from the labour market; Jobcentre Plus customers in receipt of out of work benefits; People from ethnic minority communities; Adults aged 50 plus; Carers as defined by Department of Health guidelines; Offenders in custody and in the community under the supervision of probation services and ex-offenders; People with learning difficulties or disabilities (including those with mental health conditions)

- 45% of face-to-face service users to become qualified to a higher level with an expectation that at least 15% of face-to-face service users to have a learning difficulty or disability that could adversely affect their participation in work.

Detailed description of the Next Step data set

Summary of Next Step customer information

- This section of the report provides information on the Next Step administrative dataset, which contains information on the background and personal characteristics of Next Step customers and some information on the nature of *advice* or *intervention session*(s) received.

- In the first year of service, there were approximately 809,463 Next Step customers, of which 68% were White British; 54% were male; and 47% were aged between 19 and 34. Two-thirds of Next Step customers were in possession of a qualification at Level 2 or below, although approximately 8% of Next Step customers had an undergraduate degree or postgraduate qualifications.

- Nearly half of all Next Step customers (48%) self reported that they were in receipt of JSA only with a further 7% claiming ESA or IS. The majority of Next Step customers (65%) were unemployed, of which just over two fifths had been out of work for less than 6 months, although more than one-in-five had been unemployed for more than three years. One-in-four Next Step customers were either employed or self employed.

- There are a number of different channels through which customers become *aware* of the Next Step service. The two most common channels were 'non-media' (46% of total) and Jobcentre Plus (38% of total). Of those who become aware through JCP, over 60% were male; 69% were aged between 25 and 54 and 72% were White British. A large proportion of JCP-referred customers were in receipt of JSA (80%), while 90% were unemployed and almost 75% had a qualification at Level 2 or lower. Compared to the JCP channel, a smaller proportion of those who became aware of Next Step through 'non-media' channels were male (51%); White British (63%); in receipt of JSA (34%); unemployed (57%); or held a qualification at Level 2 or below (63%).

- Four-in-five customers who use Next Step were self-referred. Compared to self-referral, a higher proportion of males were referred to Next Step through JCP (62% compared to 52%). Additionally, more White British customers and those aged between 25 and 54 were referred through JCP compared to the self-referral route. Importantly, fewer than 50% of people who became *aware* of Next Step through JCP were specifically *referred* through JCP. This suggests that many people hear about Next Step through JCP (either directly or indirectly) but go on to access Next Step by themselves.

- The information on the characteristics of Next Step customers by referral route is hugely important. Specifically, Next Step customers referred through JCP were more likely to be male, white-British, have a lower level of educational attainment, more likely to be unemployed and in receipt of JSA and marginally more likely to be

younger. Given these clear differences in the personal characteristics of the customer population, any longer term analysis of the effectiveness of the Next Step service ideally needs to consider the outcomes of customers *by referral route* as it is certainly possible to categorise those referred through JCP as facing greater labour market and educational challenges compared to those individuals self-referring.

- Intervention sessions can either take place on the telephone, through a web-based service or face-to-face. Almost three-quarters of first sessions were face-to-face (72%), while 27% are via the telephone and approximately 1% are web-based. For their first session, a higher proportion of women used the phone or a web-based service, while a higher proportion of men used the face-to-face channel. Of those who received a face-to-face intervention, over three quarters were unemployed and approximately 70% had a qualification at Level 2 or below. The fact that men and the unemployed were more likely to receive a face-to-face intervention may be because customers with these characteristics were more likely to be referred to Next Step via JCP, and 98% of JCP referrals led to face-to-face intervention sessions in the first instance.

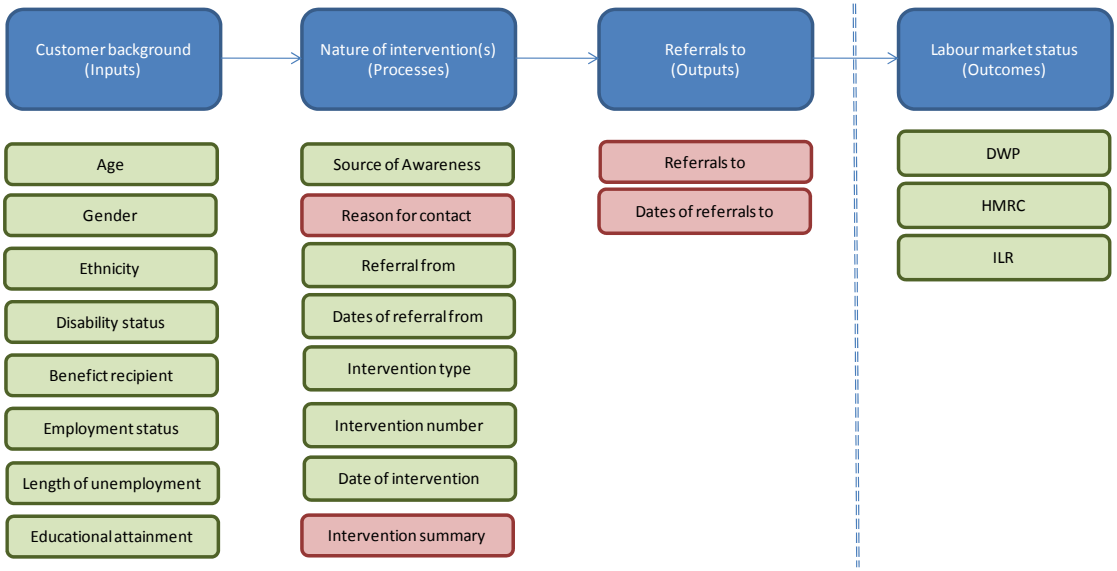
- Next Step customers are entitled to more than one telephone or web-based intervention. All customers can access one face-to-face funded session, but customers in *specific priority groups* can access a further two sessions. Almost all Next Step customers have only one intervention session record open. Just over 6% of customers go on to have more than one intervention session, although very few have greater than 3 intervention sessions in total.

How comprehensive is the Next Step data?

The Next Step administrative dataset contains data on three different elements of service customers: the background and personal characteristics of Next Step customers, the nature of *intervention session*(s), and referral activity. Next Step data is provided by *intervention session* rather than by *customer*, which leads to multiple entries for customers with more than one intervention session.

Figure 4 shows the availability of data in the Next Step dataset. The colour green identifies areas where there is sufficient information available for analysis in relation to a particular *input* (i.e. learners' personal characteristics); the nature or delivery of the service or *process* (i.e. source of referral); or the *outputs* associated with the service (i.e. where the customer was referred to). The colour red identifies those areas where data relating to inputs, service or customer outcomes is sparser. The Next Step data contains comprehensive data on the background and personal characteristics of Next Step customers and some components of the nature of intervention session(s).

Figure 4: Next Step data



Source: London Economics

However, there is little information in relation to why customers contact the Next Step service in the first instance; to whom Next Step customers are referred to; or when this referral takes place. In addition, there is no information collected in the Next Step administrative data set in relation to the medium or longer term outcomes associated with the programme (i.e. labour market outcomes such as employment or earnings, or benefit dependency), as this extends beyond the parameters of the data collection exercise necessary for the ongoing client management of Next Step customers. Therefore, to analyse the employment, earnings and benefit dependency outcomes associated with the Next Step service, it is necessary to merge the Next Step dataset with the DWP/HMRC/ILR datasets[5].

How many data points are available in the Next Step data?

In total, there are 908,764 records in the Next Step data set at intervention session level. There is no information on the date of birth of the Next Step customer in 27,291 cases, which once removed leaves information on 881,473 Next Step records. Subsequent removal of 2,622 observations with no information relating to gender leaves information on 878,851 Next Step intervention sessions. A further 73 records were subsequently removed as a result of missing information relating to the nature of the interventions (i.e. face-to-face, phone or online), leaving 878,778 records. 12,438 records have no information on the ethnicity of the Next Step customer, and are removed to leave 866,340 usable records at intervention session level.

There were 56,877 duplicate records, where a Next Step customer has received more than one intervention session (which is presented in greater detail in Table 13). Once these records are removed and the data set is reshaped and presented at customer level, there is a base of 809,463 customer level observations.

[5] In particular, the Individualised Learner Record (**Skills Funding Agency**) contains detailed information on the incidence and outcomes associated with learners in Further Education, while benefits dependency data is available and from the **Department for Work and Pensions.** Earnings and employment spells are available from **HM Revenue and Customs**.

Table 5: Data availability		
Item	**Number of observations affected**	**Number of observations remaining**
Original Next Step data		**908,764 records**
No **Date of Birth** information	-27,291	881,473 records
No **Gender** information	-2,622	878,851 records
No **intervention** information	-73	878,778 records
No **ethnicity** information	-12,438	866,340 records
Removal of session **duplicates**	-56,877	809,463 customers
Number of Next Step customers		**809,463 customers**

Source: London Economics' analysis

What are the characteristics of Next Step customers

To analyse the type of customers who use the Next Step service, when considering the administrative data, we only look at Next Step customers' first intervention session. This removes duplicates of the same customer (when they have had more than one intervention session) to prevent possible overestimates of figures based on socio-demographics and economic characteristics.

Table 6 displays the basic socio-economic characteristics of Next Step customers in the first year of service between August 2010 and July 2011. Almost seven-in-ten Next Step customers are White British (68%); 54% are male; and almost half of Next Step customers are between the ages of 19 and 34. Almost two thirds (63%) of Next Step customers have a qualification at Level 2 or below (Table 7), which indicates that the majority of Next Step customers have low-level skills. However, there are also approximately 8% of customers who have an undergraduate degree or postgraduate qualifications (Level 6 qualification or above).

Table 6: Socio-demographic characteristics of Next Step customers	
Gender	**No. (%)**
Male	433,603 (54%)
Female	375,860 (46%)
Total	**809,463 (100%)**
Age	**No. (%)**
<19	8,005 (1%)
19-24	173,415 (21%)
25-34	211,966 (26%)
35-44	173,307 (21%)
45-54	138,004 (17%)
55-64	64,582 (8%)
65-74	22,876 (3%)
75+	17,308 (2%)
Total	**809,463 (100%)**
Learning disability/difficulty	**No. (%)**
Yes	57,144 (8%)
No	701,875 (92%)
Total	**759,019 (100%)**
Ethnicity	**No. (%)**
Asian or Asian British – Bangladeshi	10,294 (1%)
Asian or Asian British – Indian	22,805 (3%)
Asian or Asian British – Pakistani	28,391 (4%)
Asian or Asian British - any other Asian background	19,525 (2%)
Black or black British – African	42,239 (5%)
Black or black British – Caribbean	21,379 (3%)
Black or black British - any other black background	8,146 (1%)
Chinese	2,749 (0%)
Mixed	18,673 (2%)
White – British	553,977 (68%)
White - any	55,957 (7%)
Not known/not provided	25,328 (3%)
Total	**809,463 (100%)**

Note: The totals are different for each variable because some variables had a greater number of NULL values than others.

Source: LE analysis of Next Step customer data

Data on Next Step customers' economic characteristics, such as receipt of benefits, current employment status and length of unemployment (if unemployed) are all self-reported by the customer when the first intervention support session occurs (Table 7). Nearly half of all Next Step customers (48%) are in receipt of JSA only, while over one third (36%) are not in receipt of Jobseekers Allowance, Employment and Support Allowance or Income Support (but could be in receipt of other benefits). The majority of Next Step customers (65%) are unemployed, of which just over a quarter have been out of

work for less than 6 months, although just over one-in-five Next Step customers have been unemployed for more than three years. Approximately one-in-four Next Step customers are either employed or self-employed.

Table 7: Economic characteristics of Next Step customers	
Current educational attainment level	**No. (%)**
No qualifications	157,495 (19%)
Level 1 or equivalent	152,153 (19%)
Level 2 or equivalent	205,936 (25%)
Level 3 or equivalent	110,765 (14%)
Level 4 or equivalent	37,521 (5%)
Level 5 or equivalent	24,570 (3%)
Level 6 or equivalent	51,901 (6%)
Level 7 or equivalent	13,409 (2%)
Level 8 or equivalent	2,440 (<1%)
Prefer not to say/ unknown	53,273 (7%)
Total	**809,463 (100%)**
Benefit recipient	**No. (%)**
Client receives Jobseekers Allowance only	389,036 (48%)
Client receives Employment and Support Allowance	17,591 (2%)
Client receives Income Support	41,745 (5%)
Client receives none of the above	288,009 (36%)
Not known/ not provided	73,082 (9%)
Total	**809,463 (100%)**
Current employment status	**No. (%)**
Employed	177,920 (22%)
Self employed	14,108 (2%)
Unemployed	525,402 (65%)
Economically inactive	35,113 (4%)
Employed & voluntary work	926 (0%)
Self employed & voluntary work	376 (0%)
Unemployed & voluntary work	4,208 (1%)
Economically inactive & voluntary work	2,091 (0%)
Not known/not provided	7,526 (1%)
Retired and voluntary work	41,793 (5%)
Total	**809,463 (100%)**
Length of unemployment	**No. (%)**
Less than 6 months	217,918 (41%)
6-11 months	81,443 (15%)
12-23 months	68,026 (13%)
24-35 months	37,733 (7%)
Over 36 months	108,642 (21%)
Not known/ not provided	15,840 (3%)
Total	**529,602 (100%)**

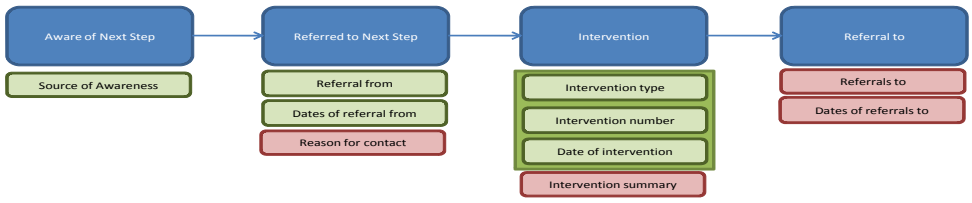
Note: The totals are different for each variable because some variables had a greater number of NULL values than others. Note also that qualification attainment in the Next Step data is presented according to the National Qualification

Framework (8 levels), while in the later section considering the ILR, qualifications are presented according to a 5 level scale. The two scales essentially overlap between Levels 1 and 3, while Level 4 and Level 5 in the 5 point scale are elongated across the NQF 8 point scale.
Source: LE analysis of Next Step data

Journey of a Next Step customer

Figure 5 illustrates the four stages involved in the typical Next Step journey. Prior to accessing Next Step, customers become aware of the service through a variety of sources, such as Jobcentre Plus or television advertisements. Once customers become aware of the Next Step service, they can either contact the service directly (known throughout as self-referral) or can be referred through a Jobcentre Plus advisor. Following referral to the service, customers receive an intervention, which is a problem, enquiry or case for which a customer has requested support from the Next Step service. Intervention sessions can either take place on the telephone, through a web-based service (such as e-mail) or face-to-face. Following the initial receipt of support, customers may be referred on to another organisation (such as Citizens Advice, NHS careers etc.) or offered another Next Step support session.

Figure 5: Journey of Next Step customer



Source: London Economics' analysis

Awareness of Next Step

The analysis presented in Table 8 indicates that there are a number of different channels through which customers become aware of the Next Step service. The two most common channels are 'non-media' (46% of total) and Jobcentre Plus (38% of total). Of those who become aware through Jobcentre Plus, over 60% are male; 69% are aged between 25 and 54 and 72% are White British. As expected, a large proportion (80%) of those who become aware of Next Step through Jobcentre Plus are in receipt of Jobseekers Allowance only, while 90% are unemployed and almost 75% have a qualification at Level 2 or lower.

Table 8: Awareness of Next Step		
Source of awareness	**Number of customers**	**Percentage**
Campaign Specific	8,373	1%
Jobcentre Plus	306,476	38%
Newspaper/Magazine	3,762	0%
Non-media	369,090	46%
Outdoor media	4,737	1%
Radio	5,622	1%
Television	36,095	4%
Online	75,215	9%
Total	**809,463**	**100%**

Source: London Economics' analysis

Compared to the Jobcentre Plus channel, a smaller proportion of those who became aware of Next Step through 'non-media' channels are male (51%); White British (63%); in receipt of Jobseekers Allowance (34%); unemployed (57%); or hold a qualification at Level 2 or lower (64%).

In general, participants who were younger were more likely to use the web as a channel of awareness, whereas older (aged over 55 years old) and retired customers were more likely to become aware through radio and television. Individuals who are employed are also disproportionally more likely to become aware of Next Step via a campaign specific source (48%) or the internet (47%) than other users of Next Step.

Referral to Next Step

After becoming aware of the Next Step service, individuals can either self-refer to Next Step or are referred to a Next Step advisor via Jobcentre Plus. We have comprehensive data on who referred customers to the Next Step service and the date when they were referred in the first instance. In general four-in-five people who use Next Step referred themselves to the service (Table 9), although this decreases to approximately three-quarters for unemployed customers, who are (unsurprisingly) more likely to be referred through Jobcentre Plus.

Table 9: Referral from		
	Number of customers	**Percentage**
Jobcentre Plus	150,127	19%
Self-referral	659,336	81%
Total	**809,463**	**100%**

Source: London Economics' analysis

Compared to the self-referral route, a higher proportion of males are referred to Next Step through Jobcentre Plus (62% compared to 52%). Additionally, more White British customers and those aged between 25 and 54 are referred through Jobcentre Plus compared to the self-referral route. Approximately the same proportions of customers with learning disabilities or difficulties self-refer as are referred by Jobcentre Plus.

Of those customers who are referred by Jobcentre Plus, 85% are in receipt of Jobseekers Allowance only compared to 40% of those who self-refer. Additionally, the majority (92%)

of referrals from Jobcentre Plus are for people who are unemployed. Of the Next Step customers who are unemployed, around 45% are newly unemployed and almost 20% have been unemployed for over three years.

Almost three quarters of Next Step customers who are referred by Jobcentre Plus are low skilled (highest qualification is Level 2 or lower) whereas 62% of self-referred customers possess low skills. When assessing referrals by type of intervention, it appears that almost all referrals from Jobcentre Plus lead to face-to-face interventions (98%) compared to only two-thirds of all self referrals.

Interestingly, fewer than 50% of people who became aware of Next Step through Jobcentre Plus were specifically referred to the Next Step service through Jobcentre Plus. This suggests that many people hear about Next Step through Jobcentre Plus either directly (from an advisor) or indirectly (e.g. seeing an advert in the window) but go on to access Next Step by themselves.

The information on the characteristics of Next Step customers by referral route is hugely important. Specifically, Next Step customers referred through Jobcentre Plus are more likely to be male, white-British, have lower levels of educational attainment, more likely to be unemployed and in receipt of Jobseekers Allowance and marginally more likely to be younger. Given these clear differences in the personal characteristics of the customer population, any longer term analysis of the effectiveness of the Next Step service ideally needs to consider the outcomes of customers by *referral route* as it is certainly possible to categorise those referred through Jobcentre Plus as facing greater labour market and educational challenges compared to those individuals self-referring.

Table 10: Referral route by sociodemographic and economic characteristics			
Gender	**Self Referral**	**Jobcentre Plus**	**Total**
Male	341,147 (52%)	92,456 (62%)	433,603 (54%)
Female	318,189 (48%)	57,671 (38%)	375,860 (46%)
Age			
<19	5,456 (1%)	2,549 (2%)	8,005 (1%)
19-24	142,467 (22%)	30,948 (21%)	173,415 (21%)
25-34	175,374 (22%)	36,592 (24%)	211,966 (26%)
35-44	138,155 (21%)	35,152 (23%)	173,307 (21%)
45-54	106,792 (16%)	31,212 (21%)	138,004 (17%)
55-64	51,060 (8%)	13,522 (9%)	64,582 (8%)
65-74	22,736 (3%)	140 (0%)	22,876 (3%)
75+	17,296 (3%)	12 (0%)	17,308 (2%)
Ethnicity			
Asian or Asian British	69,496 (11%)	11,519 (8%)	81,015 (10%)
Black or Black British	59,314 (9%)	12,450 (8%)	71,764 (9%)
Chinese	2,332 (0%)	417 (0%)	2,749 (0%)
Mixed	15,426 (2%)	3,247 (2%)	18,673 (2%)
White	492,275 (75%)	117,659 (78%)	609,934 (75%)
Not known/not provided	20,493 (3%)	4,835 (3%)	25,328 (3%)
Current educational attainment level			
Level 0 or equivalent	122,918 (19%)	34,577 (23%)	157,495 (19%)
Level 1 or equivalent	117,628 (18%)	34,525 (23%)	152,153 (19%)
Level 2 or equivalent	163,352 (25%)	42,584 (28%)	205,936 (25%)
Level 3 or equivalent	93,229 (14%)	17,536 (12%)	110,765 (14%)
Level 4 or equivalent	32,358 (5%)	5,163 (3%)	37,521 (5%)
Level 5+ or equivalent	81,799 (12%)	10,521 (7%)	93,320 (11%)
Prefer not to say	14,426 (2%)	1,970(1%)	16,396 (2%)
Unknown	33,626 (5%)	3,251 (2%)	36,877 (5%)
Benefit recipient			
Client receives JSA only	261,546 (40%)	127,490 (85%)	389,036 (48%)
Client receives ESA only	15,764 (2%)	1,827 (1%)	17,591 (2%)
Client receives IS only	35,704 (5%)	6,041 (4%)	41,745 (5%)
Client receives none of the above	279,265 (42%)	8,744 (6%)	288,009 (36%)
Not known/not provided	67,057 (10%)	6,025 (4%)	73,082 (9%)
Current employment status			
Employed	184,648 (28%)	8,682 (6%)	193,330 (24%)
Unemployed	390,264 (59%)	139,346 (93%)	529,610 (65%)
Economically inactive	77,303 (12%)	1,694 (1%)	78,997 (10%)
Not known/not provided	7,121 (1%)	405 (0%)	7,526 (1%)
Total	**659,336 (100%)**	**150,127 (100%)**	**809,463 (100%)**

Source: LE analysis of Next Step data

Reason for contact

For 81% of first intervention sessions, we have no information on the reason *why* customers decided to access the Next Step service. However, of those customers that we do have information on, approximately one-third were seeking course information; just under one-third indicated that they were in need of careers information; 13% wanted to know more about the Professional Career Development Loan; while just over 10% were seeking information on funding.

Breaking this information down by referral route, the analysis indicates that Next Step customers who self-referred to the Next Step service were mainly looking for careers or course information, while almost 90% of referrals from Jobcentre Plus were seeking careers information, course information or CV support. In addition, those customers who were looking for careers information were relatively more likely to undergo a face-to-face intervention rather than a phone or web-based intervention; whereas those who were looking for course information and Professional Career Development Loans advice were more likely to receive an intervention over the phone.

Intervention

Intervention type

After referral (or self-referral) to the Next Step service, customers receive an intervention. An intervention is a problem, enquiry or case for which a customer has requested support from the Next Step service (and can involve one or more intervention sessions). Breaking down the intervention, the constituent intervention session(s) can either take place on the telephone, through a web-based service such as e-mail or face-to-face. Overall, almost three-quarters of first time intervention sessions are face-to-face, 27% are via telephone while just 1% are web-based.

Table 11: Intervention type

	Number of customers	Percentage
Phone	218,620	27%
Web-based	4,709	1%
Face-to-face	586,134	72%
Total	**809,463**	**100%**

Source: LE analysis of Next Step data. Note: Web-based is a combination of E-mail, Web and Web Form

For their first intervention session, a higher proportion of women use the phone or web-based service, while a higher proportion of men use the face-to-face channel. Additionally, of those who received a face-to-face intervention, over three quarters were unemployed and approximately 71% had a qualification of Level 2 or below. The fact that men and the unemployed were more likely to receive a face-to-face intervention may be because customers with these characteristics are more likely to be referred to Next Step via Jobcentre Plus, and 98% of Jobcentre Plus referrals lead to face-to-face interventions. Information on the characteristics of Next Step customers by referral route is presented in Table 12.

Table 12: Intervention type by sociodemographic and economic characteristics								
Gender	**Phone**		**Web-based**		**Face-to-face**		**Total**	
Male	98,881	45.0%	2,138	44.8%	332,543	56.9%	433,562	53.6%
Female	120,905	55.0%	2,633	55.2%	252,364	43.1%	375,901	46.4%
Total	**219,786**		**4,771**		**584,907**		**809,463**	
Age								
<19	806	0.4%	26	0.5%	7,132	1.2%	7,964	1.0%
19-24	43,526	19.8%	1,086	22.7%	128,420	22.0%	173,032	21.4%
25-34	59,442	27.0%	1,400	29.3%	151,200	25.9%	212,041	26.2%
35-44	38,097	17.3%	960	20.1%	134,402	23.0%	173,460	21.4%
45-54	25,834	11.7%	669	14.0%	111,538	19.1%	138,041	17.1%
55-64	16,822	7.6%	309	6.5%	47,412	8.1%	64,543	8.0%
65-74	19,625	8.9%	179	3.7%	3,160	0.5%	22,963	2.8%
75+	16,082	7.3%	146	3.1%	1,191	0.2%	17,419	2.2%
Total	**220,234**		**4,775**		**584,455**		**809,463**	
Ethnicity								
Asian/Asian British	18,220	8.3%	476	10.0%	61,031	10.5%	79,727	9.9%
Black/Black British	19,717	9.0%	527	11.1%	50,374	8.7%	70,617	8.8%
Chinese	627	0.3%	16	0.3%	2,066	0.4%	2,709	0.3%
Mixed	5,511	2.5%	110	2.3%	12,753	2.2%	18,373	2.3%
White	165,956	75.9%	3,254	68.4%	430,907	74.0%	600,117	74.5%
Not known/provided	8,762	4.0%	378	7.9%	25,087	0	34,227	4.2%
Total	**218,793**		**4,761**		**582,218**		**805,770**	
Current educational attainment level								
Level 0	28,020	12.7%	554	11.6%	128,560	22.0%	157,134	19.4%
Level 1	20,624	9.4%	550	11.5%	130,742	22.4%	151,917	18.8%
Level 2	46,054	20.9%	1,056	22.1%	158,100	27.1%	205,210	25.4%
Level 3	39,263	17.8%	857	17.9%	70,320	12.0%	110,440	13.6%
Level 4	14,475	6.6%	307	6.4%	22,835	3.9%	37,617	4.6%
Level 5+	46,614	21.2%	909	19.0%	45,004	7.7%	92,528	11.4%
Prefer not to say	7,607	3.5%	162	3.4%	9,569	1.6%	17,338	2.1%
Unknown	17,576	8.0%	379	7.9%	19,324	3.3%	37,280	4.6%
Total	**220,233**		**4,774**		**584,454**		**809,463**	
Benefit receipt								
Receives JSA only	40,899	18.6%	1,070	22.4%	345,899	59.2%	387,869	47.9%
Receives ESA only	3,906	1.8%	74	1.5%	13,664	2.3%	17,643	2.2%
Receives IS only	11,816	5.4%	197	4.1%	29,662	5.1%	41,675	5.1%
None of the above	148,153	67.3%	2,639	55.3%	136,555	23.4%	287,348	35.5%
Not known/ provided	15,458	7.0%	795	16.7%	58,675	10.0%	74,929	9.3%
Total	**220,232**		**4,774**		**584,455**		**809,463**	
Current employment status								
Employed	80,536	36.6%	2,004	42.0%	110,782	19.0%	193,322	23.9%
Unemployed	80,310	36.5%	1,975	41.4%	446,662	76.4%	528,947	65.3%
inactive	56,132	25.5%	670	14.0%	22,230	3.8%	79,032	9.8%
Not known/ provided	3,256	1.5%	125	0	4,781	0.8%	8,162	1.0%
Total	**220,234**		**4,774**		**584,455**		**809,463**	

Note: The totals are different for each variable because some variables had a greater number of NULL values than others.
Source: LE analysis of Next Step data

Number of interventions

Next Step customers are entitled to more than one telephone or web-based intervention. All customers can access one face-to-face funded session; however, customers in the specific priority groups can access a further two funded sessions. According to the Next Step data, almost all Next Step customers (809,463) have only one intervention record open (Table 13). Just over 6% of customers go on to have more than one intervention session, although very few have greater than 3 intervention sessions in total. There is comprehensive data in the Next Step database on the date at which each intervention session took place.

Table 13: Intervention type by number of interventions

Interventions sessions	Phone	Web-based	Face-to-Face	Total
1	218,620	4,709	586,134	809,463
2	8,434	1,665	37,453	47,552
3	972	231	6,779	7,982
4	210	53	694	957
5	75	17	120	212
6	31	9	33	73
7	18	2	7	27
8	8	1	4	13
9	9	0	3	12
10	5	1	1	7
More than 10	34	2	6	42
Total	**228,416**	**6,690**	**631,234**	**866,340**

Source: LE analysis of Next Step data.

One of the original aims of Next Step was to provide additional support to priority groups who would be entitled to more than one face-to-face meeting. These national priority groups[6] are:

- Low skilled adults (without a level 2 qualification) who are locked in low skilled, low prospect jobs – especially women;
- Young adults aged 19-24 without a level 3 qualification;
- Adults facing redundancy, newly unemployed or at a distance from the labour market;
- Jobcentre Plus customers in receipt of out of work benefits;
- People from ethnic minority communities;

[6] http://readingroom.skillsfundingagency.bis.gov.uk/sfa/CRS/004/nextstep_comms_briefing.pdf

- Older people;
- Carers as defined by Department of Health guidelines;
- Offenders in custody in the community under the supervision of probation services, and ex-offenders; and
- People with learning difficulties or disabilities (including those with mental health conditions).

We have constructed a priority group index to identify when a customer is in at least one of the following priority groups (although we cannot identify customers in the other priority groups (e.g. carers or offenders in custody)):

- Low skilled adults without a level 2 qualification;
- Young adults aged 19-24 without a level 3 qualification;
- Newly unemployed adults;
- People from ethnic minority communities;
- Older people;
- People with learning difficulties or disabilities.

Approximately the same proportions (4%) of customers in priority and non-priority groups go on to have a second intervention. However, of the 27,710 customers who receive a face-to-face intervention for both their first and second interventions, just over 80% are in at least one priority group, while almost 40% face multiple labour market or education related disadvantages (customers who are in more than one priority group). This indicates that the targeting of the Next Step service does appear to be correctly focusing on those individuals that are perceived to be in the greatest need of the intervention.

Intervention summary

In 85% of cases we are unable to identify a summary for first-time interventions. This increases to 96% for second-time interventions and 99% for their third-time interventions. From the information we do have, interventions were mainly summarised as ‘careers information’, ‘course information’, ‘funding information’ or ‘Professional Career Development Loan information’. This appears to be the case for both the second-time and third-time intervention sessions, however, as the number of interventions increases, the proportion summarised as ‘action planning’ increases (from 5% to 7% to 12%).

Post-intervention

After each intervention, participants may be referred on to other organisations, for example a Citizens Advice Bureau or NHS Careers. The Next Step data theoretically provides information on the number of participants that are referred to different organisations after each of their first three interventions.

However, data on referrals after the first intervention is essentially incomplete, with information on referrals available in approximately 12% of cases only. This percentage decreases to less than 1% for the second-time and third-time intervention sessions. Therefore, we have very little information on where participants of the Next Step service are referred to post service. Of the 12% of respondents for whom we have information, over one-quarter are referred to a face-to-face channel; 18% are referred to informal adult learning; 9% to a community college and 36% to “other”. We have little information on the date in which these referrals took place.

Having considered the information contained within the Next Step administrative data, in the next section we describe the ILR data relating to education outcomes, the DWP data relating to benefit dependency and the HMRC data covering employment and earnings outcomes.

Data merging approach and summary methodology

Summary of merged data, outcomes variables

1. This section of the report provides summary information on the different datasets used in the analysis, the variables contained and recoded for subsequent analysis, the time period covered, and the methodological approach used to clean and merge the information into one dataset.

    - The Individualised Learner Record (ILR) contains information on learning aims and level, as well as the personal characteristics of learners. The ILR is organised by academic year (1st August – 31st July), and we use information from the academic years 2002/03 to 2010/11 inclusive. Once the data has been re-shaped from learning aim level to individual learner level, there are 16,140,597 observations

    - HMRC Pay and tax records (P14) contain administrative data collected by HM Revenue & Customs, including information on tax year, tax code, pay and tax records for different employment spells. The information is organised by tax year and employment spell and covers the years from 2003/04 to 2010/11 inclusive. Once the data has been re-shaped so that there is one observation per person per year, the data set contains approximately 10,600,000 observations.

    - HMRC employment spell records (P45) contain administrative data collected by HM Revenue & Customs detailing information on start dates and end dates of employment spells between 2003/04 and 2010/11 inclusive. Once the data has been re-shaped so that there is one observation per person per year, the data set contains approximately 12,900,000 observations

    - DWP National Benefits Database contains data on benefit spells collected by the Department for Work and Pensions. After limiting the analysis to those individuals in possession of JSA, IS, IB and DLA, we are left with a dataset of approximately 7,700,000 observations between 1999/00 and 2010/11 inclusive.

2. Information from the merged ILR and Next Step dataset was matched with earnings, employment and benefits histories contained in the P14, P45 and NBD datasets. The resulting dataset contains the earnings, education employment and benefit history of 15,804,135 individuals between 1998/99 and 2010/11.

3. Once the various data sources have been merged, in the final dataset, we have information on 691,843 Next Step customers, covering 85% of Next Step customers and 15,112,292 non Next Step customers. In the original Next Step customer level data base, there were 809,463 observations; however, in 104,254 cases, the information on the relevant matching ID was unavailable, while in a further 13,366 cases, the data

contained duplicate identifiers. Removing these observations left 691,843 Next Step customer observations for subsequent analysis.

4. The data was re-coded and a number of key variables were generated including the proportion of the year that the individual is in employment for, the proportion of the year in receipt of benefits (any), and the proportion of the year in receipt of Jobseekers Allowance.

5. The recoding of these outcome variables occurred in two ways. First, we generated the outcome variables consisting of the proportion of the *financial* year in employment between 2003/04 and 2010/11 (and in the case of benefit dependency, between 1999/00 and 2010/11). Secondly, we generated a measure of individuals' *snapshot* employment and benefit dependency status at specific points pre and post the receipt of Next Step support.

   One important point to note is that the structure of the data, and the fact that the Next Step administrative data covers August 2010 to July 2011, implies that there is relatively limited information on the employment, earnings and benefit dependency outcomes post support. One implication of the absence of information in the immediate aftermath of the receipt of support is that some care needs to be taken when interpreting the results presented.

Datasets under consideration

In this section we describe the different datasets used in the analysis, the variables contained, the time period covered, and the approach used to clean and merge the information into one dataset. The datasets used in the analysis contain information from a number of different sources:

- The Individualised Learner Record (ILR) contains information on learning aims and level, as well as the personal characteristics of learners and is collected by learning providers. The ILR is organised by academic year (1st August – 31st July) and this research report uses information from the academic years 2002/03 to 2010/11 inclusive. The files are divided by academic year and funding stream (Further Education and Work Based Learning), with the latter containing information on apprenticeships.

- HMRC Pay and tax records (P14) contain administrative data collected by HM Revenue & Customs, including information on tax year, tax code, pay and tax records for different employment spells. The information is organised by tax year and employment spell and covers the years from 2003/04 to 2010/11 inclusive.

- HMRC employment spell records (P45) contain administrative data collected by HM Revenue & Customs detailing information on the start dates and end dates of employment spells. The information is organised by tax year and employment spell and covers the years from 2003/04 to 2010/11 inclusive.

- DWP National Benefits Database contains data on benefit spells collected by the Department for Work and Pensions. The information is again organised by

tax year and employment spell and covers the years from 1999/00 to 2010/11 inclusive.

We describe in detail the different datasets and how they were cleaned, reshaped and merged into a single dataset containing information on qualification participation and attainment, earnings and employment, and benefit dependency, before being merged with the Next Step dataset that was described in Section 2.

Individualised Learning Record - ILR

The ILR contains, among other things, information on level of participation, course outcome (i.e. attainment or non-attainment) and course title. The relevant variables identifying education histories of individuals were defined on an aggregate level, using notional learning aim levels as defined by the National Qualification Framework and identified through the variable *a_nvqlev*. Participation in different aims is classified by level, using the variable *a_nvqlev* (including both academic and vocational/professional aims), as follows[7]:

- *Level 4* occurs when *a_nvqlev* = 4
- *Level 3* occurs when *a_nvqlev* = 3
- *Level 2* occurs when *a_nvqlev* = 2
- *Level 1* or Entry Level occurs when *a_nvqlev* = 1

The category of aims identified by *a_nvqlev* = 9 (“other”) is of miscellaneous nature, including a large variety of aims. Some of the most common aims include: short courses such as Diagnostic Tests in Numeracy, Literacy etc (generally prior to starting a Skills for Life course); tutorial and enrichment studies for full time students (16-18); studying GCE ’A’ levels; AS levels; GCSEs and short course GCSEs; courses for individuals with learning disabilities (e.g. Essential Skills Awards); introduction to IT etc; Health and Safety courses; First-aid courses; vocational study not leading to a recognised qualification; and other education/leisure type courses.

Reshaping data to generate highest qualification per learner

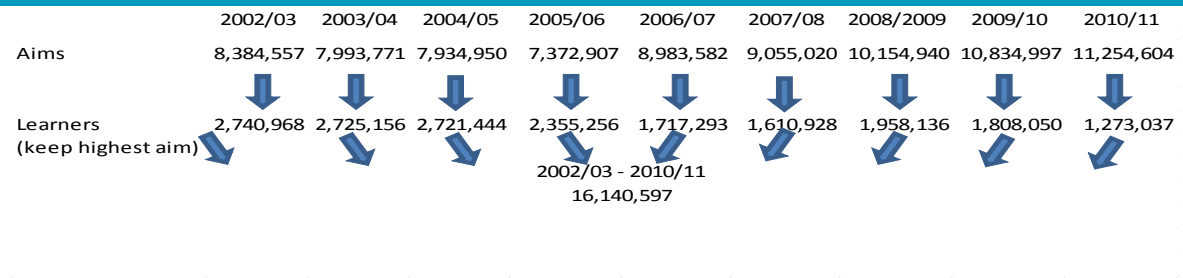
In order to merge the data contained in the ILR with other data sources, it is necessary move from a dataset organised by learning aim, with multiple entries (potentially) per learner, to a dataset organised by learner, with one entry per learner per year. Specifically, some learners have more than one entry, because they have enrolled in more than one qualification aim in a given year. We therefore aggregated information to learner level, keeping detailed information on the highest qualification achieved and summary information on other aims. When no qualification was achieved at any level we kept detailed information on the highest learning aim enrolled in.

[7] In the Next Step data, there are eight levels of education whereas in the ILR there are four levels. This is because the ILR only covers the further education and skills sector whereas the Next Step data captures the highest level of education achieved, which could be higher than that achieved in the FE and skills sector. The Further Education and skills sector includes schools offering post-GCSE learning, Further Education Colleges, sixth form colleges, independent learning providers, formal external institutions, local authorities and voluntary and community organisations. http://www.theia.org.uk/ilr/

This reshaping process was carried out first by aggregating information within the same academic year, then merging across academic year (from 2002/03 to 2010/11). Two identifiers are available to aggregate information across years and subsequently with information from HMRC and DWP: the *ccorcid* identifier from the DWP and the *person instance* identifier from HMRC. We used *ccorcid* as the main identifier and *person instance* when *ccorcid* was not available. We also removed cases when the same identifier was attributed to individuals with differences in characteristics such as date of birth, gender and ethnicity.

Overall, we generated the following number of observations for subsequent merging:

Figure 6: Cleaning FE datasets – 2002/03 to 2010/11



Source: London Economics' analysis

Merging ILR with Next Step

The Next Step dataset is described fully in Section 2. Information from the ILR was matched with the Next Step service data using the *ccorcid* and *person instance* identifiers. Again, we used *ccorcid* as the main identifier and *person instance* when *ccorcid* was not available. The resulting dataset covers the education history and personal characteristics of all individuals, and additional data on the Next Step service (such as intervention date, intervention type, number of interventions and whether an individual was referred to the service) for those individuals who received support through the Next Step service.

HMRC Pay and tax records - P14

This dataset contains the *ccorcid* and *person instance* identifiers (the former is not available for all observations), along with information on tax year (from 2003/04 to 2010/11), tax code, pay, and tax records for the different employment spells, and information on when an employment spell started or finished within the tax year, as well as a *ripeness* flag to indicate if all P14 data has been received for the individual for that year. Overall, there are around 99 million records in the dataset. After removing records with zero or negative earnings and removing a few duplicate observations, we used information on pay and taxes to generate a variable containing total pay and total tax for each individual in each available year.

This "clean" dataset, where we have at most one observation per individual per year contains slightly more than 10.6 million individuals, as identified through the *ccorcid* and *person instance* identifiers.

HMRC Employment spells - P45

The P45 dataset contains information on employment history starting from the financial year 1998/99. Apart from the basic identifiers, the data set contains relatively detailed information relating to start date and end date of an employment spell and a flag to identify whether the records is a main or subsidiary source of income.

There are a few issues associated to P45 records:

- The flag on *source of income* is missing in many cases and might not be entirely reliable when it is available;
- There is a high occurrence of records with uncertain start (e.g. 06 Apr YYYY) or uncertain end (e.g. 05 Apr YYYY) linked to the start/end of the financial year. The spells with an uncertain start or an uncertain end may overlap with records containing certain start and end dates, signalling that the two records may be "near duplicates". There are also records with the same (certain) start and different ends, as well as the same (certain) end and different start dates;
- Continuing spells of employment are flagged as ending on '31Dec9999'. However, in many cases it is difficult to assess if the end date is coded '31Dec9999' because the employment spell is associated with an ongoing job or because the end date is missing;
- To take into account the presence of possible "near duplicates" we adopted the following strategy:
    - For records with an uncertain start (06 Apr) ending on the same date as records with a certain start, we kept the record with the certain start;
    - For records with an uncertain end (05 Apr or 31Dec9999) starting on the same date as records with a certain end, we kept the record with the certain end;
    - When two records have the same (certain) end but different starts, we kept the record with the earliest start;
    - When two records have the same (certain) start but different ends, we kept the record with the latest end;
    - When two records have different starts and both have missing ends (31Dec9999), we kept the record with the latest start (it is more plausible that later starts are a genuine record of ongoing employment).

After removing these "near duplicates" we generated a variable keeping track of the days spent in employment by each individual in each financial year. The variable was then further recoded and expressed as the proportion of the year spent in employment (ranging from 0 to 1 where the denominator is the number of calendar days in the year). In addition to these variables relating to employment outcomes over particular financial years, we also retained start and end dates of employment for every individual in every year for which we

had information. The rationale for this is so that rather than simply considering the proportion of the year the individual is in employment for, it is also possible to ascertain whether the individual was in employment (coded 1 if the person was in employment and 0 otherwise) at particular points before the Next Step service support was received, as well as to understand the snapshot labour market outcome of individuals at designated periods after the receipt of support.

The original dataset contains around 83 million records. After cleaning the dataset and generating a dataset with one observation per year per individual, we are left with approximately 12.9 million individuals.

Benefit spells – National Benefits Database (NBD)

Information on benefit spells (starting in the financial year 1998/99) is contained in the National Benefits Database, along with the *ccorcid* identifier. We kept information on the four following labour market benefits that account for the overwhelming majority of benefits received (approximately 85%):

- Incapacity Benefits (IB, which includes passported Incapacity Benefits);
- Income Support (IS);
- Job Seekers' Allowance (JSA); and
- Disability Living Allowance (DLA).

Jobseekers Allowance accounts for 58% of total records in the original dataset. When we keep only the four benefits above, we find around two thirds of records are JSA, 16% relate to Income Support, 11% relate to Incapacity Benefit and 4% relate to DLA.

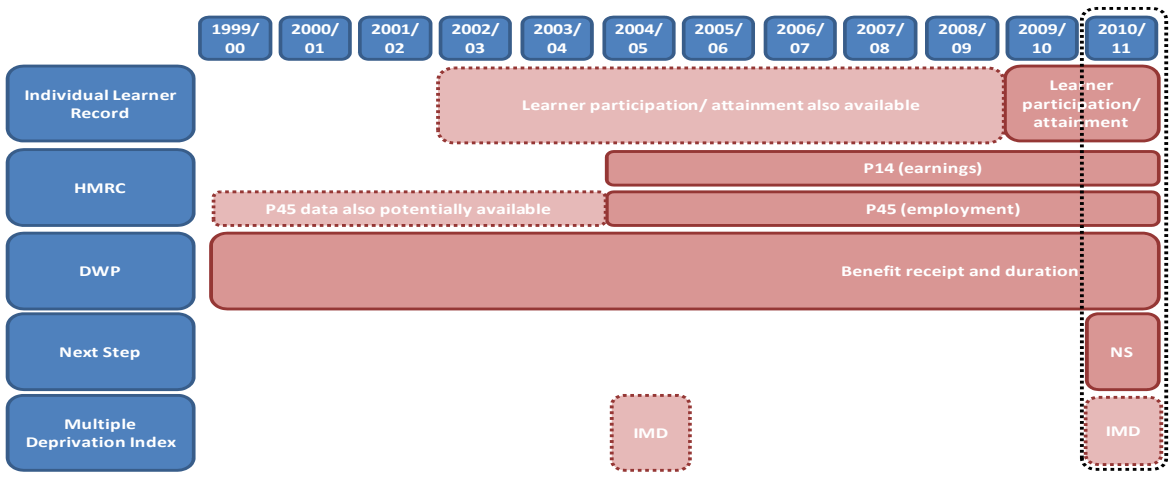
Individuals with a certain benefit start date, but with no benefit end date were considered to be still in receipt of that benefit. We removed information on other benefits and, following a process similar to that described above in relation to employment spells, we generated four variables identifying the proportion of the year spent by each individual on each different benefit. We also retained the start and end dates of each benefit spell per individual per year, so we are again able to assess whether individuals are on benefits both when they receive a Next Step service and at specific points in time following the initial support intervention. The original dataset is formed by approximately 29.6 million records. After stripping out non-relevant benefits we are left with a dataset of around 7.7 million observations.

Merging with the ILR and Next Step dataset

Information from the merged ILR and Next Step dataset was matched with the history of earnings, employment and benefits data contained in the P14, P45 and NBD datasets. There were 104,254 Next Step customers who could not be merged with the other three data sets as a result of missing identifiers; while a further 13,366 observations were removed because of duplication of identifiers. As such, the resulting dataset combines the earnings, education employment and benefit history of 691,843 Next Step customers, covering 85% of Next Step customers and 15,112,292 non Next Step customers between 1998/99 and 2010/11.

Some individuals contained within the Next Step administrative dataset were not matched to any of the datasets, while others were matched to one or more of the datasets. Also, information may be missing for some individuals in some years. Overall, we have approximately 30 million earnings records (earnings records are not available before 2003/04), 65 million employment records and 50 million benefits records. However, it should be safe to assume that individuals with a missing benefit record (unmatched in the National Benefits Database) are "unknown" to the DWP, having not claimed benefits in the period considered. Hence, benefit records were coded to zero for all individuals not identified in the NBD and we were left with no missing benefit records[8]. Figure 7 demonstrates what the merged data looks like. Information on the individual's personal characteristics was available from both the Next Step data and ILR, with earnings and employment data available from the HMRC (P14 and P45) and benefit information from the National Benefit Database.

Figure 7: Merged data



Source: London Economics

Implications of merging different data sets and timing issues

One important point to note is the fact that the Next Step administrative data covers August 2010 to July 2011, which implies that there is relatively limited information on the employment, earnings and benefit dependency outcomes post Next Step support. One implication of the fact that there is an absence of information in the immediate aftermath of the intervention is that care needs to be taken when interpreting the any results presented and consideration needs to be given to the different sample sizes underpinning the analysis. This issue is exacerbated the further beyond the point of intervention travelled. For example, it might be the case that a Next Step customer received support in June 2011. Given this, there may be employment and benefit information 3, 6 and 12 months prior to the receipt to support, however, there will be no employment information either at

[8] DWP data on benefits (and relative identifiers) are generally considered to be of better quality than HMRC records and it seems reasonable to assume that unmatched records signal that the individual has not been a DWP customer in the period examined. However, we need to acknowledge that there may be data accuracy reasons why a person may not match into either dataset. Although this does not make the approach of coding all benefits records for those not matched to NBD any less reasonable, other factors in the match may need to be recognised.

the time of receiving Next Step support or in the immediate aftermath. In contrast, for an individual receiving Next Step support in September 2010, there should be employment information available both pre-support, but also 3 and 6 months post-support.

In addition, and as will be detailed later in the report, the interpretation of the findings is further nuanced by the nature of the outcome variables being considered. In particular, one element of analysis identifies the labour market outcomes achieved by Next Step customers before the receipt of support (measured in terms of a continuous variable between 0 and 1 describing the proportion of the calendar year in employment or in receipt of benefits, which is presented in Sections 4 and 5). However, we also present employment outcomes at specific points before and after the receipt of Next Step support (using a binary variable coded either 0 or 1). It is possible that this assessment of the snapshot employment or benefit outcome will be more 'jumpy' compared to the assessment of outcomes over a calendar year; however, as more data is added on earnings, employment and benefit dependency outcomes going forward, some of these variations will be ironed out.

Summary methodology for evaluating Next Step

Econometric analysis

The general evaluation problem of determining the effects of a particular programme involves the identification of the additional benefits that an individual has gained through participation in the programme. However, at any given time, we cannot observe the same individual being in two different states (receiving Next Step support or not receiving Next Step support) and have to rely on building the appropriate counterfactual.

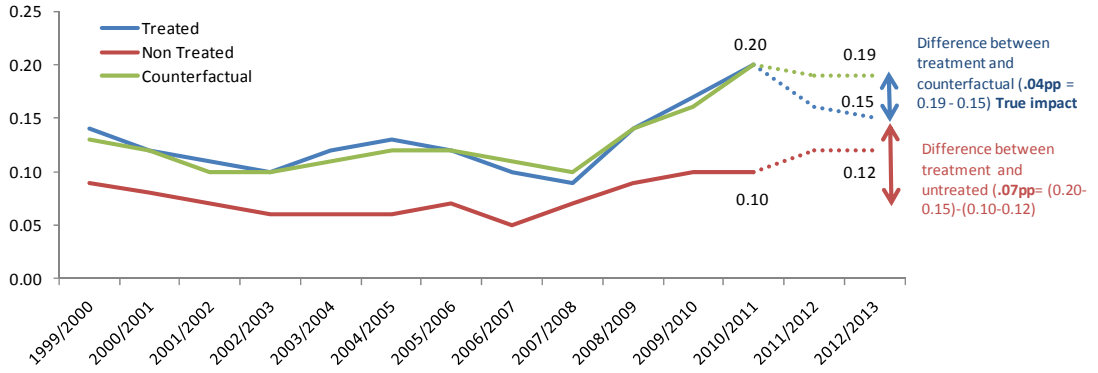
The basic analysis involves assessing what happens to those individuals participating in the programme 'before and after' the receipt of support. This is the comparison in outcomes between those individuals *treated* as part of the programme and those that were *untreated*. In Figure 8, we have produced a hypothetical example where the **blue line** represents the proportion of the year in receipt of benefits for the Next Step treated group, while the **red line** illustrates the proportion of the year in receipt of benefits for the untreated group. However, clearly there may be differences in the personal and socioeconomic characteristics between the treated and untreated groups that account for these changes in benefit dependency, and given the differences within the Next Step customer pool depending on whether individuals self-referred or were referred through Jobcentre Plus, these differences in personal and socioeconomic characteristics are likely to be large.

Therefore, the analysis needs be augmented by considering the outcomes of individuals both in receipt of Next Step service compared with a sample of individuals that were not in receipt of the Next Step service but had similar personal and socioeconomic characteristics as the treatment group (the counterfactual). This is represented by the **green line.** Once this treatment versus counterfactual approach is adopted, comparing outcomes across groups before and after the intervention provides a more accurate indication as to the success of the intervention.

In the example below, the comparison of the 'treated' and 'untreated' implies that there was a relative reduction in benefit dependency (by 7 percentage points), while the

comparison of the 'treated' and the 'counterfactual' suggests that there was a 4 percentage point effect, illustrating the importance of identifying an appropriate counterfactual and isolating the impact of the policy itself rather than the impact on those in receipt of the policy.

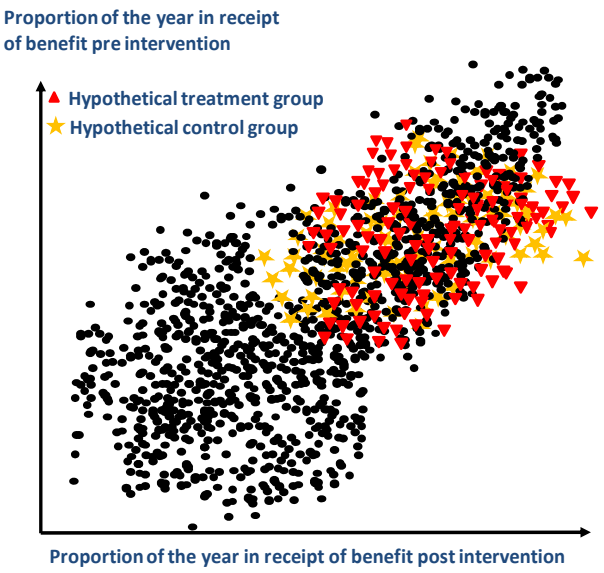
Figure 8: Treated, untreated and counterfactual illustrative example



Source: London Economics

In practice, to counteract this sample selection and the potentially misleading conclusions, we undertook a *Propensity Score Matching* method to determine the characteristics of those individuals receiving the treatment and *match* this sample of treated individuals with a sample of individuals (control group), who have the same observable characteristics as those in receipt of the treatment but who did not receive support (based on their personal, socioeconomic and economic outcomes prior to the Next Step service).

Figure 9: The evaluation problem



In this example, the treatment group of those receiving Next Step support is represented by red triangles, while the black dots provide information on any individual with a benefit record. It might be the case that the Next Step customers are selected specifically because of their personal characteristics, so comparing the 'treated' to the 'untreated' may provide misleading conclusions. We use a Propensity Score Matching approach to compare the Next Step customers with a counterfactual of 'control' individuals with the same characteristics as those treated but who did not receive the treatment (yellow stars)

Source: London Economics

This element of the approach is the "*treatment and control"* approach, where the treatment group generated from the Propensity Score Matching model are represented by the red triangles and the control group is represented by gold stars (Figure 9).

In the next section we begin by looking at the outcomes of individuals who received the Next Step service in more detail and undertake a 'before and after' analysis, and in section 5 we compare the outcomes (employment, benefit and education) of individuals who received the Next Step service to all those individuals who did not receive the intervention (treated vs. untreated). Then, in section 6, we generate a (number of) counterfactual group(s) using a propensity score matching method and compare the outcomes of individuals who received the Next Step service to the outcomes of those in this group (treated vs. counterfactual).

Analysis of prior histories and outcomes for Next Step customers

Summary of analysis of prior histories for Next Step customers

1. This Section of the report assesses the prior histories of Next Step customers by financial year, as well demonstrating outcomes pre and post Next Step support. The analysis is restricted to the employment, earnings, and benefit dependency outcomes achieved by Next Step customers only, so there is no consideration of the histories or outcomes associated with individuals not receiving Next Step support.

2. For Next Step customers, the analysis indicates the average proportion of the year in employment increased from approximately 40% between 2001 and 2004 to 57% in 2009; however, coinciding with the onset of the economic recession, this has reversed and declined to just over 53% in 2011. There were limited differences in the employment outcomes of men and women prior to 2008; however, employment outcomes across gender have diverged since, with women's employment outcomes showing more resilience in recent years compared to men.

3. HMRC records indicate that Next Step customers earned approximately £9,000 per annum in 2011, which is a decline from annual earnings in excess of £12,000 between 2005 and 2007. There is an annual earnings gap between men and women of between £2,500 and £3,500, though reflecting the difference in employment outcomes more recently, this earnings gap has closed substantially.

4. Approximately 55% of Next Step customers were in receipt of some form of benefit (with 48% in receipt of JSA, 2% in receipt of ESA and 5% in receipt of IS). Analysis of the NBD illustrates that across all Next Step customers, in 2011, for the relevant Next Step customers, 48% of the year was spent in receipt of some form of benefit, which increased from 32% in 2009. Women are more likely to be benefits dependent than men, although the gap has shrunk from 7 percentage points in 2008 to 1 percentage point in 2011.

5. The prior histories of Next Step customers are correlated with the nature of the support received. Reflecting the high proportion of Next Step customers referred through JCP and the high probability of receiving face-to-face support as a result, the data analysis suggests that these Next Step customers spend less of the year in employment on average, achieve lower earnings (especially most recently), are more likely to be benefit dependent (generally), and more likely to be in receipt of JSA compared to Next Step customers who self-referred. These findings again highlight the different personal and socioeconomic characteristics amongst different groups of Next Step customers and the need to undertake a more disaggregated analysis going forward (i.e. by nature of support intervention or referral route).

6. The analysis suggests that the proportion of Next Step customers employed prior to the intervention remained relatively constant at around 54-55%. However, immediately

post intervention, the proportion of Next Step customers in employment rose significantly to 60% and 64% three months and six months post support respectively.

7. In the 12 months prior to receiving support to the time of intervention, there was an increasing proportion of Next Step customers in receipt of JSA (19% to 39%). However, there was a significant decline in the proportion of customers in receipt of JSA 3 and 6 months post support (27% and 21% respectively). The most encouraging aspect of this element of the analysis is that Next Step support appears to halt or even reverse a number of negative labour market outcomes that may have occurred in the absence of the support.

8. There are two main limitations of the '*before and after'* approach. The first relates to the fact that at this stage we assess the outcomes of Next Step customers in isolation, so that any change in labour market performance or benefit dependency may be as a result of external factors and not as a result of Next Step support. More importantly, the data set is structured such that in successive periods post-support, there may be less information available on an increasing number of Next Step customers (e.g. those receiving support in the second half of the first year of the service). This information unavailability is exacerbated the further we move post support.

Prior histories and aggregated outcomes

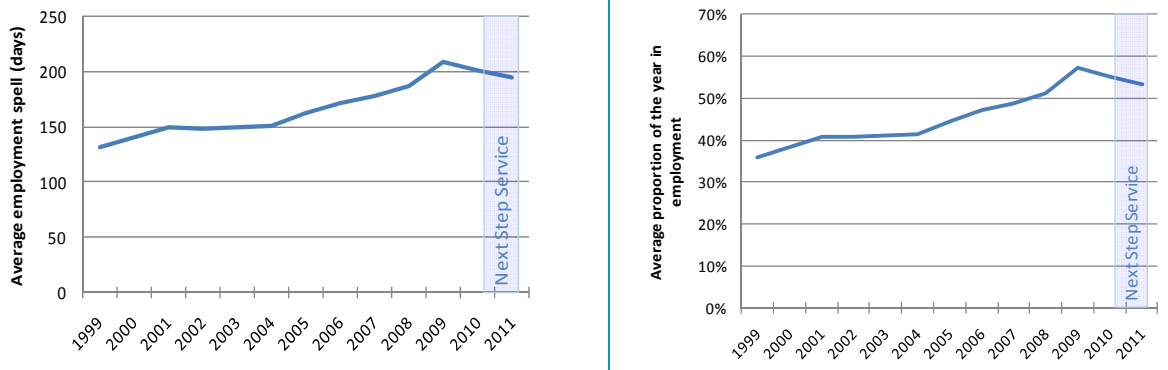
Following the analysis of the personal and basic socioeconomic characteristics of the Next Step customer population, using the merged dataset, we now assess the histories and outcomes of Next Step customers between 1999/2000 and 2010/2011. To begin with, we look at the aggregated outcomes for Next Step customers in relation to *employment* (the proportion of year in employment), *earnings* (average annual earnings), *benefit dependency* (proportion of year on any benefit) and *educational attainment* (average level achieved). We then focus on these outcomes disaggregated by age, gender, ethnicity, region of residence, number of interventions, the form of intervention and referral route.

The analysis is restricted to the employment, earnings, and benefit dependency outcomes achieved by Next Step customers only, so there is no consideration of the histories or outcomes associated with individuals not receiving Next Step support.

Employment

In Figure 10, we provide information derived from the HMRC P45 data on the number of days per annum and the proportion of the calendar year in employment averaged across those Next Step customers in employment. The analysis indicates the average proportion of the year in employment increased from approximately 40% of the year between 2001 and 2004 to 57% in 2009; however, coinciding with the onset of the economic recession, the proportion of the year in employment reversed and declined to just over 53% in 2011.

Figure 10: Average number of days and proportion of year in employment by year

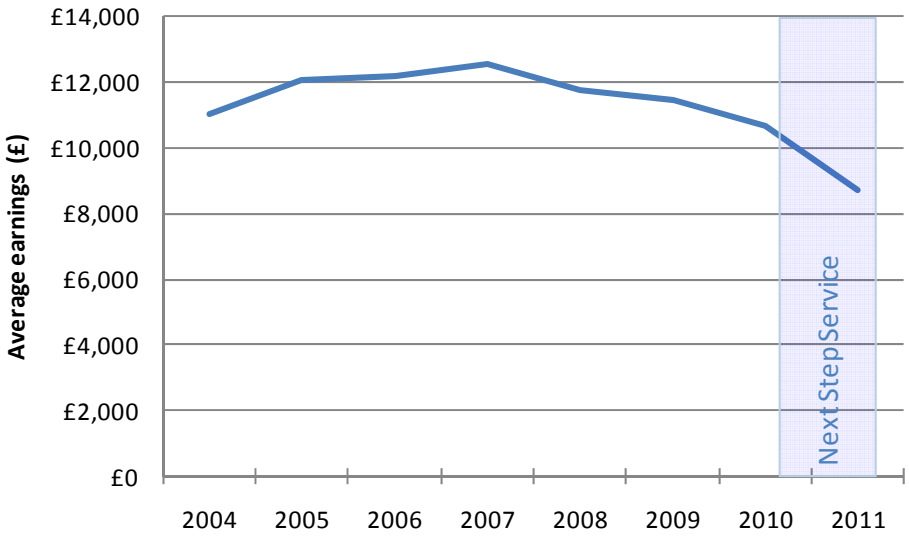


Source: London Economics' analysis of Next Step data

Earnings

In terms of earnings, information from the P14 HMRC records indicates that Next Step customers earned approximately £9,000 in 2011, which represents a decline in annual earnings in excess of £12,000 between 2005 and 2007 (note that all earnings have been rescaled using the Retail Price Index to 2011 prices). The decline in earnings from these relative highs has been steady, although the faster rate of decline in the most recent year is also apparent.

Figure 11: Average earnings of Next Step customers



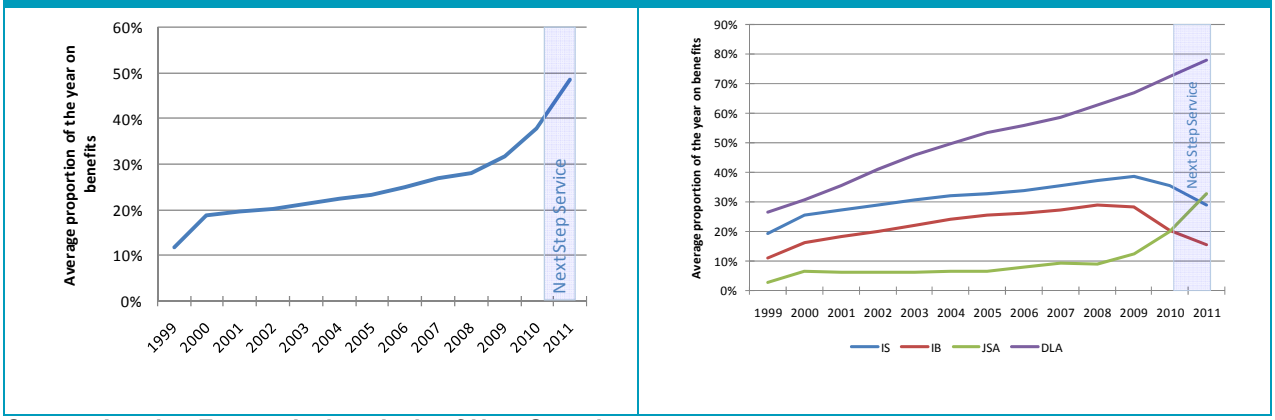
Source: London Economics' analysis of Next Step data

Benefits

Reiterating the information presented in Section 2 detailing that approximately 55% of Next Step customers were in receipt of some form of benefit (with 48% in receipt of Jobseekers Allowance, 2% in receipt of Employment and Support Allowance and 5% in receipt of

Income Support), the information in Figure 12 from the National Benefits Database illustrates the proportion of the year in receipt of benefits and suggests that across all Next Step customers claiming benefits, approximately 38% of the year was associated with benefit receipt in 2010, rising to 48% in 2011, which represents an increase from approximately 32% in 2009. Also in Figure 12, information on the proportion of the year in receipt of specific benefits is presented. The analysis indicates that although the proportions of the year that Next Step customers are in receipt of Income Support or Incapacity benefit have decreased by between 10 and 13 percentage points respectively since 2009, the proportion of the year Next Step customers are in receipt of Disability Living Allowance has increased significantly. Most responsive to the wider economic circumstances, the analysis also indicates that dependency on Jobseekers Allowance has increased from the longer term trend level (of between 8% and 10% of the calendar year between 2000 and 2009) to more than 32% in 2011.

Figure 12: Average proportion of year on benefits – Next Step customers (aggregated and by benefit type)

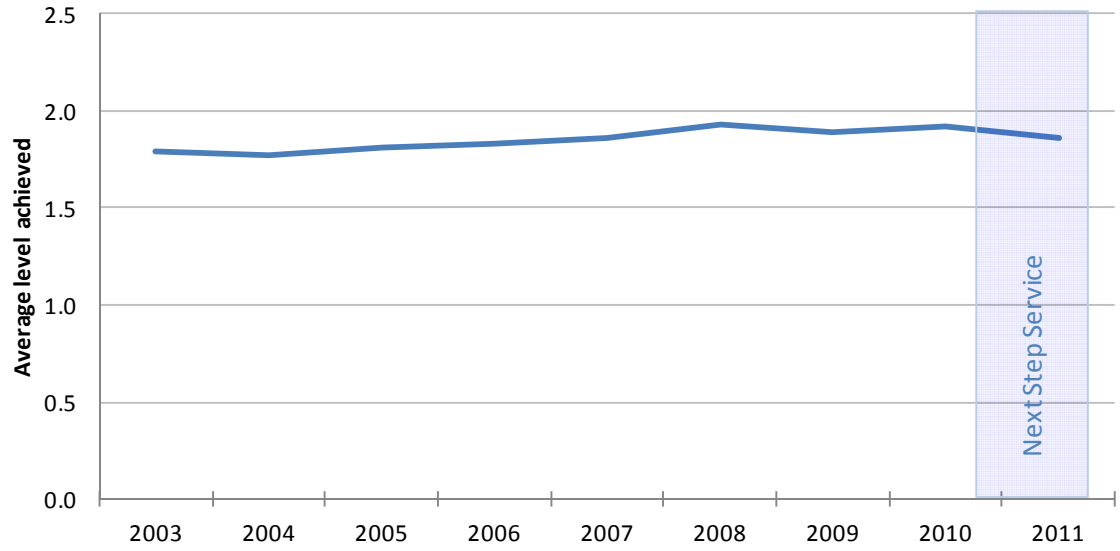


Source: London Economics' analysis of Next Step data

Educational attainment

Finally, given the fact that we have no reliable information on prior attainment, we present information on the average level of attainment of Next Step customers for those with flags in the Individualised Learner Record. For those Next Step customers undertaking education and training, the analysis suggests that the average level of attainment has increased marginally over the period pre-support, with the average level of attainment of Next Step customers marginally below Level 2 on average. There has been relatively little information available relating to whether there is or has been any fundamental trend in attainment, though it does appear to have increased during the first half of the 2000's and stabilised thereafter.

Figure 13: Average level of qualification achieved over all Next Step customers



Source: London Economics' analysis of Next Step data

Disaggregated outcomes

Given the volume of data available, we also present some summary information on the labour market histories and outcomes of Next Step customers disaggregated by gender and age, as well by the number and type of Next Step intervention sessions to demonstrate the variation between sub-groups. Information on the labour market, benefit dependency and education attainment histories of Next Step customers is also available by region of residence and ethnic origin, but this is presented in the Annex given the level of detail involved (and the general consistency of the results).

Profile of Next Step customers by gender

In Figure 14, we illustrate outcomes by gender. The analysis suggests that while both men and women receiving Next Step support have been in employment for increasing proportions of the calendar year between 2000 and 2008 (increasing from approximately 40% of the financial year in 2000 to almost 60% in 2008), the decline since appears to have affected men to a greater extent than women, with male Next Step customers in employment for approximately 50% of the year in 2011 compared to approximately 57% of the year for women.

In terms of annual earnings, the analysis illustrates the histories of both men and women, and demonstrates the sizeable earnings gap between men and women (ranging between £2,500 and £3,500 per annum over the period). Reflecting the relative change in employment outcomes, the analysis also identifies a significant degree of convergence in annual earnings alongside the decline for both groups between 2009 and 2011.

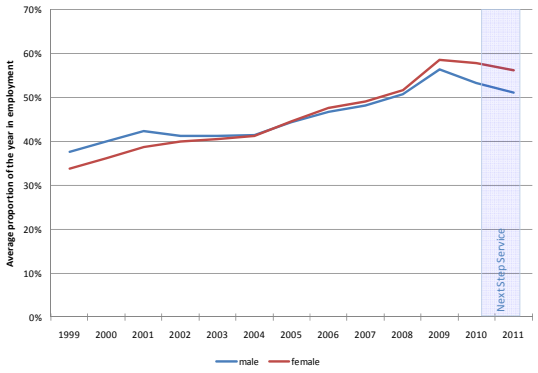
Finally, the bottom-left panel presents information on the average proportion of the year if in receipt of any form of benefit. The trend is upwards over the period of analysis for both men and women and demonstrates the convergence in the benefit dependency across genders, with women being in receipt of benefits for approximately 49% of the year

compared to male benefit dependency of approximately 48% (compared to 29% and 22% in 2006 respectively).

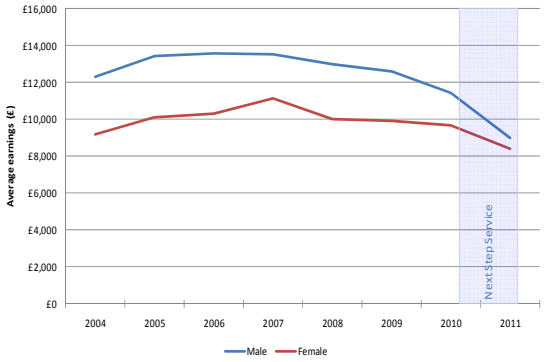
As before, the incidence of JSA dependency is sharply increasing for Next Step customers irrespective of gender. Although men are more likely to be dependent on this particular benefit, the recent trend for both men and women is increasing, with those women in receipt of the benefit in 2011 spending approximately 27% of year claiming JSA compared to 36% for men.

Figure 14: Outcomes by gender

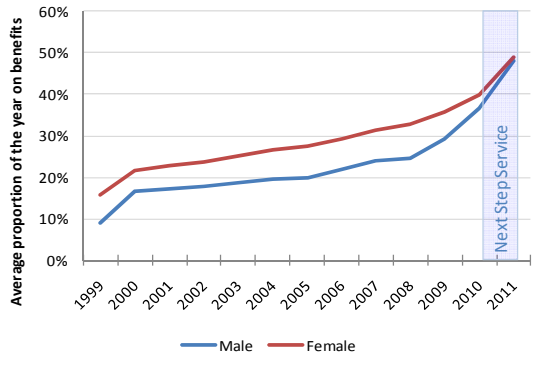
Average proportion of year in employment over all Next Step customers, by gender



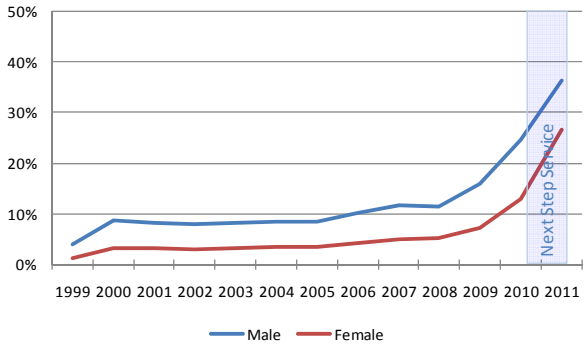
Average earnings of Next Step customers, by gender



Average proportion of year on benefits over all Next Step customers, by gender



Average proportion of year on JSA over all Next Step customers, by gender



Source: London Economics' analysis of Next Step data

Profile of Next Step customers by age

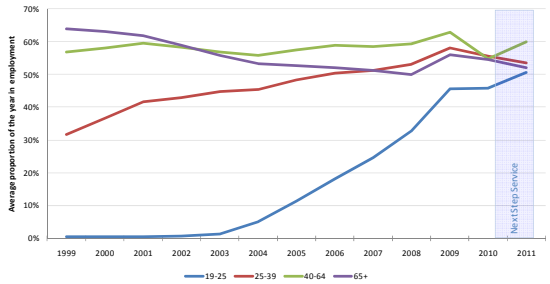
The analysis presented in Figure 15 again demonstrates the labour market and benefit dependency depending on the age of Next Step customers, although some of the information needs to be caveated – especially for the youngest Next Step customers – given the fact that labour market information is only available for the most recent years of analysis (as they become older and their labour market status becomes more readily available). Specifically, for individuals aged between 19 and 25 receiving support in 2011, we are only able to consider labour market information back to when these individuals

were 16 or above (i.e. 2002 for those currently aged 25). As such, it is clear that for this age group, only the most recent years of information should be considered robust.

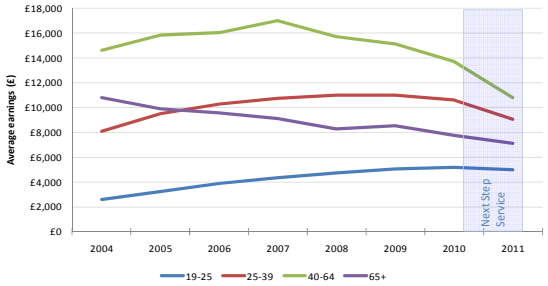
In terms of employment, the analysis suggests that since 2009, employment outcomes appear relatively stable with all age groups spending between 50% and 60% of the year in employment, although there is some variation in this proportion depending on age. Next Step customers aged between 19 and 25 are the least likely to spend time in employment (approximately 50% of the year in employment), with individuals aged between 40 and 54 the most likely to spend time in employment (approximately 60%).

Figure 15: Outcomes by age

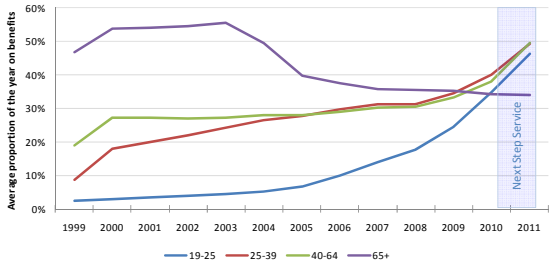
Average proportion of year in employment over all Next Step customers, by age



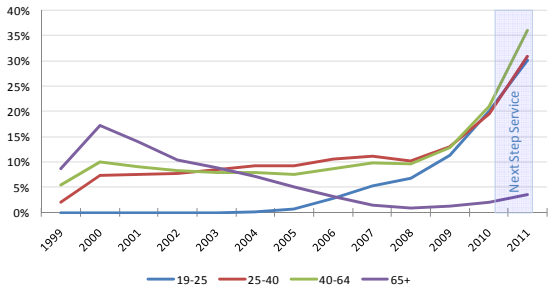
Average earnings of Next Step customers, by age



Average proportion of year on benefits over all Next Step customers, by age



Average proportion of year on JSA over all Next Step customers, by age



Source: London Economics' analysis of Next Step data

The changes in annual earnings again illustrate the downward trend demonstrated in aggregate; however interestingly, there is some variation between the age groups in terms of the rate of recent decline. From an average of £17,000 in 2007, the annual earnings of individuals aged between 40 and 54 have declined to approximately £11,000 in 2011. Although there has been a decline in earnings of all other age groups (with the exception of those aged between 19 and 25), the rate of decline is much less severe.

Finally, the bottom panels illustrate the extent of benefit dependency. Although it is clear that the degree to which Next Step customers rely on benefits has increased significantly

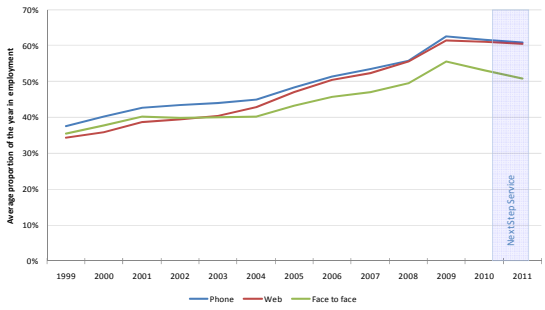
in the last 3 years, the nature of the benefit dependency is fundamentally different depending on age group. Older Next Step customers have seen an increase in their dependency on non-JSA benefits, while all other age groups have seen a significant increase in JSA dependency.

Profile of Next Step customers by intervention type

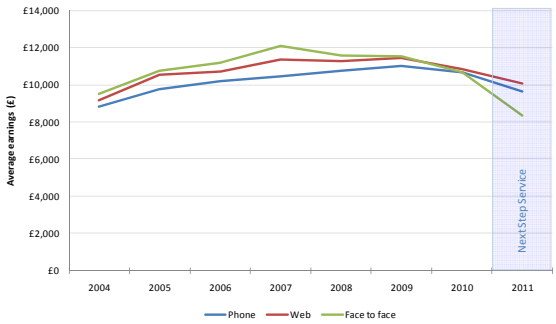
We have also assessed the employment, earnings and benefit dependency information of Next Step customers based on the different intervention types, as well as referral route. The analysis presented in Figure 16 demonstrates the different labour market histories of different Next Step customers, and in particular, the differences between those Next Step customers accessing the service either by phone or online, and those accessing the service through face-to-face contact.

Figure 16: Outcomes by type of intervention

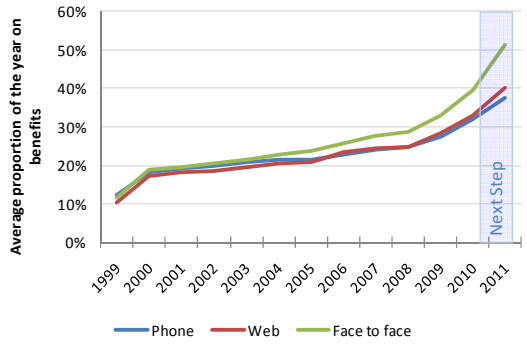
Average proportion of year in employment over all Next Step customers, by type of intervention



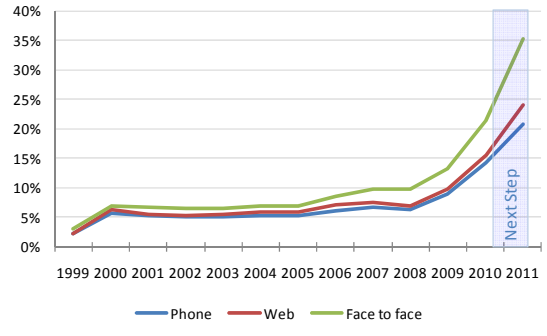
Average earnings of Next Step customers, by type of interventions



Average proportion of year on benefits over all Next Step customers, by type of support



Average proportion of year on JSA over all Next Step customers, by type of interventions



Source: London Economics' analysis of Next Step data

The analysis shows that Next Step customers accessing the service face-to-face spend a broadly comparable length of time in employment compared to those accessing through the web-based route prior to 2004; however, since then a gap in the proportion of the year in employment has emerged, with face-to-face customers approximately 10 percentage

points less likely to be In employment compared to either phone or online customers. These labour market challenges are also clearly demonstrated in terms of earnings, with face-to-face customers earning higher annual amounts compared to online/phone customers up to and including 2009; however, the decline in earnings posted by face-to-face customers has been severe, and annual earnings now lag Next Step online/phone customers by approximately £2,000 per annum.

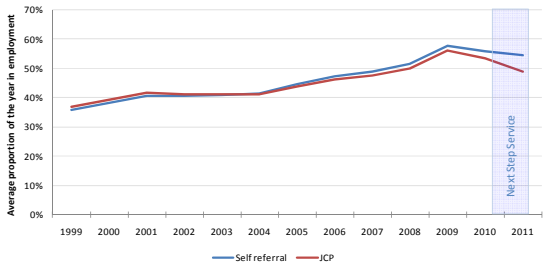
In a similar manner, the increase in aggregate benefit dependency and JSA benefit dependency has been more acute for the face-to-face customer group with this group now between 11 and 14 percentage points more likely to spend time in receipt of these benefits compared to other Next Step customers.

Profile of Next Step customers by referral type

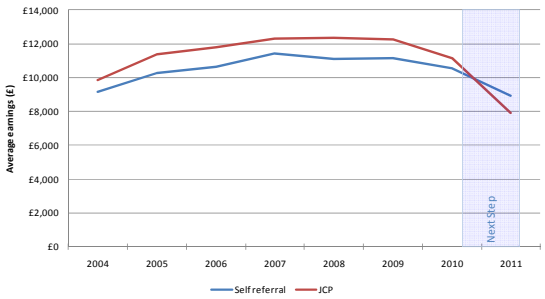
As presented earlier in this report, given the very high preponderance of individuals referred through the Jobcentre Plus route to receive the face-to-face intervention, the results in Figure 17 in many ways replicate those presented in Figure 16. The key point to emerge is that not all Next Step customers are alike, and given the emphasis of the programme to provide more intensive support to those that face the greatest labour market challenges, the data does appear to support the current targeted approach of the programme.

Figure 17: Outcomes by referral type

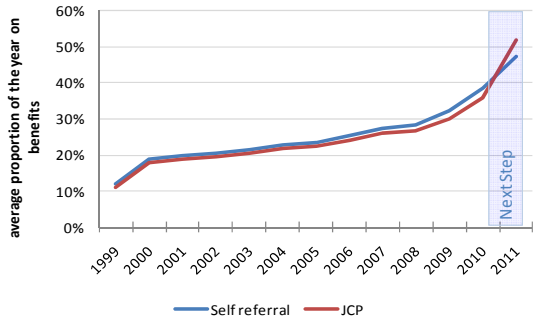
Average proportion of year in employment over all Next Step customers, by referral type



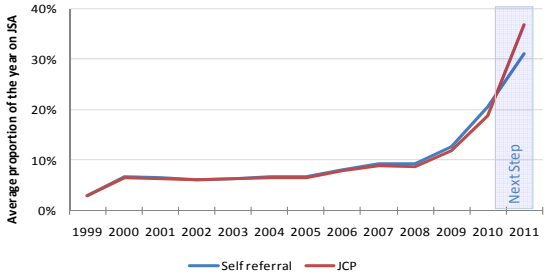
Average earnings of Next Step customers, by referral type



Average proportion of year on benefits over all Next Step customers, by referral type



Average proportion of year on JSA over all Next Step customers, by referral type



Source: London Economics' analysis of Next Step data

However, the reader should also be aware that any analysis at an aggregate level of the impact of the Next Step service is likely to obscure the differential impact that the service might be expected to have on its customers, groups of whom may face significantly different challenges in the labour market and more acute challenges in relation to returning to work.

Before and after analysis

Finally in this section, we consider the outcomes of Next Step customers *before and after* the receipt of support to assess whether any noticeable differences have occurred over time. All measures are presented 3, 6 and 12 months before receipt of support and 3 and 6 months after the receipt of support. The following outcome measures are considered:

- Employment status
- Benefit status
- Education status (although only presented in the Annex)

As previously mentioned, there are two main limitations of the '*before and after'* approach. The first relates (again) to the fact that at this stage we are simply assessing the outcomes of Next Step customers in isolation, so that any change in labour market performance or benefit dependency may be as a result of external factors and not as a result of the intervention *per se*. However, as we compare Next Step customers versus the wider population ('treated' versus 'untreated' or 'treated' versus 'control'), this problem is overcome.

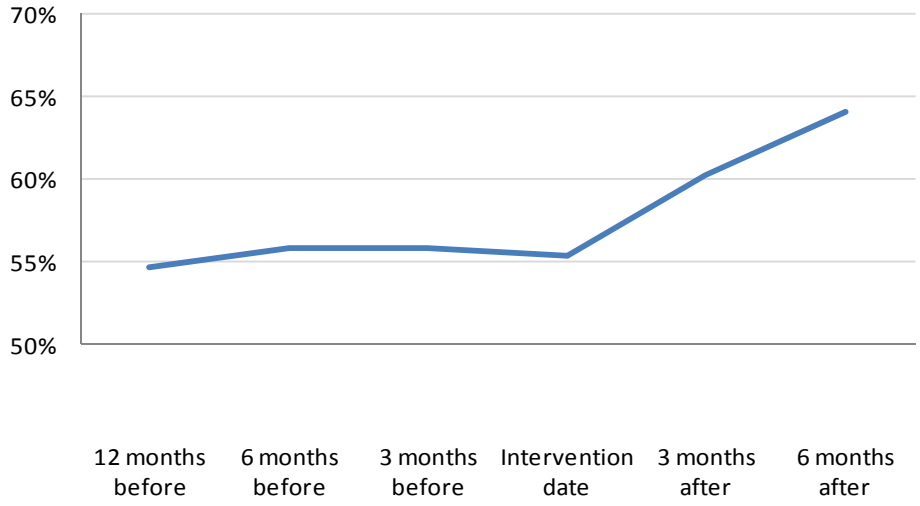
However, more importantly, the structure of the data is such that there is more limited information on outcomes post-support. In particular, the data set is structured such that in successive periods post support, there may simply be less information available on an increasing number of customers.

The second element of the methodological approach that needs understanding is the fact that in the previous analyses, we considered the proportion of the calendar year in employment (measured as a continuous variable between 0 and 1). In this section of the analysis, using information on the date of service receipt, as well as start and end dates associated with employment and benefit receipt, the analysis provides a *snapshot* of labour market and benefit outcomes at fixed points before and after the receipt of support (coded as a binary variable (1,0)).

These issues in relation of data availability post-support and its subsequent treatment are important and as such, all results should be interpreted with close attention to supporting text. In particular, although we have confidence in the results pre support and immediately post support, the more limited sample sizes beyond the intervention imply that less reliance should be placed on information relating to outcomes furthest beyond the point at which the Next Step support was accessed.

In Figure 18, we present the employment outcomes of Next Step customers pre- and post-support.

Figure 18: Proportion of Next Step customers in employment pre and post Next Step support

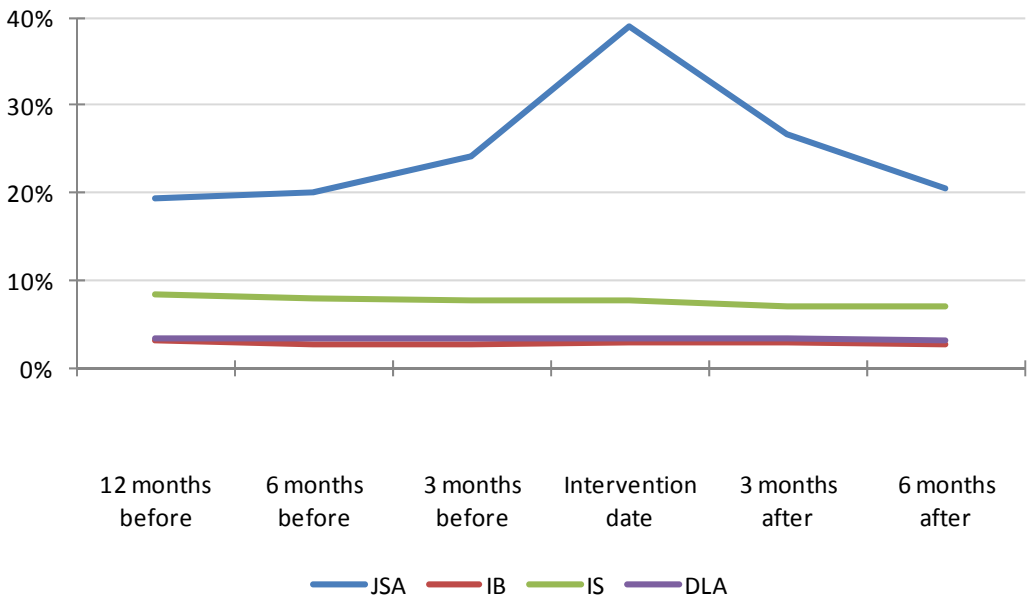


Source: London Economics' analysis

The analysis suggests that for Next Step customers, the probability of employment prior to accessing the service was relatively stable. Specifically, 12 months prior to accessing the service, approximately 55% of Next Step customers were in employment, which remained steady until accessing the service. However, employment outcomes appear to have improved immediately following the receipt of support, with approximately 60% of Next Step customers in employment in employment 3 months post support, rising to 64% six months post-support.

In Figure 19, we provide information on the incidence of benefit dependency. Although the analysis indicates that there is a declining proportion of Next Step customers in receipt of Income Support, Incapacity Benefit and Disability Living Allowance, the analysis indicates that there is a steadily increasing proportion of individuals in receipt of Jobseekers Allowance (increasing from 19% twelve months pre-support to approximately 39% at the time of accessing the service). However, the analysis suggests that Next Step customers do see an improvement in the extent of their benefit dependency, with the data demonstrating a significant decline in the proportion of customers in receipt of Jobseekers Allowance 3 and 6 months post-support. The most encouraging aspect of this element of the analysis is the fact that the service appears to halt the decline or reverse a number of negative labour market outcomes that may have occurred in the absence of the service, though a longer panel of post-support data would provide greater assurance that the outcome is sustainable in the medium term and not an artefact of the data immediately following the receipt of support.

Figure 19: Proportion of Next Step customers in receipt of benefits, by benefit type



Source: London Economics' analysis

Comparison of outcomes between Next Step customers and those not receiving support

Summary of analysis of prior histories and outcomes of Next Step customers and those not in receipt of Next Step support

1. The first stage of the analysis presented in this section involves a comparison between those in receipt of the Next Step service and the group of all individuals who did not receive the Next Step service. In this element of the analysis, we can only compare the outcomes for Next Step customers and all those individuals not in receipt of Next Step support by calendar year. We are unable to look at outcomes around the date of intervention, for example 3 or 6 months before or after the support, because individuals who have not received the Next Step service do not have a date of intervention to use as a reference point.
2. Looking at the proportion of the year in employment, the analysis indicates that both the wider population and Next Step customers have seen an increase in the proportion of the year in employment between 2003 and 2009, however there is a consistent 10-15 percentage point gap in employment outcomes between the groups potentially illustrating the extent to which the labour market characteristics of the two groups differ. Although the proportion of the year in employment amongst those not in receipt of Next Step support has remained relatively stable since 2009 (at approximately 70%), the outcomes of Next Step customers have not kept pace, potentially illustrating the greater labour market vulnerability of this group of individuals.
3. Re-iterating the differences in employment outcomes between the treated and untreated groups, significant differences emerge when considering average annual earnings. Although average earnings of both Next Step customers and those not in receipt of Next Step support were in and around £12,000 per annum between 2005 and 2008; while the untreated group maintained this level of earnings through to 2011, there was a significant decline in average earnings posted by Next Step customers, with the gap in average earnings between the two groups standing at approximately £3,000 per annum in 2011.

4. In terms of the average proportion of the year in receipt of any type of benefit, the analysis suggests that prior to 2009, it was actually the case that individuals not in receipt of Next Step support were *more* likely to be benefit dependent (IS, IB, JSA or DLA), with those individuals not in receipt of Next Step support being more likely across the entire period to be in receipt of IB or DLA. This fact alone implies that there may be some fundamentally different personal or socio-economic characteristics between the treated and untreated groups that would need to be controlled for when undertaking a full assessment of outcomes. However, of most interest is the fact that the extent of aggregate benefit dependency is being driven by the greater dependency of Next Step customers on JSA to the extent that there is a 20 percentage point gap in JSA dependency between the treated and untreated groups.

Introduction

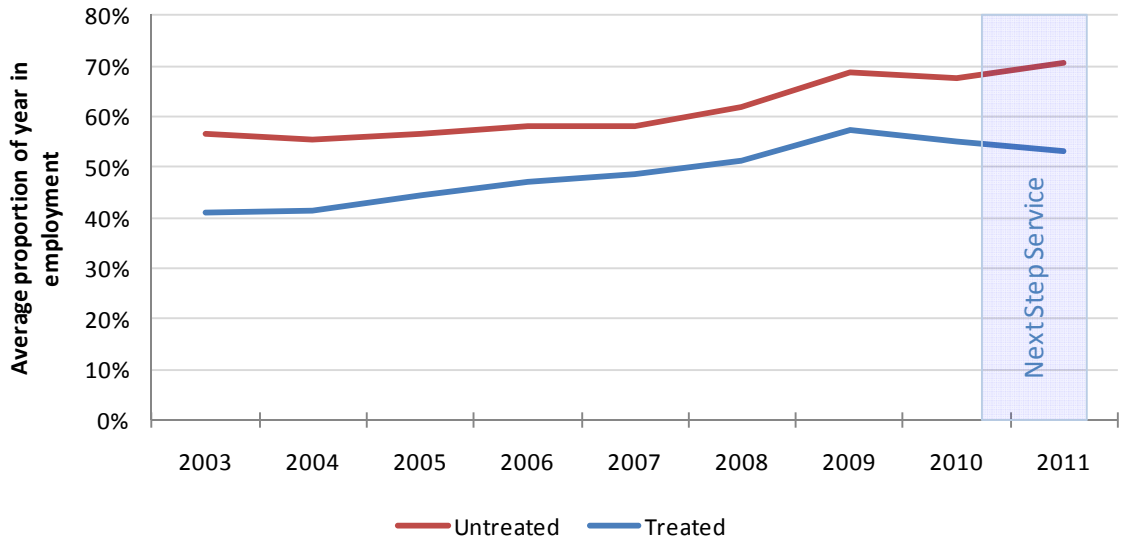
The first stage of the analysis involves a comparison between those in receipt of the Next Step service and the group of all individuals who did not receive this service. This is not the perfect counterfactual group, because those individuals who received the Next Step service may possess fundamentally different personal characteristics from those who did not receive the support. However, a simple comparison between the treatment and untreated groups enables us to have an initial look at the (potentially) different labour market histories of Next Step customers and all other individuals, and potentially highlight whether the wider population achieved similar outcomes in the absence of the Next Step service, as well as understanding the extent to which the pre-support characteristics of Next Step customers are representative of the wider population.

In this stage of the analysis we can only compare the outcomes for Next Step customers and all those individuals not in receipt of Next Step support by year. We are unable to take a closer look around the date of intervention, for example 3 or 6 months before and after the support, because individuals who have not received the Next Step service do not have a date of intervention to use as a reference point.

Employment

First, looking at the proportion of the year in employment, the analysis indicates that both the wider population and Next Step customers see an increase in the proportion of the year in employment between 2003 and 2009, however there is a consistent 10-15 percentage point gap in employment outcomes between the groups illustrating the extent to which the labour market characteristics of the two groups differ (which also reflects the differences in the personal and socio-economic characteristics across the groups, such as differences in average levels of qualification attainment (as presented in section 2) .

Figure 20: Average proportion of the year in employment (treated vs. untreated)



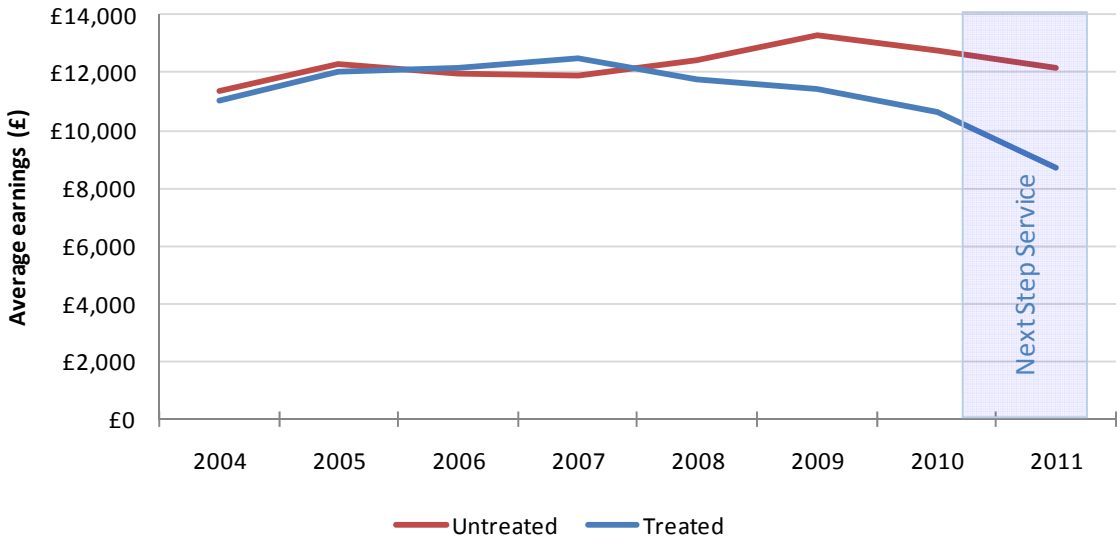
Source: London Economics' analysis

It is also of interest to note that although the proportion of the year in employment amongst the wider population has remained relatively stable (at 70%) since 2009, the outcomes of Next Step customers have not kept pace, potentially illustrating the greater labour market vulnerability of this group of individuals.

Earnings

Re-iterating the potential differences between the treated and untreated groups, when considering average earnings, some significant differences emerge. Specifically, although average earnings of both the treated and untreated groups are in and around £12,000 per annum between 2005 and 2008, while the untreated group maintained this level of earning through to 2011, there was a significant decline in average earnings posted by Next Step customers, with the gap in average earnings between the treated and a untreated groups standing at approximately £3,000 per annum in the most recent year of analysis.

Figure 21: Average earnings (treated vs. untreated)



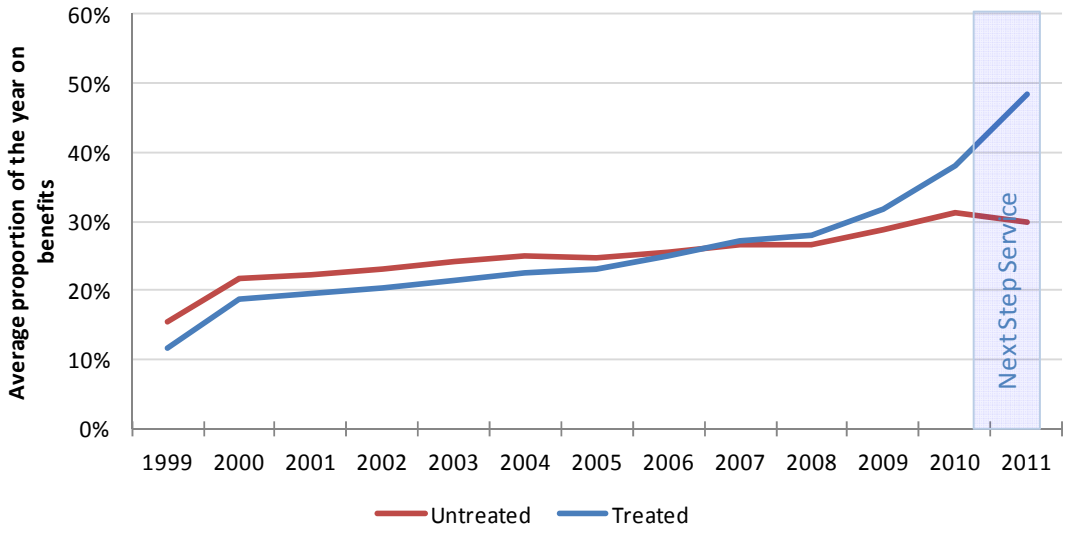
Source: London Economics' analysis

Benefits

In Figure 22 and Figure 23, we provide some information on benefit dependency. In terms of the average proportion of the year in receipt of any type of benefit (Figure 22), the analysis suggests that prior to 2009, it was actually the case that the wider population of individuals were more likely to be in receipt of benefits (Income Support, Incapacity Benefit, Jobseekers Allowance or Disability Living Allowance), with the group of untreated individuals being more likely across the entire period to be in receipt of Incapacity Benefit or Disability Living Allowance. This fact alone implies that there may be some fundamentally different personal or socio-economic characteristics across the treated and untreated groups that would need to be controlled for when undertaking a full assessment of outcomes.

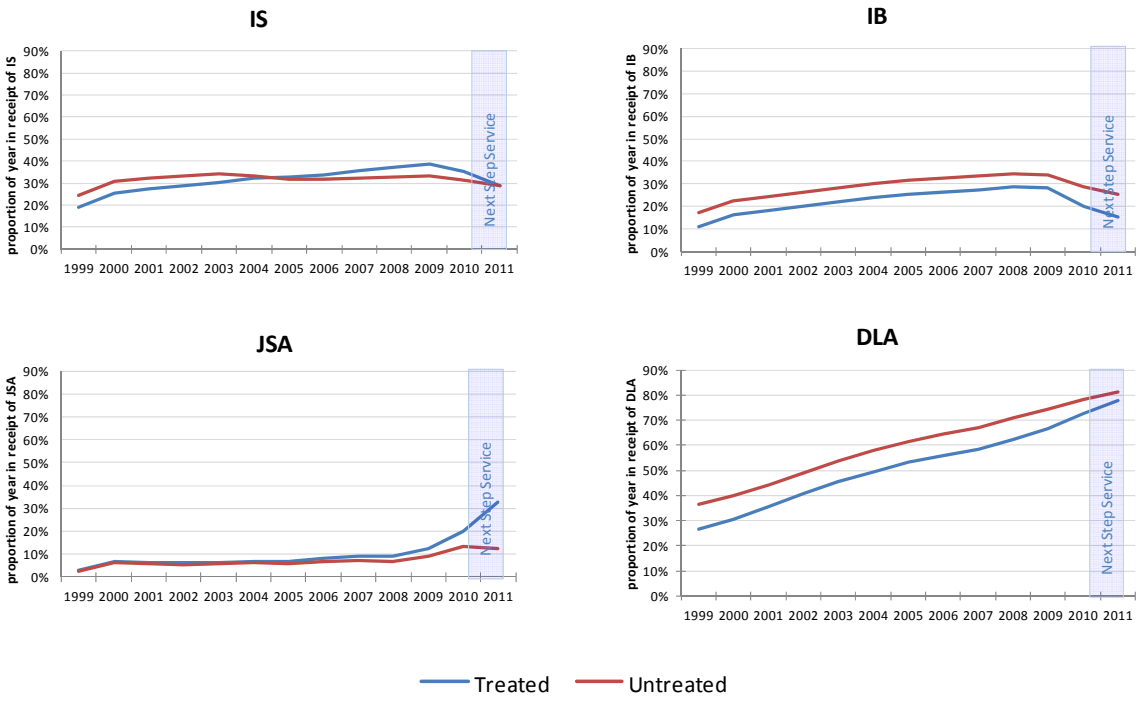
However, of most interest is the fact that the extent of aggregate benefit dependency is being driven by the greater dependency of Next Step customers on Jobseekers Allowance, to the extent that there is a 20-30 percentage point gap in benefit dependency between the treated and untreated group around the time at which Next Step customers received support.

Figure 22: Average proportion of the year on any benefit (treated vs. untreated)



Source: London Economics' analysis

Figure 23: Average proportion of the year on benefits, by benefit type (treated vs. untreated)

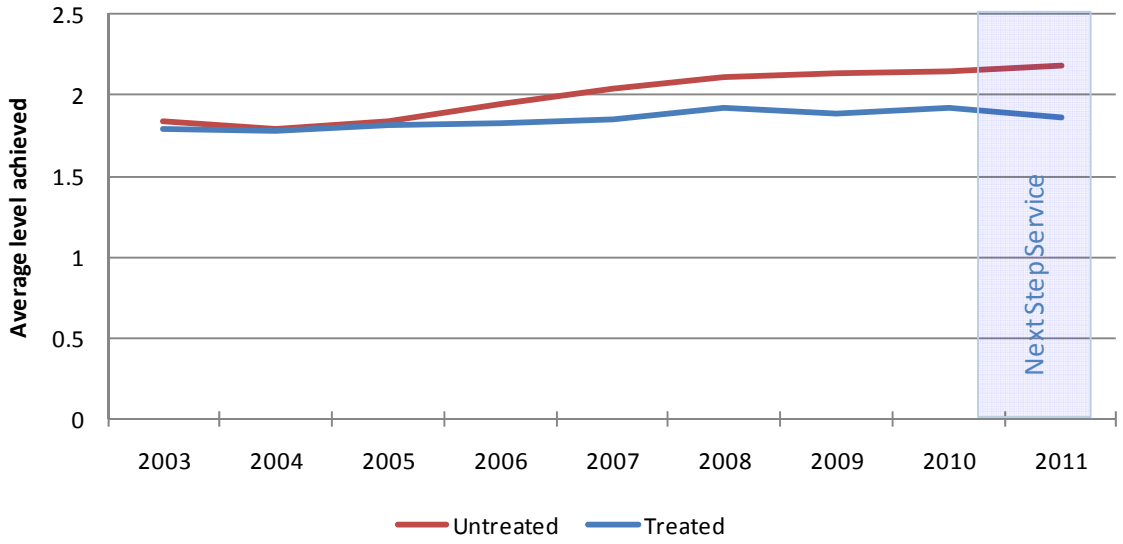


Source: London Economics' analysis

Education

Finally, considering the average level of educational attainment, the analysis suggests that there is a skills gap between the group of Next Step customers and the wider population. Although the average level of qualification for the two groups was relatively similar between 2003 and 2005, the analysis suggests that there has been a gradual increase in average qualification attainment by the wider population (above Level 2), whilst the average level of attainment amongst the Next Step group has remained relatively constant to the point that the qualification gap between the treated and untreated is approaching ½ a qualification level on average.

Figure 24: Average level achieved (treated vs. untreated)



Source: London Economics' analysis

Given the increasing understanding of the characteristics and labour market outcomes achieved by the treatment group of Next Step customers, and the differences with the wider population of non-users of Next Step, in the next section, we detail the econometric analysis undertaken to demonstrate the relative outcomes between the treatment and the counterfactual.

An econometric analysis of Next Step customers versus a counterfactual

Summary of the econometric analysis of Next Step customers versus a counterfactual

1. Given the very different personal and economic characteristics depending on the receipt or non-receipt of Next Step support, in this section, we generated a matched control group using a Propensity Score Matching model (PSM) to compare the outcomes of Next Step customers to those individuals with similar observable characteristics, but not (yet) receiving Next Step support. The set of observable characteristics we use in the PSM model include both personal characteristics (age, gender and ethnicity) as well as employment, benefit and education histories (in 2009, which was prior to the possibility of receiving Next Step support).

2. The analysis was applied to three different initial 'cuts' of data – the entire matched sample of Next Step customers; the sample of Next Step customers aged between 16 and 64; and any of those Next Step customers that received support early in the service's lifetime (pre 1st Jan 2011). We did not have information on prior attainment; however to understand the impact of Next Step on individuals that might have received some form of education and training, we also restricted the analysis to those individuals who were identified in the ILR. This allowed us to compare the outcomes of Next Step customers who had received some form of education and training with a matched sample of non-Next Step customers also identified in the ILR.

3. The Propensity Score Matching model matched well on all variables. Specifically, the use of the PSM model reduced the potential for 'selection bias' and results in a better comparison between those in receipt of Next Step support and those not-in-receipt of support. For instance, there was a 10.8 percentage point (pp) difference in the proportion of females between the treated and untreated samples, which was reduced to 0.3pp following the PSM analysis. Across all variables considered, the difference in the means between the treatment and control was substantially less than between the treated and untreated (e.g. the mean age gap was reduced by 1.2 years (1.7 to 0.5 years), the employment proportion gap was reduced by 9.6 pp (10.1 pp to 0.5 pp), the benefit dependency gap was reduced by 9.2 pp (9.7 pp to 0.5pp) while the JSA dependency gap was reduced by 5.9 pp (6.0.pp to 0.1 pp). As such, we have some confidence in the subsequent results.

4. When we looked at the entire sample of Next Step customers, for which 528,528 had employment records, 12 months prior to the intervention, 55% of Next Step customers were in employment compared to 59% in the control group. The rate of employment increases marginally for the control group to 63% at the time of intervention, while the employment rate for Next Step customers remains relatively constant at 55% (corresponding to a gap of 8pp). Post support, the rate of employment for the control

group increases marginally with 65% of the group in employment 6 months after Next Step customers received support. In contrast, for those in receipt of Next Step support, the average employment rate increases significantly to 64% six months post intervention. The gap in employment rates between the treatment group and control group stands at 1 pp six months post intervention, implying that 85% of the employment gap has been erased following the receipt of support.

5. Adopting an equivalent approach in relation to JSA, the analysis suggests that the control group exhibited a steady downward trend in the proportion claiming JSA (from 13% twelve months before the intervention to 9% at the time of the intervention and 8% six months post-intervention). Next Step customers experienced an increase in the proportion claiming JSA up until a peak of almost 39% at the point of receiving support, which demonstrates the rapid decline in labour market outcomes prior to engaging with Next Step. After the receipt of Next Step support, the proportion of Next Step customers in receipt of JSA decreased rapidly to 27% and 21% three and six months post-support respectively. The overall gap between the treatment and control groups was greatest at the time of intervention (almost 30pp), but declined to between 12 and 13 percentage points six months following the intervention. Although the benefit dependency gap was not eliminated, nor does it return to the level that existed 12 months pre-support, from the highest point, the size of the JSA dependency gap was reduced by approximately 59% in the six months post intervention.

6. We replicated this initial analysis using the range of different 'cuts' of data and different Propensity Score Matching models and found that the results were qualitatively unchanged.

Introduction

In this stage of the analysis, we generated a control group using a Propensity Score Matching method. The comprehensive information on observable characteristics available in our matched dataset allows the use of a propensity score matching technique to match individuals in the treatment group (in receipt of the Next Step service) to individuals in the control group with similar observable characteristics, but not receiving Next Step support. The set of observable characteristics we use in the Propensity Score Match model include both personal characteristics (age, gender and ethnicity), as well as employment, benefit and education histories *prior* to the potential receipt of support.

Propensity Score Matching

Matching variables

The Propensity Score Matching model consists of pairing one observation in the treatment group with one (or more) observation(s) in the control group according to a specified set of observable characteristics. The definition of the matching variables is therefore crucial: we need to control for all relevant variables influencing the decision to avail of the Next Step service (the Conditional Independence Assumption), but at the same time the matching procedure requires having at least one match for the treated observation among the non-treated observations (the existence of a Common Support Region).

The set of variables used for matching are divided into personal characteristics of the individual, and employment, benefit and education histories prior to service commencement. Personal characteristics include the age, gender and ethnicity of the individual, while we used the proportion of the year in employment in 2009 as the matching variable related to an individual's employment history. Note that we matched using labour market information in 2009 as this *pre-dated* any possible receipt of Next Step support.

We also included a variable describing the proportion of the year in receipt of *any* benefit in 2009 and in receipt of Jobseekers Allowance in 2009 specifically as matching variables related to benefit dependency history. We decided to match on Jobseekers Allowance explicitly, as well as benefit dependency more generally, because based on the evidence presented in the previous sections of this report, Jobseekers Allowance appears to be a highly relevant benefit for Next Step customers, and therefore is an important variable to be included in any set of matching variables.

In addition, we have undertaken a number of analyses using different 'cuts' of Next Step customers, including (1) a basic analysis considering all Next Step customers, (2) an analysis focusing on those Next Step customers aged between 16 and 64, as well as (3) an analysis focusing on those Next Step customers who received Next Step support early in the service's operation (pre January 1st 2011) irrespective of age. At a later stage, as part of an additional analysis, we also restricted the analysis to those individuals in the data set that had received some form of education and training as identified by the ILR.

Data availability

As presented in Table 5, there is base information on 809,463 Next Step customers that included information on the key matching variables, such as gender, age, and ethnic origin. As previously mentioned, in 104,254 cases, there was no unique identifier to allow us to merge the Next Step customer data with the ILR/HMRC/DWP datasets and make use of the 2009 employment and benefit dependency information used in the Propensity Score Matching model. Additionally, 13,366 customer ID's were duplicated and were removed. Given this, the total number of Next Step customer observations used as the basis for the subsequent analysis stood at 691,843. This is presented in Table 14 below.

Table 14: Data availability for Propensity score matching

Item	Number of observations affected	Number of observations remaining
Original Next Step data		**908,764**
No Date of Birth information	-27,291	881,473
No Gender information	-2,622	878,851
No intervention information	-73	878,778
No ethnic origin information	-12,438	866,340
Removal of more than one intervention number	-56,877	809,463
Missing matching ID	-104,254	705,209
Removal of customer duplicates	-13,366	691,843
Number of Next Step customers		**691, 843**

Source: London Economics' analysis

One further adjustment to the data was undertaken at this stage. The Propensity Score Matching model requires information availability across all variables under consideration. Although gender, age and ethnicity information is presented on all Next Step customers (and non Next Step customers), there were a number of observations where there was either no information available relating to employment status and/or benefit dependency. This amounted to 261,004 cases. Specifically, it might be the case that an individual was in employment for the entire calendar year, but given the fact that they were essentially unknown to the Department for Work and Pensions as they had never been in receipt to benefits, the data would essentially display them as missing. Rather than dropping these observations, the decision was taken to amend the data such that if it were the case that an individual had 'missing information' relating to benefit dependency (and displayed reliable employment information), it was assumed that they were not in receipt of benefits. This resulted in the re-introduction of 95,802 Next Step customers into the available data.

Secondly, if an individual was in receipt of Jobseekers Allowance for more than 90% of calendar days (in 2009) and also identified as having missing employment information, we assumed that it was reasonable to recode the data such that the proportion of the year in employment was zero. This allowed the re-introduction of a further 1,957 observations, leaving 528,528 for subsequent analysis. The result of these actions was to limit the number of dropped observations from 261,004 to 163,320. However, note that of the final 163,320 observations excluded from the propensity score matching analysis as a result of data uncertainty, there were 87,276 observations with *no* information whatsoever on either JSA dependency, any benefit dependency or employment status (53% of the original).

Table 15: Data availability for Propensity score matching

Item	Number of observations affected	Number of observations remaining
Number of Next Step customers		**691,843**
Missing benefits dependency information	-95,802	596,041
Missing employment information	-165,282	430,759
Reintroduction of benefit 'missing' data	+95,802	526,561
Reintroduction of employment 'missing' data	+1,957	528,518
Final sample for PSM		**528,528**

Source: London Economics' analysis

Propensity Score Matching results

Table 16 shows a comparison of the mean value of each variable in the treatment and control groups, both before and after matching. A significant reduction in the bias across the treatment and comparison groups pre- and post-matching would indicate that the Propensity Score Matching procedure has been successful in selecting a control group for the analysis more similar to the treatment group than the original (and wider) comparison group.

Table 16: Propensity Score Matching results

		Mean		Bias	
Variable	Sample	Treated 1	Control 1	Bias (years or pp)	Years/pp reduction in bias
Age	Unmatched	36.14	37.83	-1.7	
	Matched	36.14	35.63	0.5	1.2
Female	Unmatched	42.7%	53.5%	-10.8	
	Matched	42.7%	43.0%	-0.3	10.5
Ethnicity	Unmatched	21.2%	18.1%	3.1	
	Matched	21.2%	20.9%	0.3	2.8
Employment proportion	Unmatched	57.1%	67.2%	-10.1	
	Matched	57.1%	56.6%	0.5	9.6
Benefit proportion	Unmatched	26.6%	16.9%	9.7	
	Matched	26.6%	26.1%	0.5	9.2
JSA proportion	Unmatched	10.8%	4.8%	6.0	
	Matched	10.8%	10.7%	0.1	5.9

Note: sample size for treated group = 528,528 and sample size for counterfactual group *prior* to matching = 7,506,193. A full discussion of the sample available for the propensity score matching model is presented in section 3
Source: London Economics' analysis

The results show that the mean values of the control group do become closer to the mean values of the treatment group after matching. For example, the proportion of the year in employment for the treatment group in 2009 stands at 57%, while it is around 67% for the untreated group *before* matching and 57% *after* matching, indicating a substantial reduction in the bias (almost 10 percentage points). The Propensity Score Matching model also appears to provide a much tighter match between the treatment and control groups in terms of the proportion of the year on benefits (a 9 percentage point reduction in bias) and the proportion of the year in receipt of JSA (a 6 percentage point reduction in bias).

In terms of personal characteristics, the matched comparison group looks much more similar to the treatment than the wider comparison group considered. The average age of Next Step customers is around 36 in the treatment group, compared to 38 years in the untreated group and 37 years in the matched control group. The proportion of females in the treatment group stands at 42.7%, compared to 54% in the unmatched comparison and 43.0% in the matched control group, while the proportion of non-white individuals is around 21%, 18% and 21% in the treatment, unmatched control and matched control groups respectively. In all cases the bias falls significantly as we moved from the wider comparison group to the matched comparison group. As a result, the control group selected by the PSM procedure and used in the final analysis is much more similar to the treatment group, in terms of personal and labour market characteristics, than the original comparison group consisting of any individuals not in receipt of Next Step support.

Caveats relating to propensity score matching model

While the Propensity Score Matching model yielded a comparison group much "closer" to the treatment group in terms of observable characteristics, it should be acknowledged that there might be some other unobservable characteristics that would affect the matching but that we are unable to control for. Some of these characteristics are "hidden" by nature (e.g.

ability or motivation), while some other variables may not be available due to lack of or the quality of some data (information on prior achievement that is only available in the Individualised Learner Record and even then is patchy).

In addition, there are possible alternative approaches to matching where we may want to control for the labour market status of the individuals before the intervention. This might entail trying to match Next Step customers with individuals having a similar labour market history over, for example, the previous 12 or 24 months. Again, unobservable characteristics (such as motivation, health and family issues etc.) are likely to affect how different individuals react to shocks or opportunities on the labour market and even looking at detailed employment histories would leave some area for mismatch.

Results comparing treated vs. counterfactual

Employment

The analysis of the employment outcomes achieved by Next Step customers and the control group of individuals not in receipt of Next Step support was undertaken by assessing whether individuals in the treatment and control groups were in employment at specific points before and after the receipt of support by Next Step customers. Clearly, individuals in the control group not in receipt of Next Step support have no effective intervention date. Given this, we re-coded the data such that the intervention date for each Next Step customer was carried over or mimicked for their paired observation in the control group.

Given the nature of the limited overlap between the timing of the Next Step data (August 2010 and July 2011) and the data contained in the merged HMRC/DWP/ILR data post-support (up to April 2011), the samples associated with each analysis of employment outcomes at different points in time may vary. In Table 17, we present the samples associated with the treatment and control groups in four different cases: (1) where we use all the information available (the entire matched sample); (2) when the analysis is restricted to just those Next Step customers aged between 16 and 64; (3) those Next Step customers (irrespective of age) that were in receipt of support early in the life of the Next Step service, and (4) when the sample was restricted to those individuals who had an ILR flag.

Table 17: Summary of data availability (employment models)			
Employment			
	Observations	**Treatment**	**Counterfactual**
All Next Step customers (Treatment 1 vs Control 1)			
12 months prior to support	1,057,056	528,528	528,528
6 months prior to support	1,057,056	528,528	528,528
3 months prior to support	985,718	492,859	492,859
Next Step Support received	744,772	372,386	372,386
3 months post support	431,088	215,544	215,544
6 months post support	183,494	91,747	91,747
Next Step customers aged 16-64 (Treatment 2 vs Control 2)			
12 months prior to support	1,014,564	507,282	507,282
6 months prior to support	1,014,564	507,282	507,282
3 months prior to support	943,822	471,911	471,911
Next Step Support received	705,340	352,670	352,670
3 months post support	404,486	202,243	202,243
6 months post support	181,988	90,994	90,994
Early Next Step interventions (Treatment 3 vs Control 3)			
12 months prior to support	431,088	215,544	215,544
6 months prior to support	431,088	215,544	215,544
3 months prior to support	431,088	215,544	215,544
Next Step Support received	431,088	215,544	215,544
3 months post support	431,088	215,544	215,544
6 months post support	183,494	91,747	91,747
All Next Step customers with ILR Flag (Treatment 4 vs Control 4)			
12 months prior to support	382,412	191,206	191,206
6 months prior to support	382,412	191,206	191,206
3 months prior to support	360,448	180,224	180,224
Next Step Support received	284,990	142,495	142,495
3 months post support	176,322	88,161	88,161
6 months post support	80,982	40,491	40,491

Note: The reason why the number of observations varies depends on the timeframe. Specifically, supposing that two Next Step customers are considered, one receiving support on the 1st September 2010 and 1 receiving support on 1st December. For the individual receiving support on the 1st September 2010, there will be labour market information available at the time of support and prior to the receipt of support (12 months, 6 months 3 months), while we will also have labour market information 3 months and 6 months post support. In contrast, the Next Step customer receiving support on the 1st December will have labour market information in all the periods with the exception of 6 months post support. As the date for receipt of support becomes later (i.e. after January 5th 2011), there is no labour market information in the data set at either the 3 month or 6 months post intervention points.
Source: London Economics' analysis

As can be seen in the top panel of Table 17, the lack of data availability becomes more severe as the time from the point of receipt of Next Step support increases. Specifically, in the base case where we consider the entire sample of Next Step customers, the results draw on a sample of 183,494 individuals 6 months post Next Step support compared to more than 1,057,056 twelve months prior to the receipt of support (split equally between the treatment and control groups).

In the 'third panel' of Table 17, we present the samples available when we consider those Next Step customers receiving support prior to 1st January 2011. Clearly, as a result of removing a large number of Next Step customers, the sample available prior to the receipt of support is significantly reduced; however, the extent to which there is sample attrition over the period under consideration is diminished specially because the selection of individuals who received support early in the service's lifespan will by definition have more post-support data available. We present results based on all samples for completeness.

Proportion of individuals in employment (All Next Step customers - Treatment 1 vs. Control 1)

When we look at the entire sample, for which approximately 1,057,000 have employment records, we see the following results (Table 18 and Figure 25). The treatment group is defined as those individuals who receive Next Step support, while the control group is defined as matched individuals who did not receive Next Step support.

The analysis indicates that when looking at the treatment group, the average proportion of the Next Step customers in employment is consistently lower in the period prior to the receipt of Next Step support. Specifically, 12 months prior to the intervention, approximately 55% of Next Step customers are in employment compared to 59% in the control group. The rate of employment is essentially stable for Next Step customers up to the intervention date (ranging between 54% and 56%), with the treatment group registering an employment rate of 55% at the time of receiving support compared to 63% associated with the control group (equivalent to a gap in the employment rate of 8 percentage points).

However, post support, the employment rate for the control group increases by less than 2 percentage points, with 65% of the group in employment 6 months after the point of support for Next Step customers. In contrast, the rate of employment increased more rapidly for the treatment group following Next Step support, with the average employment rate amongst Next Step customers standing at 64% six months post-support.

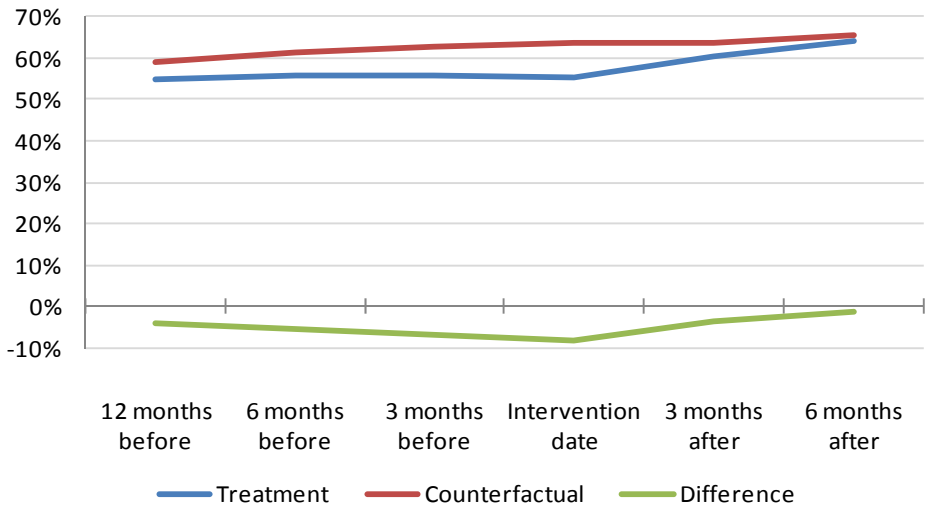
The gap in the employment rates between the treatment group and control group stands at 1 percentage point six months post intervention, implying that approximately 85% of the employment gap has been erased in the 6 months following access to the service.

Table 18: Proportion of individuals in employment, all Next Step customers

	Treatment 1	Control 1	Difference (pp)
12 months prior to support	54.7%	59.0%	-4.3pp
6 months prior to support	55.8%	61.5%	-5.7pp
3 months prior to support	55.8%	62.6%	-6.8pp
Next Step Support received	55.4%	63.5%	-8.1pp
3 months post support	60.3%	63.7%	-3.4pp
6 months post support	64.1%	65.3%	-1.2pp

Note: Maximum sample size = 1,057,056 12 months to receipt of Next Step support is received by Next Step customers (sample size for the treatment group and counterfactual stands at 528,528 each.
Source: London Economics' analysis

Figure 25: Proportion of individuals in employment, all Next Step customers



Source: London Economics' analysis

Proportion of individuals in employment (Next Step customers aged between 16 and 64 - Treatment 2 vs. Control 2)

We then looked at the sample of just those aged between 16 and 64, for which approximately 1,014,000 individuals across the treatment and control groups have employment records. As can be seen in Table 19 and Figure 26, the results are nearly identical to those presented for the entire sample and follow a similar trend over time.

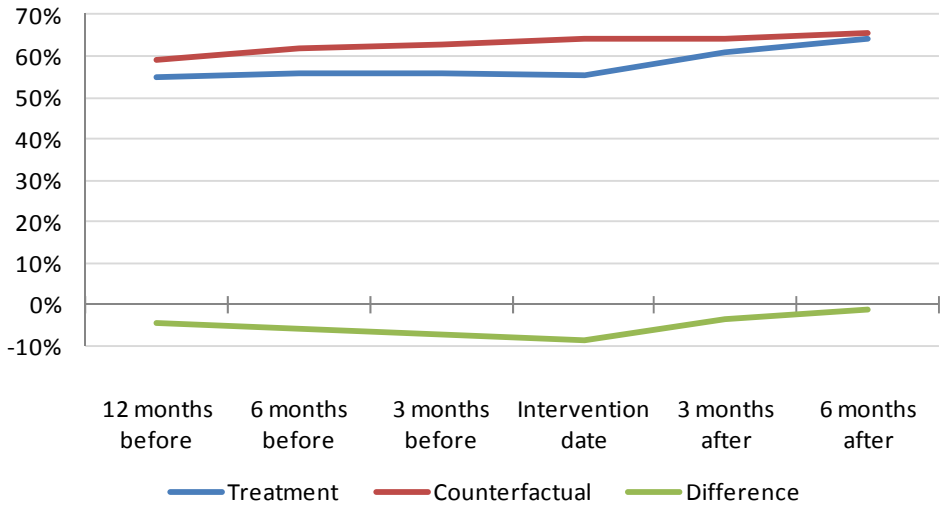
Table 19: Proportion of individuals in employment (Next Step cutomers aged 16-64)

	Treatment 2	Control 2	Difference (pp)
12 months prior to support	54.7%	59.3%	-4.6pp
6 months prior to support	55.9%	61.8%	-5.9pp
3 months prior to support	55.8%	63.0%	-7.2pp
Next Step Support received	55.4%	64.1%	-8.7pp
3 months post support	60.7%	64.4%	-3.7pp
6 months post support	64.1%	65.4%	-1.3pp

Note: Maximum sample size = 1,014,564 12 months to receipt of Next Step support is received by Next Step customers (sample size for the treatment group and counterfactual stands at 507,282 each.

Source: London Economics' analysis

Figure 26: Proportion of individuals in employment (Next Step cutomers aged 16-64)



Source: London Economics' analysis

Proportion of individuals in employment (Next Step support date prior to 1st Jan 2011- Treatment 3 vs. Control 3)

To further increase the robustness and consistency over time of the results, we also assessed the impact of Next Step on those individuals for whom we have data and whose Next Step support date is before 1st January 2011 (i.e. the early receipt of support). This represents approximately 431,000 records (215,500 in each group).

The general trend here again shows that the proportion of the control group in employment increases steadily over time, whereas the proportion of the treatment group in employment is broadly constant up to the point of Next Step service receipt and then increases relatively quickly post-support. More specifically, the proportion of the control group in employment gradually increases from 58% twelve months pre-support to 63% at the time Next Step customers received their support, and increases to approximately 65% six months post-support.

Table 20: Proportion of individuals in employment (Intervention date pre 1st January 2011)

	Treatment 3	Control 3	Difference (pp)
12 months before	53.9%	57.8%	-3.9pp
6 months before	53.9%	59.9%	-6.0pp
3 months before	55.1%	61.9%	-6.8pp
Intervention	54.4%	63.1%	-8.7pp
3 months after	60.3%	63.7%	-3.4pp
6 months after	64.1%	65.3%	-1.2pp

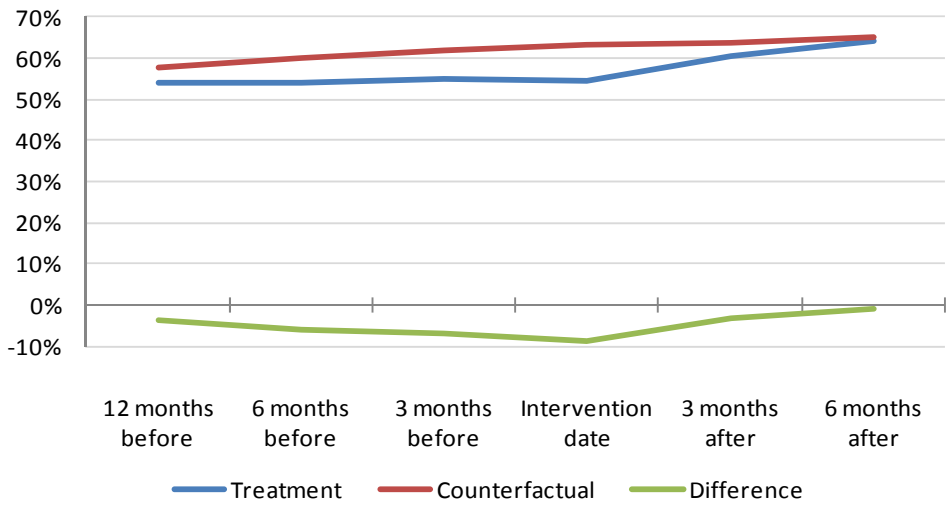
Note: Maximum sample size = 452,520 12 months to receipt of Next Step support is received by Next Step customers (sample size for the treatment group and counterfactual stands at 226,260 each.

Source: London Economics' analysis

In contrast, the proportion of individuals in the treatment group in employment shows limited variation in the 12 months pre-support, ranging between 54% and 55% (54.4% at the time of intervention), corresponding to an employment gap of 9 percentage points between the treatment and control groups. The employment rate amongst the treatment group increases to 60% three months after receiving the service, which represents a 6 percentage point increase over the three months.

As before, the gap across the treatment and control group is highest at the time of intervention, but then drops to 3 percentage points three months post-support and just 1 percentage point six months post-support. It should be remembered that the composition and size of this restricted sample is unchanged over time (from 12 months before to 3 months after) and therefore provides a more consistent picture on changes occurring in the period (see also Table 17).

Figure 27: Proportion of individuals in employment (Intervention date pre 1st January 2011)



Source: London Economics' analysis

All analyses demonstrate that the gap in employment incidence between the treatment and control groups is greatest at the point at which Next Step support is received by the treatment group; however, following the receipt of support, the gap between the treatment and control declines significantly (by approximately 85%).

In Table 21, we present a summary of findings relating to employment outcomes from the three different samples of Next Step customers considered so far.

Table 21: Summary of impact of Next Step on employment outcomes			
Control	**Control 1**	**Control 2**	**Control 3**
Data selection	**All Next Step customers**	**Next Step customers age 16-64**	**All Next Step customers with intervention date pre 01/01/2011**
Number of observations	**1,057,056**	**1,014,564**	**431,088**
At intervention	-8.1 pp	-8.7 pp	-8.7 pp
3 months post intervention	-3.4 pp	-3.7 pp	-3.4 pp
6 months post intervention	-1.2 pp	-1.3 pp	-1.2 pp
Reduction in gap between treatment and control 3 months post intervention (%)	58.0%	57.5%	60.9%
Reduction in gap between treatment and control 6 months post intervention (%)	85.2%	85.1%	86.2%

Source: London Economics' analysis

Benefit dependency – Jobseekers Allowance

Proportion of individuals on JSA (All Next Step customers - Treatment 1 vs. Control 1)

Following the equivalent approach in relation to Jobseekers Allowance, we used the entire matched sample consisting of a maximum of 1,057,056 records to produce the following results. The same analyses were undertaken on different 'cuts' of data restricted to those aged between 16 and 64, as well as considering those that received the Next Step support early in the service's lifetime. For consistency reasons we restricted the analysis to the same time period used for employment data (5th April 2011 being the end of the 2010/11 tax year).

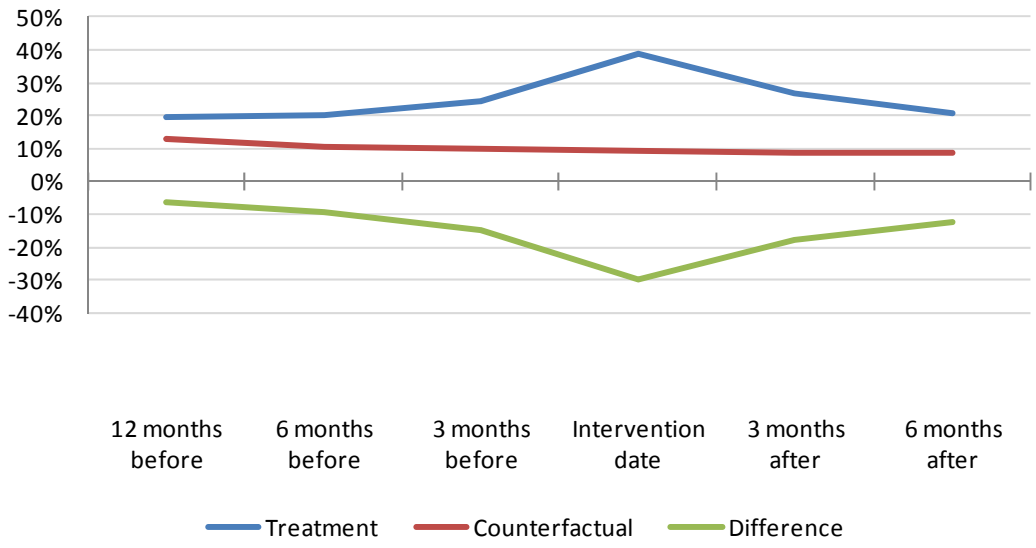
The analysis presented in Table 22 and Figure 28 indicates that the control group exhibits a steady downward trend in the proportion in receipt of Jobseekers Allowance (from 13% twelve months before receipt of support to 9% at the time of intervention and 8.4% six months post intervention). The treatment group (Next Step customers) experiences an increase in the proportion of people on JSA up until a peak of almost 39% at the date of receiving support demonstrating the rapid decline in outcomes prior to the support. After the receipt of Next Step support, the proportion of treated individuals in receipt of JSA decreases with the proportion of Next Customers in receipt of JSA declining to 27% and 21% three and six months after the intervention respectively. The overall gap between the treatment and control groups is greatest at the time of intervention (almost 30 percentage points), declining to at around 12 percentage points six months following the intervention. Although the benefit dependency gap is not eliminated, nor does it return to the level that existed 12 months pre-support (where is was 6.5 percentage points), from the highest point, the size of the JSA dependency gap is reduced by approximately 59% in the 6 months post intervention.

Table 22: Proportion of individuals on JSA, all Next Step customers

	Treatment 1	Control 1	Difference (pp)
12 months before	19.3%	12.8%	6.5pp
6 months before	20.0%	10.6%	9.4pp
3 months before	24.2%	9.6%	14.6pp
Intervention	38.9%	9.2%	29.7pp
3 months after	26.7%	8.6%	18.1pp
6 months after	20.6%	8.4%	12.2pp

Note: Maximum sample size = 1,057,056 12 months to receipt of Next Step support is received by Next Step customers (sample size for the treatment group and counterfactual stands at 528,528 each.
Source: London Economics' analysis

Figure 28: Proportion of individuals on JSA, all Next Step customers



Source: London Economics' analysis

Proportion of individuals on JSA (Next Step customers aged between 16 and 64 - Treatment 2 vs. Control 2)

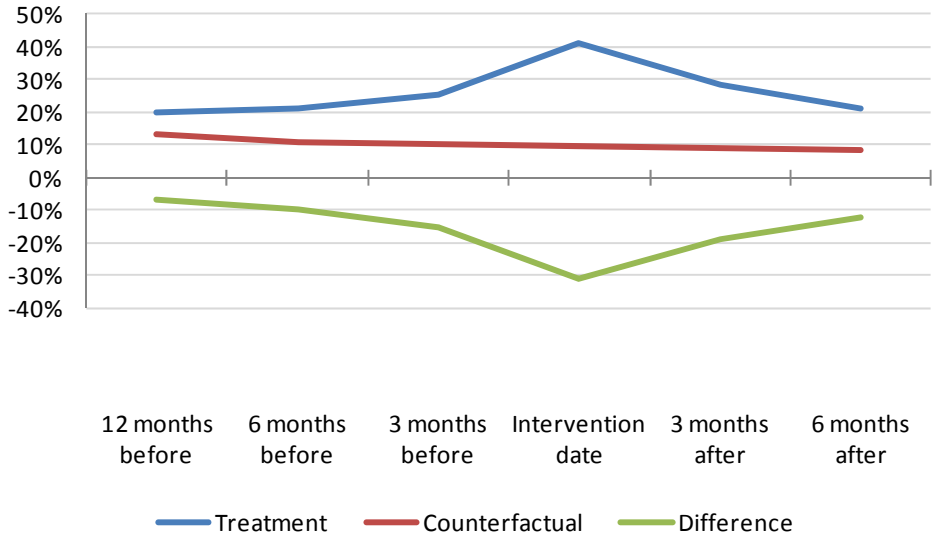
In Table 23 and Figure 29, we present the equivalent results relating to just those Next Step customers aged between 16 and 64. Unsurprisingly, there is a significant degree of consistency between the results presented here and the baseline analysis. Again, the receipt of Next Step support appears to reverse a downward labour market trajectory amongst Next Step customers in terms of benefit dependency, and moves Next Step customers to achieve more similar outcomes compared to those achieved by the control group in the absence of the Next Step service.

Table 23: Proportion of individuals on JSA (Next Step customers aged 16 to 64)

	Treatment	Counterfactual	Difference
12 months before	20.1%	13.3%	6.8pp
6 months before	20.8%	11.0%	9.8pp
3 months before	25.2%	10.0%	15.2pp
Intervention	41.0%	9.7%	31.3pp
3 months after	28.4%	9.2%	19.2pp
6 months after	20.8%	8.5%	12.3pp

Note: Maximum sample size = 1,014,564 12 months to receipt of Next Step support is received by Next Step customers (sample size for the treatment group and counterfactual stands at 507,282 each.
Source: London Economics' analysis

Figure 29: Proportion of individuals in receipt of JSA (Next Step customers aged 16 to 64)



Source: London Economics' analysis

Proportion of individuals on JSA (intervention date pre 1st Jan 2011 - Treatment 3 vs. Control 3)

Focusing on those individuals for which we have data on and whose intervention date is before 1st January 2011, we consider the difference between the treatment and control using 452,520 JSA records (around 226,000 in each of the treatment and control groups).

The general trend shows again that the proportion of the control group in receipt of JSA declines steadily (from 13% to 10%) up until the date of support and decreases further to 9% three months post-support levelling out at 8% six months following the receipt of support by Next Step customers. In contrast, the treatment group experiences an increase in the proportion of people dependent on JSA up to the point of the Next Step intervention (peaking at over 41%). Three months after the receipt of support, the proportion of the treatment group claiming JSA has declined to the levels that existed three months before

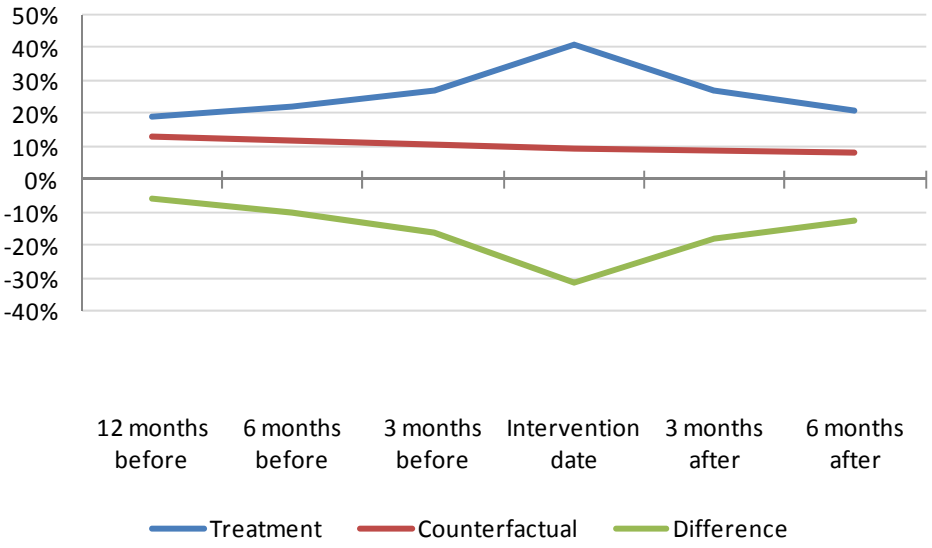
the intervention (around 27%), with a further reduction on JSA incidence by the six month milestone, where the proportion of treated individuals claiming JSA stands at 21%[9].

Table 24: Proportion of individuals on JSA (intervention date pre 1st January 2011)

	Treatment	Counterfactual	Difference
12 months before	19.0%	13.2%	5.8pp
6 months before	22.1%	11.8%	10.3pp
3 months before	27.1%	10.7%	16.4pp
Intervention	41.1%	9.6%	31.5pp
3 months after	26.7%	8.6%	18.1pp
6 months after	20.6%	8.4%	12.2pp

Note: Maximum sample size = 452,520 12 months to receipt of Next Step support is received by Next Step customers (sample size for the treatment group and counterfactual stands at 226,260 each.
Source: London Economics' analysis

Figure 30: Proportion of individuals in receipt of JSA (intervention date pre 1st January 2011)



Source: London Economics' analysis

In Table 25, we present a summary of findings relating to Jobseekers Allowance outcomes using the three different data cuts considered to date.

[9] The analysis demonstrates that although the treatment and control groups have been matched based on their labour market and benefit dependency histories in 2009, there is a wide divergence in outcomes between the various treatment and control groups up to the point of intervention, followed by post service convergence. In the academic literature (see Ashenfelter (1978) and Heckman (1999)), this has been referred to as the 'Ashenfelter dip', whereby this deterioration in outcomes prior to the receipt of service is explained by differences in the personal characteristics between the treatment and counterfactual, which if controlled for appropriately would reduce the estimated impact of the service. The impact of the 'Ashenfelter dip' may be more of an issue with respect to the findings relating to benefit dependency (given the significant pre service deterioration between the groups) but less of an issue in respect of employment outcomes given the relative stability of the employment outcomes (for both the treatment and counterfactual groups) pre intervention.

Table 25: Summary of impact of Next Step on JSA dependency outcomes			
Control	**Control 1**	**Control 2**	**Control 3**
Data selection	**All Next Step customers**	**Next Step customers age 16-64**	**All Next Step customers with intervention date pre 01/01/2011**
Number of observations	**1,057,056**	**1,014,564**	**431,088**
At intervention	29.7pp	31.3pp	31.5pp
3 months post intervention	18.1pp	19.2pp	18.1pp
6 months post intervention	12.2pp	12.3pp	12.2pp
Reduction in gap by 3 months post intervention (%)	39.1%	38.7%	42.5%
Reduction in gap by 6 months post intervention (%)	58.9%	60.7%	61.3%

Source: London Economics' analysis

Additional analysis using the ILR-Next Step sample

In this section, we present the analysis restricted to Next Step customers who have also undertaken some form of funded learning in recent years. For this purpose, we retained in the treatment group only Next Step customers who also have an ILR record. Similarly, the control group is drawn from non-treated individuals with an ILR record. This provides for some attempt to control for the potential educational engagement across the treatment and control groups and provides a potentially better indication of the impact of Next Step support on those BIS clients that are currently or have recently engaged within the education and training system. The Propensity Score Matching model results are shown in Table 27 below, reporting the various indicators for the Next Step/ILR group, with the wider comparison group formed of all individuals with an ILR record, and the "matched" comparison group.

Table 26: Propensity Score Matching results – sample of Next Step customers with ILR flag

		Mean		Bias	
Variable	Sample	Treated	Counterfactual	Bias (years or pp)	Years/pp reduction in bias
Age	Unmatched	32.95	33.85	-0.89	
	Matched	32.95	32.59	0.36	0.53
Female	Unmatched	43.6%	51.2%	-7.61	
	Matched	43.6%	44.0%	-0.33	7.28
Ethnicity (% of non-white)	Unmatched	24.4%	18.0%	6.36	
	Matched	24.4%	24.0%	0.37	5.98
Employment proportion	Unmatched	54.7%	66.7%	-11.93	
	Matched	54.7%	53.7%	0.98	10.96
Benefit proportion	Unmatched	30.2%	18.2%	12.06	
	Matched	30.2%	29.9%	0.38	11.69
JSA proportion	Unmatched	12.6%	6.2%	6.40	
	Matched	12.6%	12.3%	0.33	6.08

Note: sample size for treated group = 191,206 and sample size for counterfactual group prior to matching = 3,210,530
Source: London Economics' analysis

As with the original matching, the Propensity Score Matching model using the restricted sample of Next Step customers who also had an identifier in the ILR succeeded in selecting a comparison group much more similar to the treatment group than the wider comparison group. As might be expected, although there is some degree of consistency on the profile of this group of Next Step customers and the original sample of all Next Step customers, the analysis suggests that this restricted sample is approximately 2 years younger; 1 percentage less likely to be male; 3 percentage points less likely to be white; 2.5 percentage points less likely to be in employment; 4 percentage points more likely to be claiming benefits; and 2 percentage points more likely to be claiming Jobseekers Allowance. Given the potentially more challenging labour market circumstances of this specific group of Next Step customers, it might be expected that the impact of Next Step would be lower than for the population of Next Step customers as a whole.

Proportion of individuals in employment (Next Step customers with ILR flag – Treatment 4 vs Control 4)

In Table 27 we present the employment status for the treatment and control groups: As with the previous analyses, there was a steady upward trend in the likelihood of being employed for the control group (with the proportion of non-Next Step customers employed rising from 58% twelve months before the intervention to 66% six months after the intervention), while the proportion employed in the treatment group increased from 52% to 55% between 12 months and 3 months pre-support, then declined marginally to 54% at the intervention date. Post-support, the employment rate reverses and increases to 60% and 63% three and six months after the intervention, respectively.

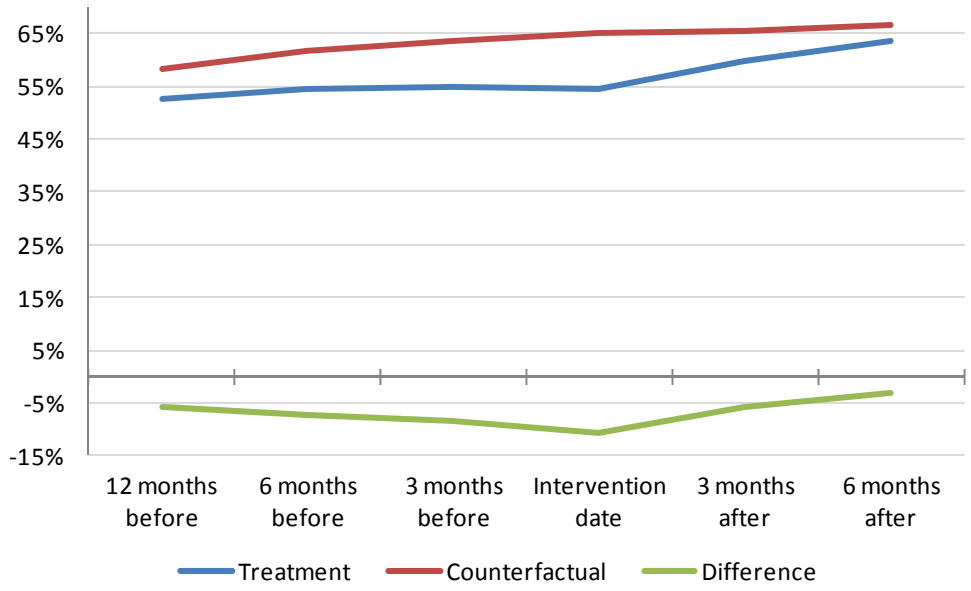
The difference across the two groups was 6 percentage points six months pre-support, peaks at 11 percentage points at the time of the intervention and declines to 3 percentage points six months after the intervention.

Table 27: Proportion of individuals in employment, Next Step/ILR matched sample

	Treatment 4	Control 4	Difference (pp)
12 months prior to support	52.4%	58.3%	-5.9pp
6 months prior to support	54.4%	61.8%	-7.4pp
3 months prior to support	55.0%	63.4%	-8.4pp
Next Step Support received	54.3%	64.9%	-10.6pp
3 months post support	59.8%	65.6%	-5.8pp
6 months post support	63.4%	66.5%	-3.1pp

Note: Maximum sample size = 382,412 12 months to receipt of Next Step support is received by Next Step customers (sample size for the treatment group and counterfactual stands at 191,206 each. ***Source: London Economics' analysis***

Figure 31: Proportion of individuals in employment (Next Step customers with ILR flag)



Source: London Economics' analysis

Proportion of individuals on JSA (Next Step customers with ILR flag – Treatment 4 vs Control 4)

Looking at the proportion of individuals in receipt of JSA at different points in time we can see that the trend for JSA is consistent to that demonstrated for employment. Specifically, the proportion of the control group in receipt of JSA declines steadily (from 17% to 12%) up until the date of intervention and decreases further to 10% six months post-support. The treatment group experiences a rapid increase in the proportion of people dependent on JSA up to the point of Next Step support (peaking at almost 41%), but then the proportion of Next Step customers in receipt of JSA falls back to 30% and 22% three and six months after the intervention date.

The gap between the treatment and counterfactual groups in the proportion of individuals receiving JSA is lowest twelve months before the intervention (8 percentage points), peaks around the time of intervention (29 percentage points) and then falls back to 12

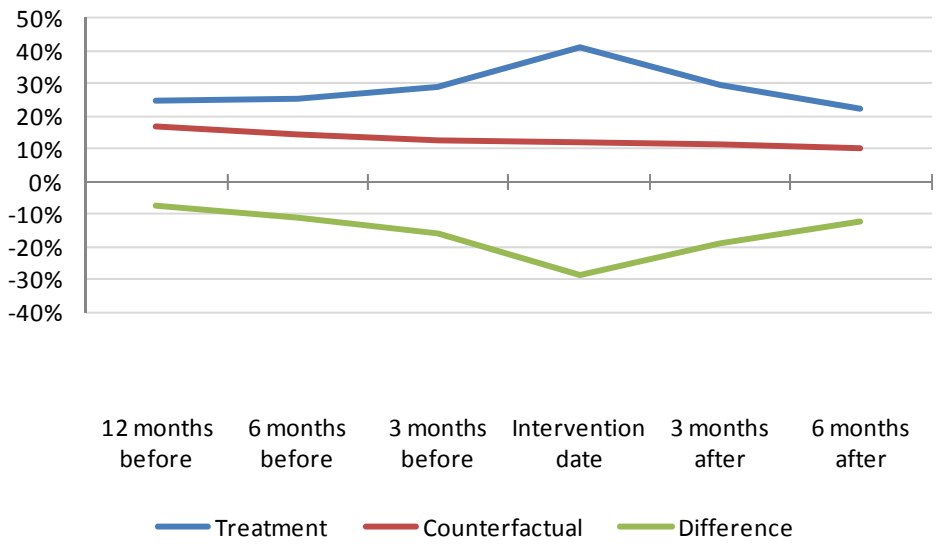
percentage points six months after the intervention. This equates to a narrowing of the JSA dependency gap by approximately 60% in the six months post intervention.

Table 28: Proportion of individuals on JSA (Next Step customers with ILR flag)

	Treatment 4	Control 4	Difference
12 months before	24.5%	16.8%	-7.7pp
6 months before	25.4%	14.2%	-11.2pp
3 months before	28.8%	12.7%	-16.1pp
Intervention	40.8%	12.0%	-28.8pp
3 months after	29.8%	11.1%	-18.7pp
6 months after	22.5%	10.1%	-12.4pp

Note: Maximum sample size = 382,412 12 months to receipt of Next Step support is received by Next Step customers (sample size for the treatment group and counterfactual stands at 191,206 each.
Source: London Economics' analysis

Figure 32: Proportion of individuals in receipt of JSA (NS customers with ILR flag)



Source: London Economics' analysis

Although the analysis appears to indicate that the proportion of the employment gap bridged under by Next Step customers with an ILR flag is less than under the analysis looking at all Next Step customers (71% compared to 85%), in fact, there is a limited difference between the model results. Specifically, the proportion of Next Step customers (and their control group) in employment under the first PSM model stood at 55% compared to 63% at the point of intervention, and 64% compared to 65% respectively six months post intervention. In contrast, the comparable employment probabilities for Next Step customers with an ILR flag (and their control group) under the final PSM model stood at 54% and 65% at the point of intervention compared to 63% and 66% respectively six months post intervention.

Conclusions and Recommendations

Given the extensive thought and effort that has been undertaken to generate a matched data set that is appropriate for subsequent analysis, we would recommend that the current analysis is repeated as new information on labour market outcomes becomes available. As with other work undertaken using a number of the data sets considered in this project, the assessment of Next Step customer outcomes over time would yield results that are more useful and comprehensive from a policy perspective than those that can currently be presented. In particular, in addition to the consideration of the medium term outcomes achieved by Next Step customers compared to the various control groups, as more post-support data becomes available, the analysis could be replicated to consider different characteristics of the Next Step service (such as the relative impact of alternative referral routes or different formats or intensities of support).

Timing and scope of future analysis

The data re-organisation and matching provides a strong basis for the examination of the labour market and benefit histories of Next Step customers in the years prior to the receipt of Next Step support; however, given the fact that the Next Step administrative data is limited to the period August 2010 to July 2011, some issues arise. Specifically, there is a scarcity of information in relation to the outcomes achieved by those individuals following the receipt of support against either the wider group of individuals not accessing Next Step support (the 'untreated') or the more selective group of individuals with similar observable characteristics as those accessing support (the 'counterfactual'). As such, irrespective of the methodological approach adopted, currently it is only possible to have confidence in the outcomes achieved by Next Step customers in the immediate aftermath of the support (3 or 6 months). Despite undertaking a number of different analyses using a range of different samples of Next Step customers, the results only characterise the *immediate* outcomes achieved by participants.

- Given the current focus on the immediate labour market outcomes achieved by Next Step customers, we would recommend that the Department replicates this analysis on an ongoing basis as additional information becomes available. In the first instance, limiting the analysis to those Next Step customers receiving support in the first 12 months of operation alongside the incorporation of an additional 12 months labour market and benefits data would be most fruitful, as this would provide additional certainty in relation to the outcomes achieved of the first cohort of customers in the first 18 months post-support.
- Once the baseline analysis has become more established, in the second instance, we would recommend that the analysis is undertaken every 12 months thereafter. This medium term strategy would allow for the assessment of the outcomes of the first cohort of Next Step customers in the 30 months post support, as well as the second cohort of Next Step customers in their first 18 months post support. This would greatly assist our understanding of whether the impact of Next Step is temporary or permanent.

Understanding different referral routes and support intensity

The information on the characteristics of Next Step customers by referral route is hugely important. Specifically, Next Step customers referred through Jobcentre Plus are more likely to be male, white-British, have lower levels of educational attainment, more likely to be unemployed, more likely to be in receipt of Jobseekers Allowance and marginally younger.

- Given the clear differences in the personal characteristics within the Next Step customer population, any longer term analysis of the effectiveness of the Next Step service needs to consider the outcomes of Next Step customers by referral route as it is certainly possible to categorise those referred through Jobcentre Plus as facing greater labour market and educational challenges compared to those individuals self-referring.
- As the data collection element of the Next Step service further embeds and becomes richer, there will also be the possibility of assessing the impact of the support depending on the number or nature of support sessions that Next Step customers receive. Specifically, given the fact that certain priority groups are eligible to receive a number of face-to-face sessions, we would recommend that further analysis is undertaken on the extent to which more intensive support alleviates the labour market and education barriers faced by those furthest away from the active labour market.

Data gaps and availability

There are a number of gaps in the Next Step customer data that limit the comprehensiveness of the analysis. Specifically, from a base of almost 909,000 records, approximately 3% of records were removed because of missing information on date of birth and 1.5% because of missing information on ethnic origin. However, once multiple intervention records were removed (legitimately) when moving from intervention level to Next Step customer level, a further 104,000 customer records were removed because of missing matching identifiers (12.8% of customer records), while a further 13,336 Next Step customers were removed from the analysis because of duplicate information (1.6% of Next Step customers).

We would recommend, as far as is possible, that the information collected on Next Step customers is as comprehensive as possible, as there is the opportunity of increasing the available sample, and thereby improving the degree of certainty associated with the results generated.

Methodological development

There are some methodological developments that could be considered in future in relation to the approach for selecting the treatment and control groups. Specifically, although we considered a range of Propensity Score Matching models and a range of different ‘cuts’ of data’, the deterioration on the benefit dependency outcomes (in particular) of the treatment group compared to the control groups, with a subsequent reversal (the ‘Ashenfelter dip’) does raise a question in relation to whether the modelling approach adequately controls for the differences between the groups. We believe that more research in relation to how the control group is selected so that the true impact of the

service on recipient outcomes would be beneficial. In particular, Next Step customers seem to have a higher probability of being in receipt of labour market related benefits immediately prior to the intervention date, a trend not shown in the control group (the two groups were matched on benefit dependency in the year prior to the commencement of next steps, but not on benefit status around the intervention date). Matching on the detailed labour market history may potentially reduce the potential bias between the two groups.

References

Heckman, James J., and Smith, Jeffrey A. (1999), “The pre programme earnings dip and the determinants of participation in a social programme: Implications for simple programme evaluation strategies”, Economic Journal, 109, July (313- 348).

Ashenfelter, Orley, (1978), “Estimating the effect of training programs on earnings”, Review of Economics and Statistics, vol. 60, pp 47-57.

London Economics (2011), “The long term effect of vocational qualification on Labour Market Outcomes”, Department for Business Innovation and Skills research Report 47, June 2011 here

Annex 1: Further details of Propensity Score Matching

Theory

In the absence of a randomised trial, matching can ensure that we can construct an appropriate counterfactual group for the treated, pairing members of the treated group with members of the counterfactual group, based on observable characteristics. The underlying matching assumptions ensure that, the difference in the outcome variable is explained by programme participation. The two key assumptions underlying a matching strategy are the Conditional Independence Assumption, which ensures that we have all the relevant information characterising the selection rule and the decision to participate or not in the programme, and the existence of a Common Support Region, which implies that we can find a match for each treated observation among the non-treated (the region defined by the set of observable characteristics ***X*** represented among the treated is also represented among the non-treated).

However, it is virtually impossible to find an exact match on observable characteristics for each treated observation, even if we restrict the attention to a few variables. To avoid the dimensionality problem associated with matching on the values of ***X,*** it is possible to match using a function of the matching variables ***X*** (rather than the actual variables). This is normally carried out estimating a probability of participation based on ***X***, called P(X), or propensity score, and defined as:

P(X) = P(D = 1/X), where D = 1 identifies programme participation.

This probability can be estimated through probit, logit or linear probability models and will enable us to match on the propensity score, rather than on the set of matching variables ***X***, solving the dimensionality problem (but relying on the parametric assumptions implied by the chose parametric specification).

In other words and applying it to our specific case, the PSM process involves creating a score which indicates the likelihood of any particular individual receiving a Next Step service, and even individuals not engaged in Next Step will have an estimated probability of doing so. This score or probability is derived from a first stage estimation of a probit equation model where the dependent variable takes the value of one if an individual uses the Next Step service and zero otherwise. Individual characteristics, as described above, are then added to the model to try to predict the likelihood of individuals using the Next Step service.

From this model each individual gets a predicted probability score, which in essence indicates the likelihood of that individual engaging in Next Step with their given characteristics. This score is then used as the basis for choosing a control group. In other words, individuals using the Next Step service will be matched with individuals not in receipt of Next Step but have similar propensity scores.

To undertake this process in practice, the choice of the matching variables is crucial, given that if we have too little information included in X we risk leaving out relevant variables characterising the participation rule and the Conditional Independence Assumption will not hold. Conversely, if we include too many variables in X, the Common Support region might be empty. When deciding which characteristics to include among the matching variables, it is crucial to make sure that these variables are determined when training decisions are made, or at least they are not directly affected by the treatment status.

Application

There are a variety of approached to establishing the propensity score match, but we have found in the past that one of the optimal approaches involves “one-to-one ‘nearest neighbour’ matching allowing replacement of control observations after matching, subject to a common support condition”. We describe this in more detail below.

One-to-one ‘nearest neighbour’ propensity score matching selects, for each treatment group individual, the one control group individual with the most similar p-score. Based on the range of individual level characteristics in the model, the technique picks the two most alike firms at the baseline period (possibly prior to the introduction of a particular policy) with the crucial difference between them being that one individual is in receipt of a Next Step service whereas the other is not. The starting premise is that we would expect, ceteris paribus, the two chosen individuals to evolve along the same path over time. Alternatively, it is also possible to match each participant to multiple nearest neighbours (generally 10), a strategy that will reduce variance (we use more information to construct the counterfactual for each participant) at the cost of increased bias (we are using poorer matches on average).

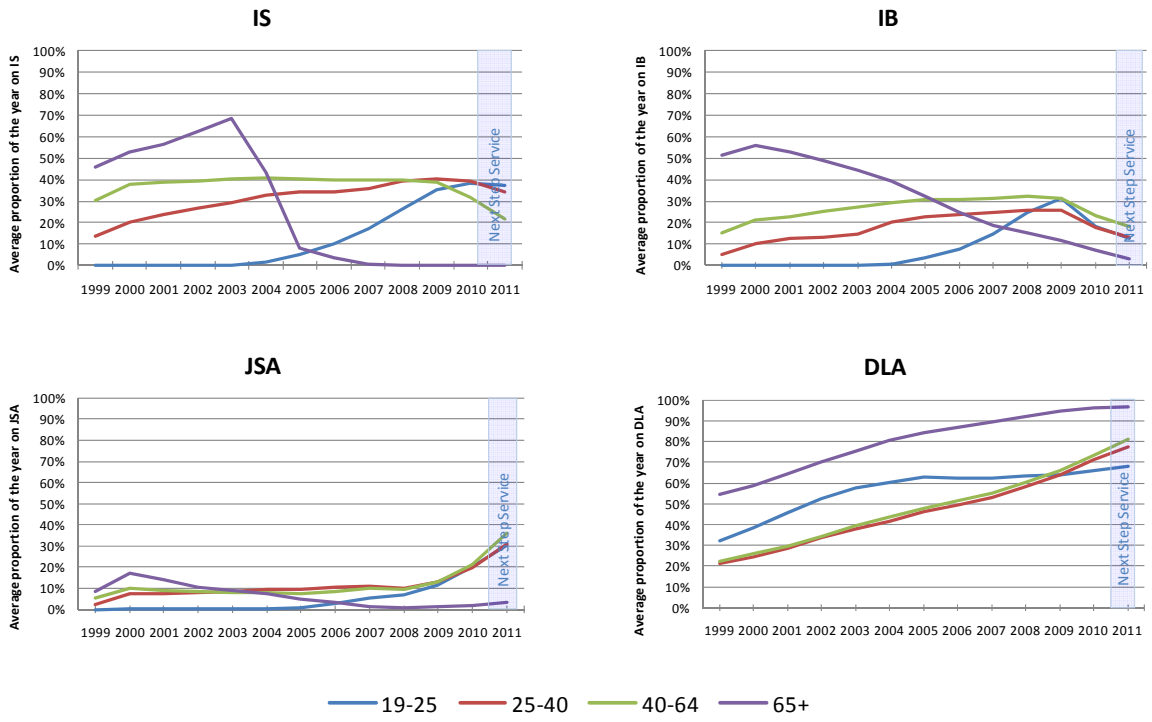
In propensity score matching, there is a choice of allowing the replacement of control observations following matching or not. On the one hand, if no replacement is allowed, once a control individual has been matched to a treated individual, it is removed from the sample which matches are selected for subsequent treatment individuals. Therefore, this approach yields unique matches of a control individual to each treated individual, however the quality of the match of the propensity scores diminishes for the later treated individuals (with the dataset ordered randomly), as the size of the control observation pool is reduced. On the other hand, if the replacement is allowed, each ‘matched’ control individual is returned to the control pool for all subsequent matches, and so the full sample of control individuals is available from which to select a match for each treated individual. Therefore, this approach involved a trade-off between the introduction of a possible bias in attainment (due to replication of control observations in the matched sample) and the increased ‘fit’ of the matches, particularly those in the latter part of the sample. The primary rationale for our choice of no replacement is motivated by the unique matches of a control individual to each treated individual. Given the large size of our sample, the trade-off between the increased efficiency of the estimator and the potential bias introduced by allowing repetition is normally acceptable.

Finally, the common support condition imposes the filter that the propensity score of all treated observations must fall within the minimum and the maximum propensity score of the control observations, otherwise treated observations are dropped. This further imposes a quality filter on the matches.

Annex 2: Additional information on Next Step customer outcomes

Disaggregated analysis by age

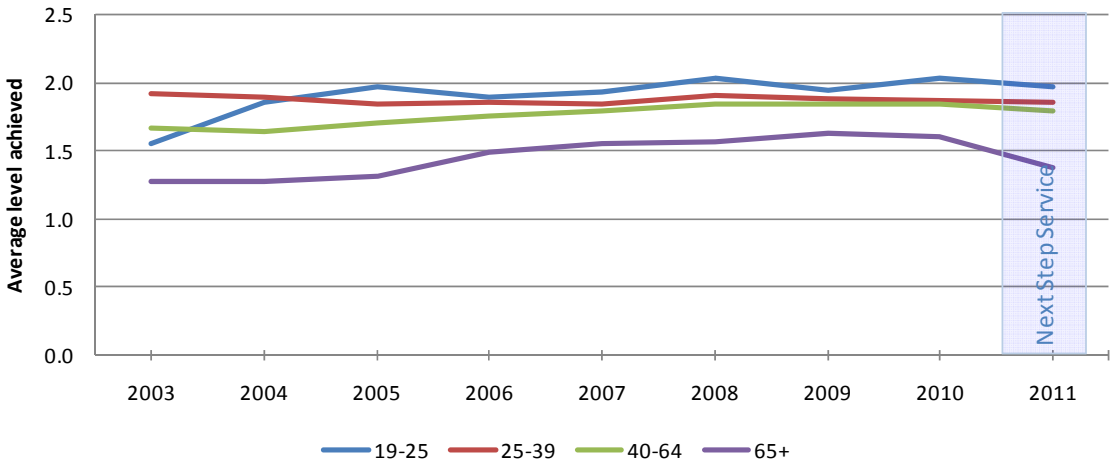
Figure 33: Average proportion of year on benefits over all Next Step customers, by benefit type and age



Source: London Economics' analysis of Next Step data

Education

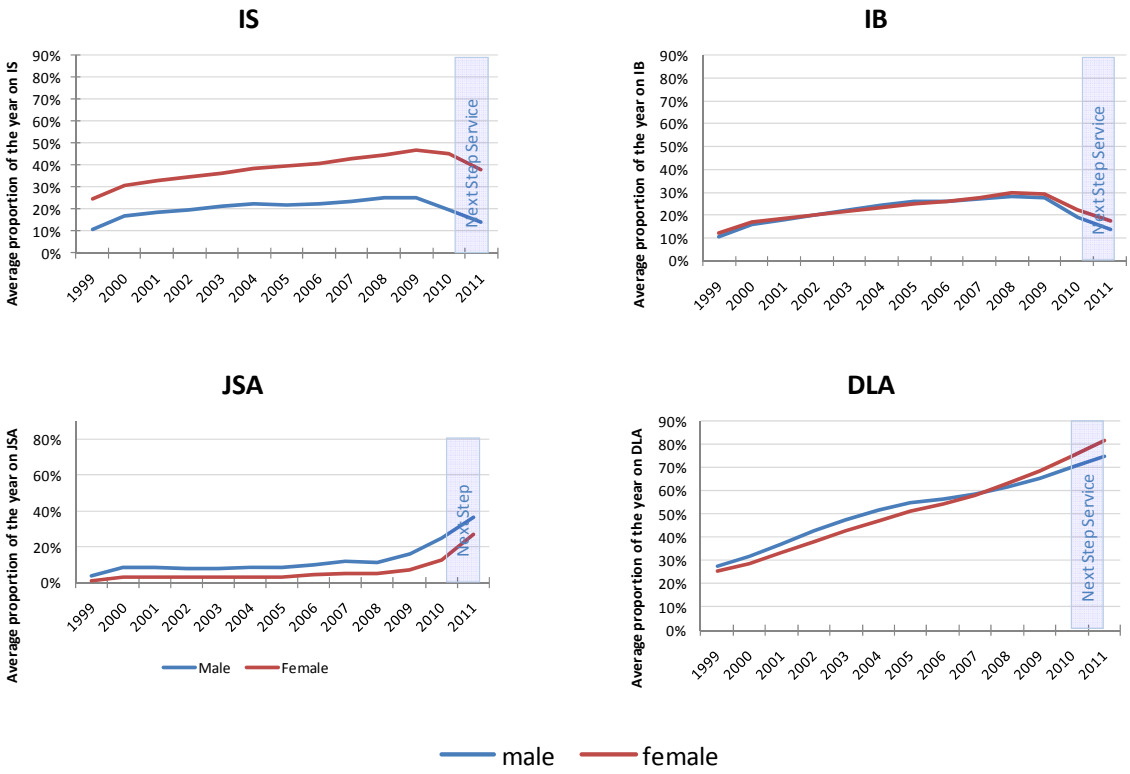
Figure 34: Average level of qualification achieved over all Next Step customers, by age



Source: London Economics' analysis of Next Step data

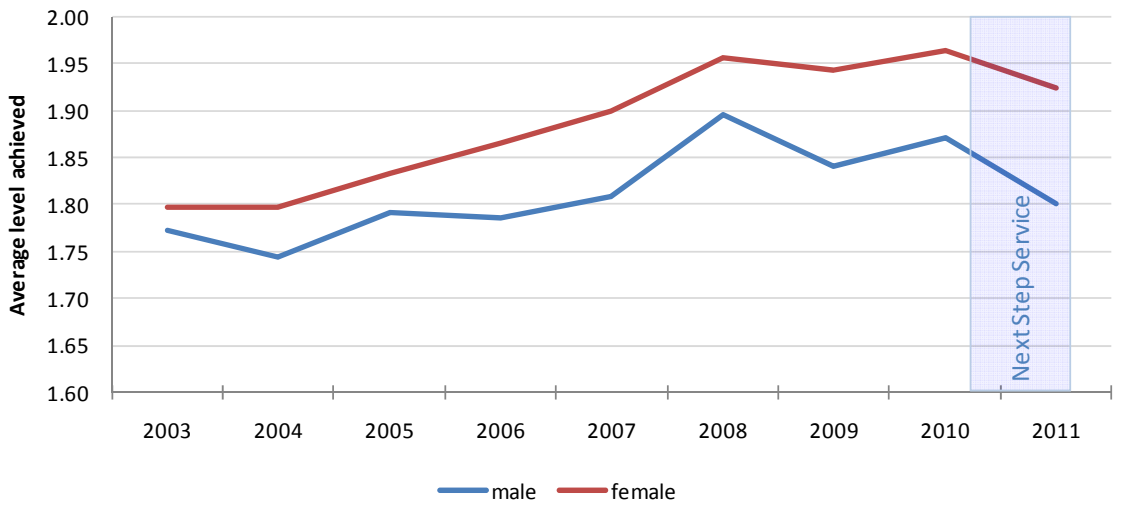
Disaggregated analysis by gender

Figure 35: Average proportion of year on benefits over all Next Step customers, by benefit type and gender



Source: London Economics' analysis of Next Step data

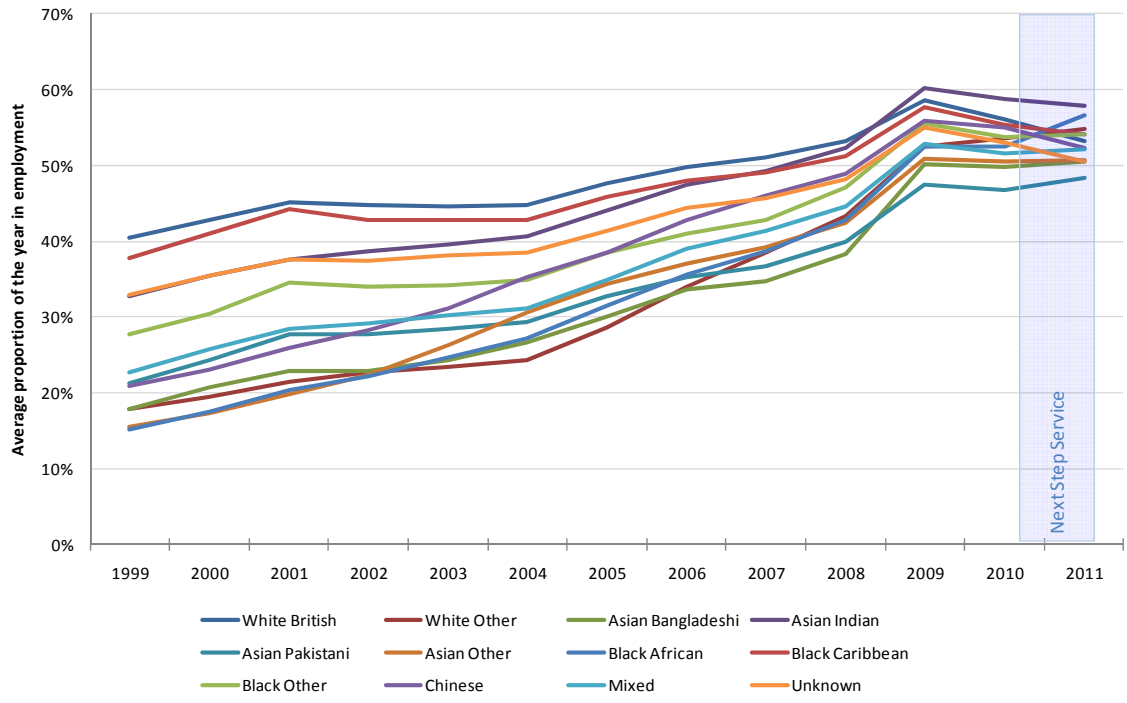
Figure 36: Average level of qualification achieved over all Next Step customers, by gender



Source: London Economics' analysis of Next Step data

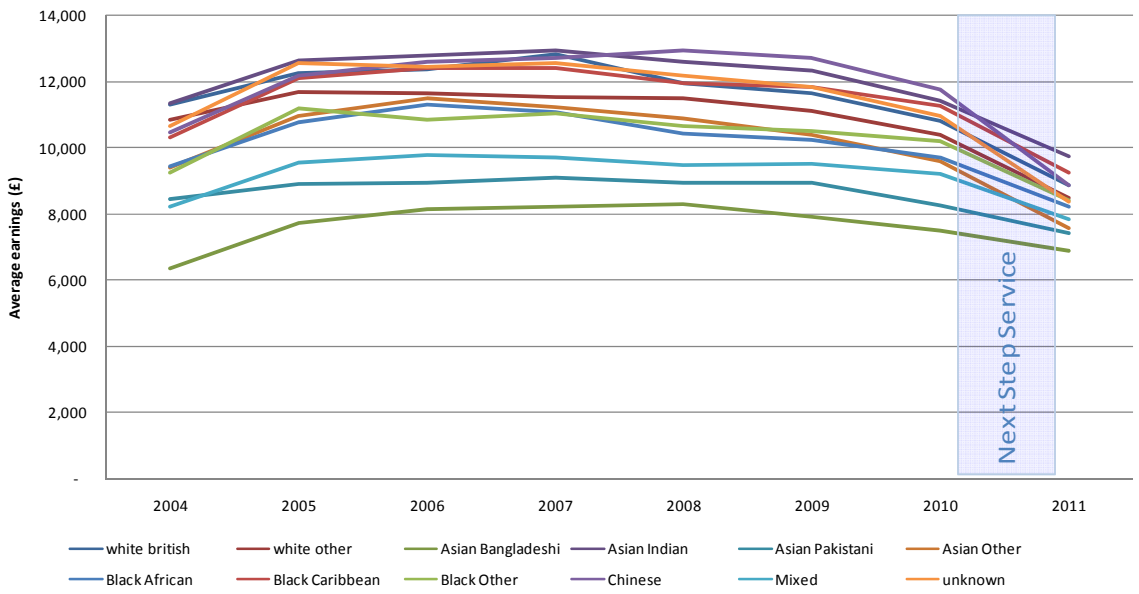
Disaggregated analysis by ethnic origin

Figure 37: Average proportion of year in employment over all Next Step customers, by ethnicity



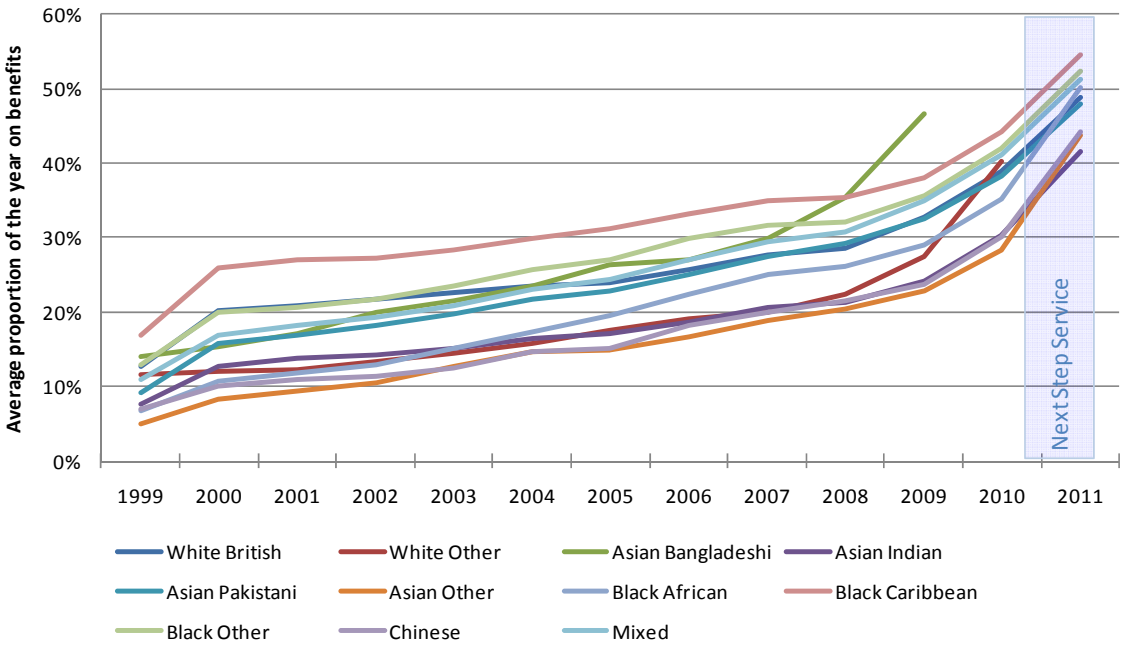
Source: London Economics' analysis of Next Step data

Figure 38: Average earnings of Next Step customers, by ethnicity



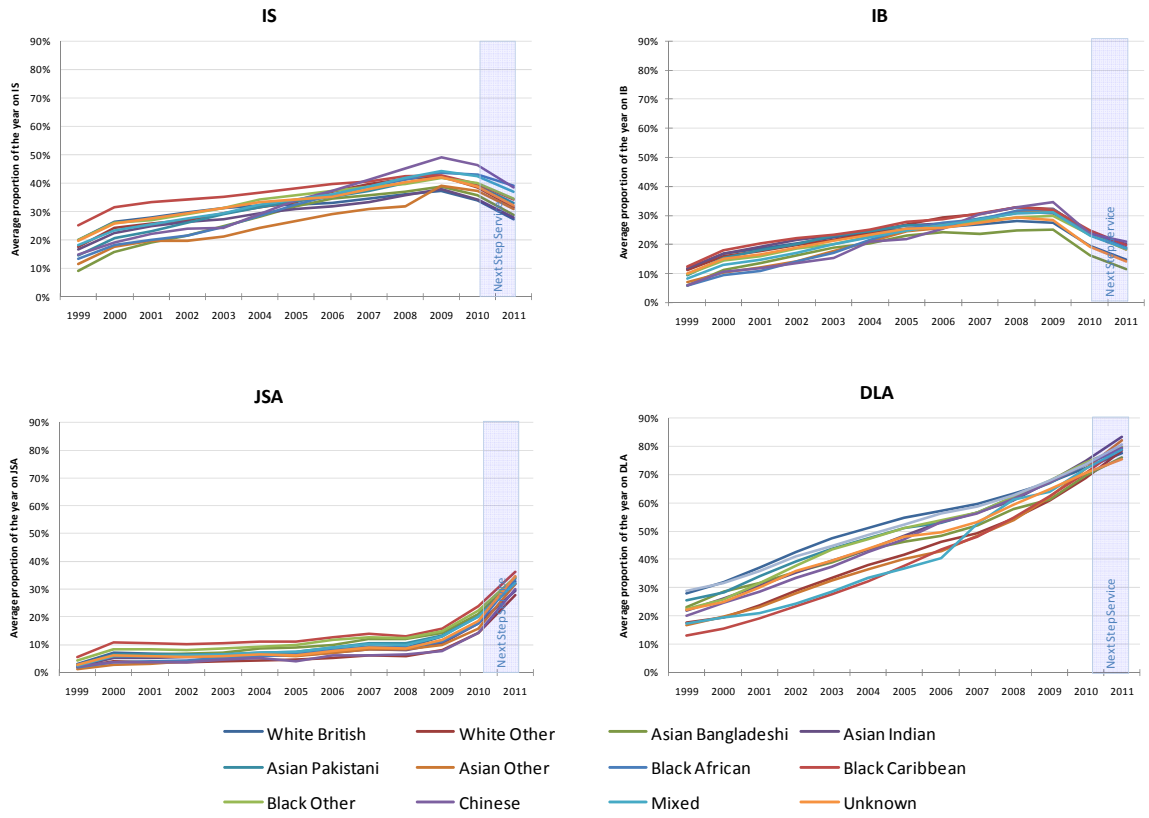
Source: London Economics' analysis of Next Step data

Figure 39: Average proportion of year on benefits over all Next Step customers, by ethnicity



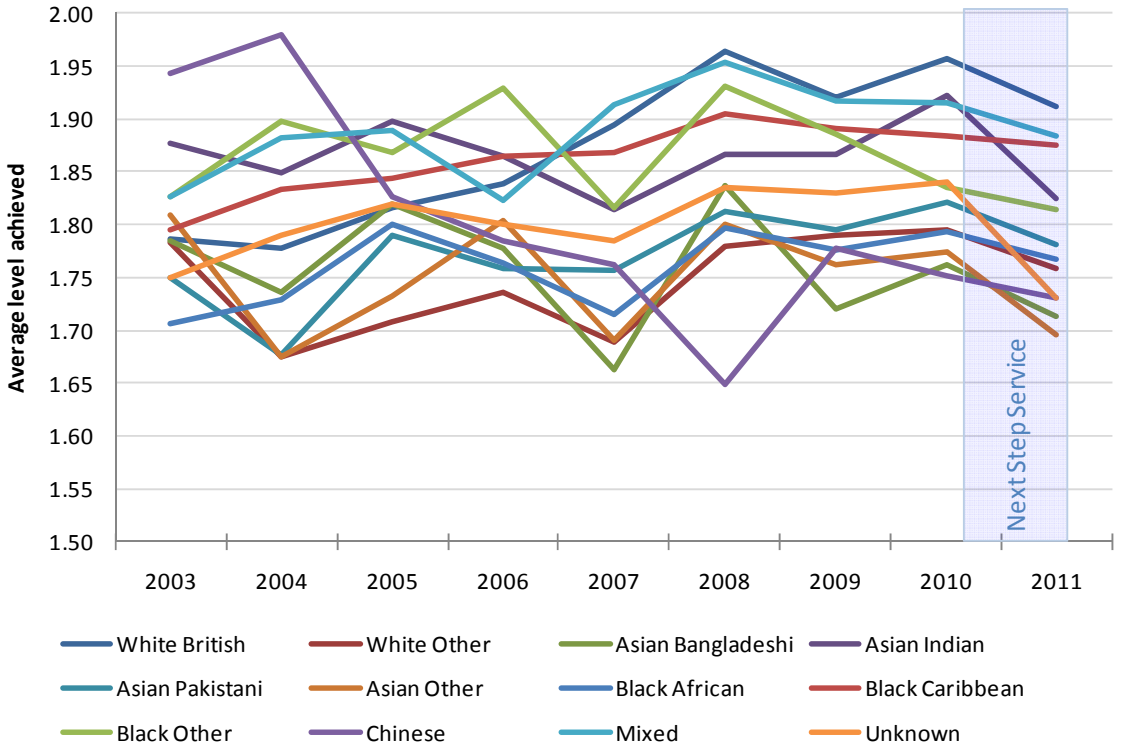
Source: London Economics' analysis of Next Step data

Figure 40: Average proportion of year on benefits over all Next Step customers, by ethnicity and type of benefit



Source: London Economics' analysis of Next Step data

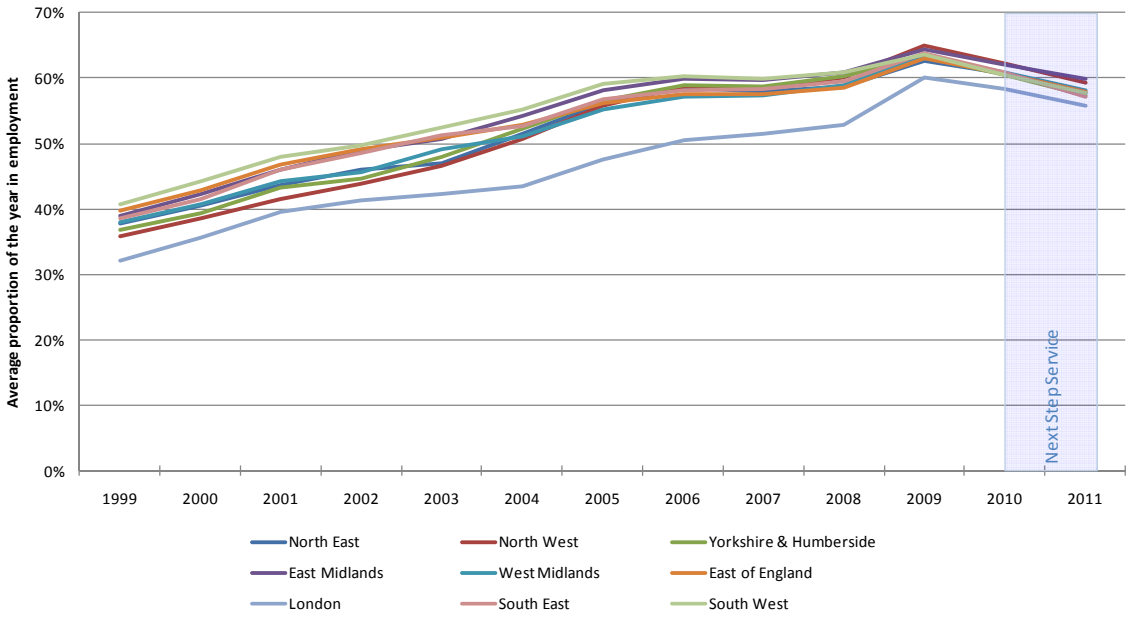
Figure 41: Average level of qualification achieved over all Next Step customers, by ethnicity



Source: London Economics' analysis of Next Step data

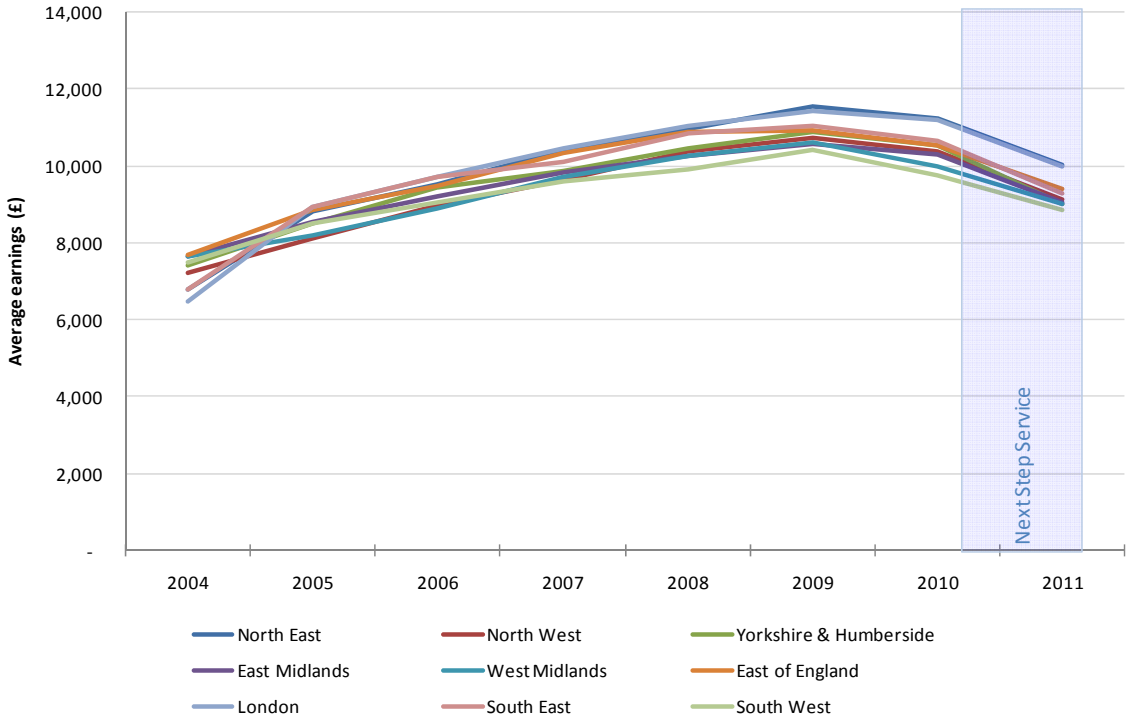
Disaggregated analysis by region

Figure 42: Average proportion of year in employment over all Next Step customers, by region



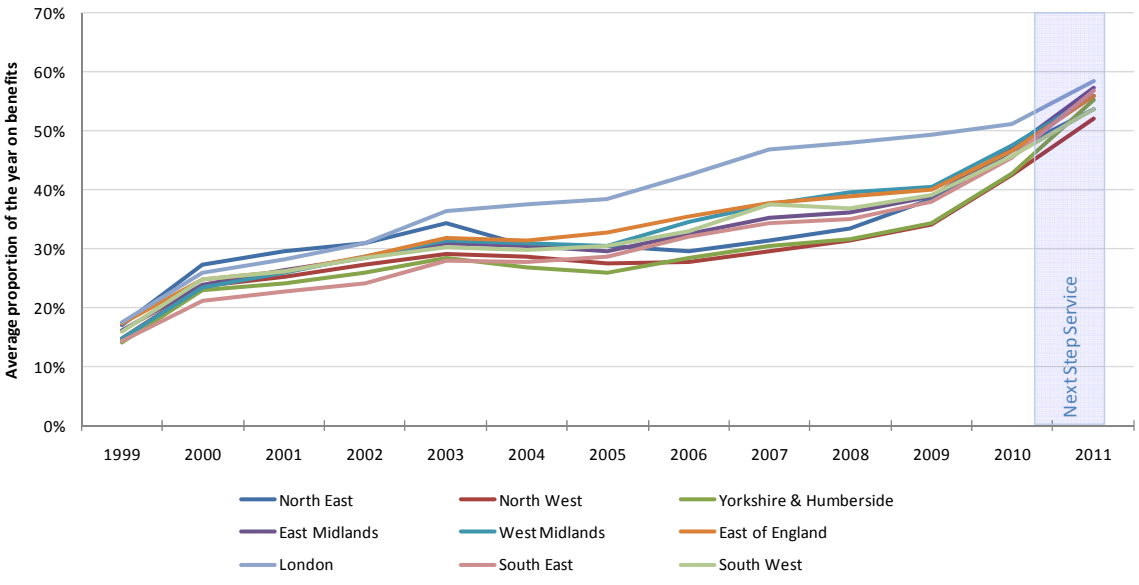
Source: London Economics' analysis of Next Step data

Figure 43: Average earnings of Next Step customers, by region



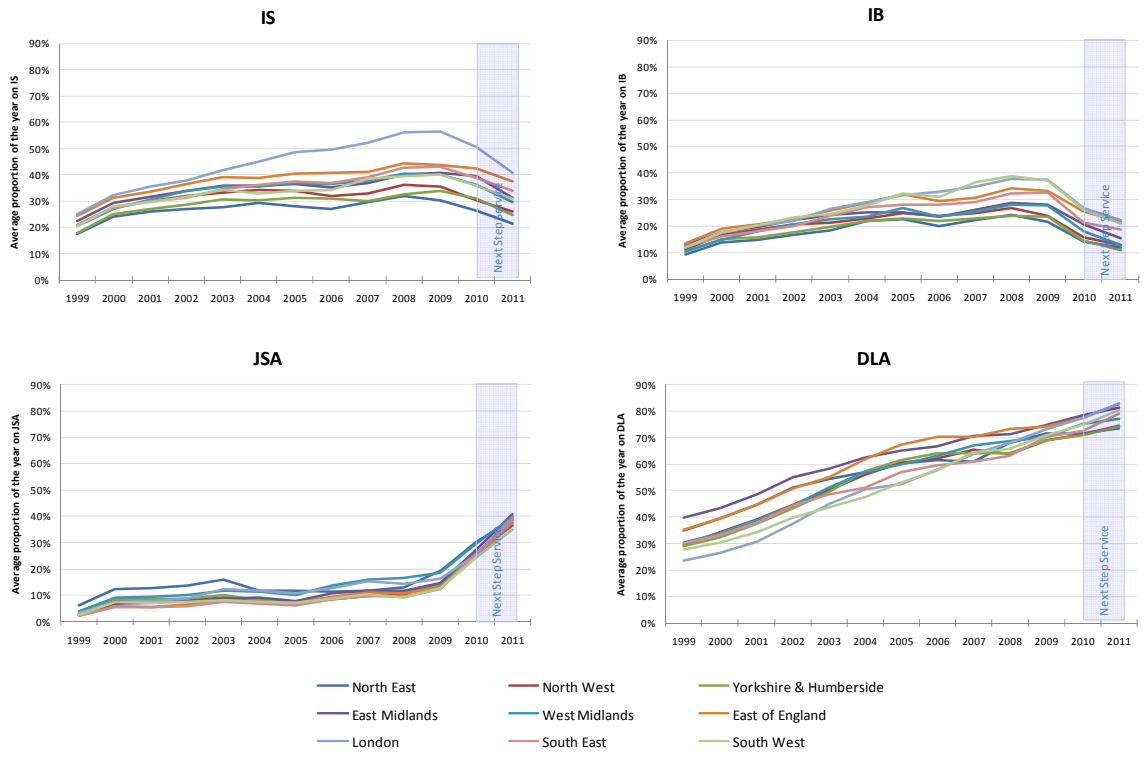
Source: London Economics' analysis of Next Step data

Figure 44: Average proportion of year on benefits over all Next Step customers, by region



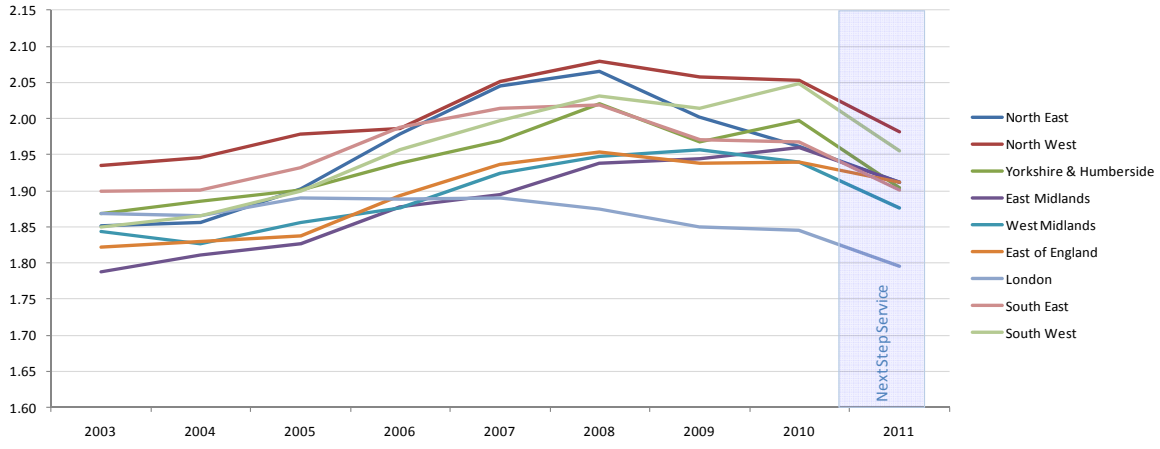
Source: London Economics' analysis of Next Step data

Figure 45: Average proportion of year on benefits over all Next Step customers, by benefit type and region



Source: London Economics' analysis of Next Step data

Figure 46: Average level of qualification achieved over all Next Step customers, by region

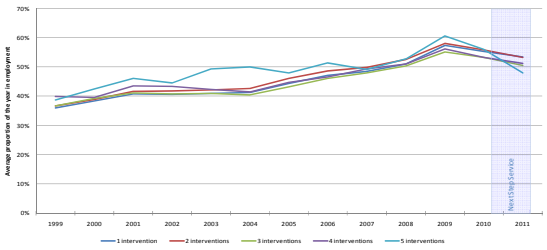


Source: London Economics' analysis of Next Step data

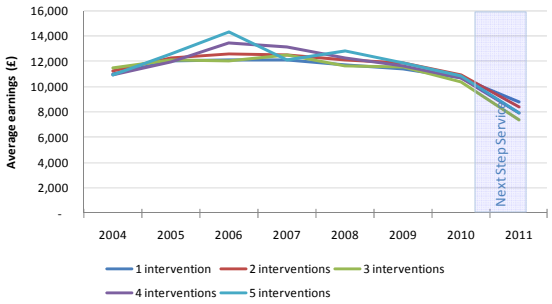
Disaggregated analysis by number of interventions

Figure 47: Outcomes by number of interventions

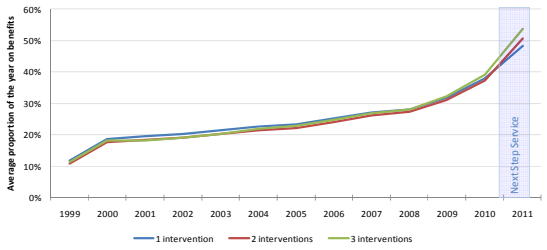
Average proportion of year in employment over all Next Step customers, by number of interventions



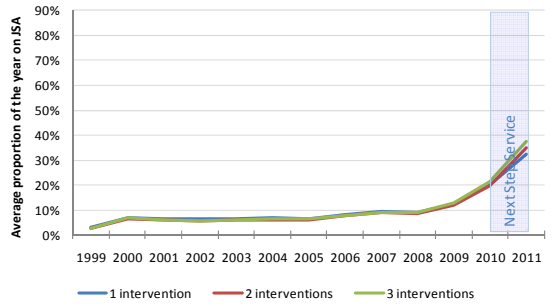
Average earnings of Next Step customers, by number of interventions



Average proportion of year on benefits over all Next Step customers, by number of interventions

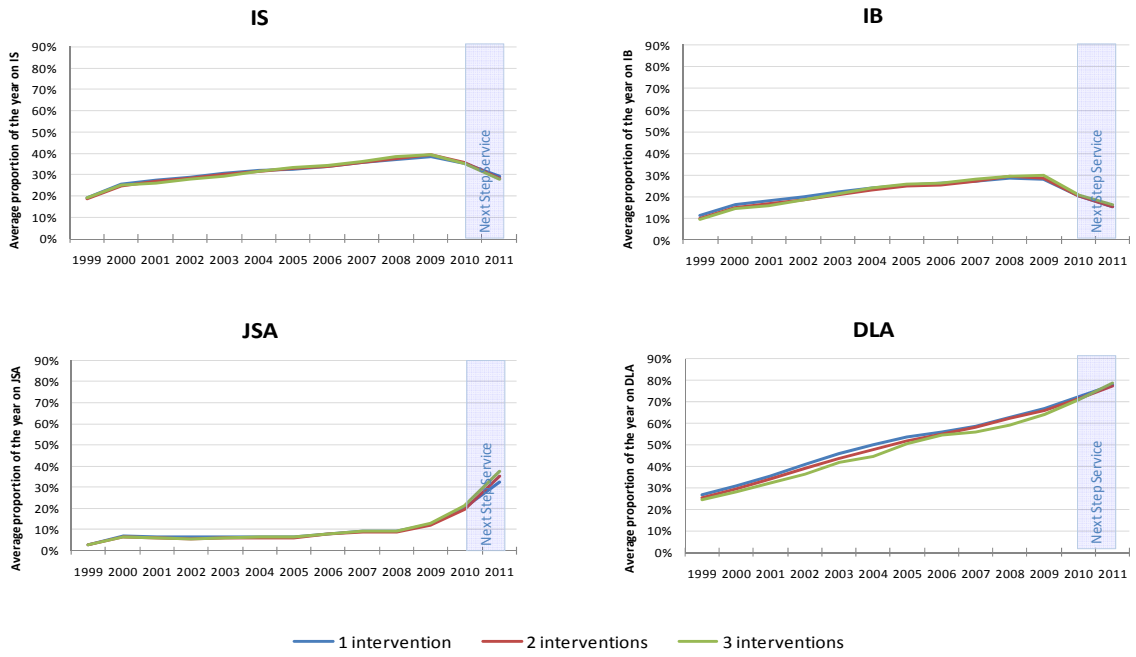


Average proportion of year on JSA over all Next Step customers, by number of interventions



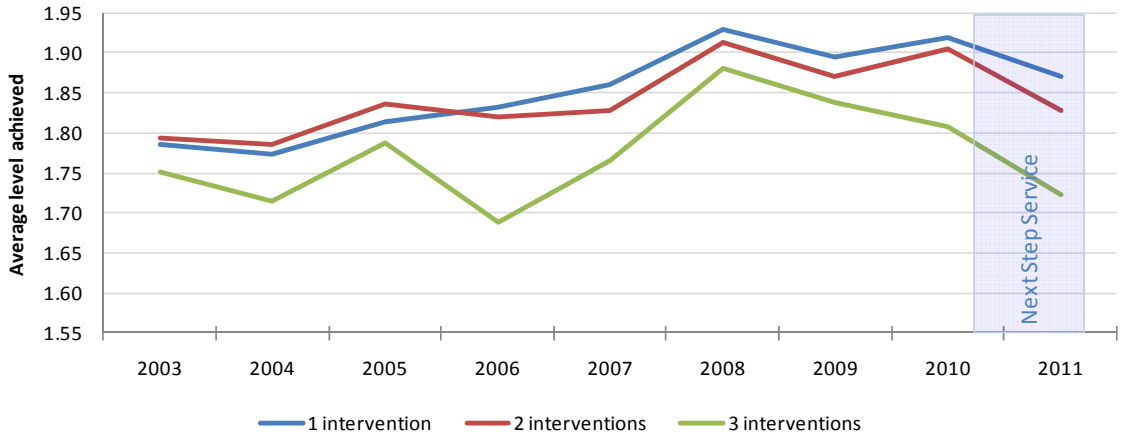
Source: London Economics' analysis of Next Step data

Figure 48: Average proportion of year on benefits over all Next Step customers, by benefit type and number of interventions



Source: London Economics' analysis of Next Step data

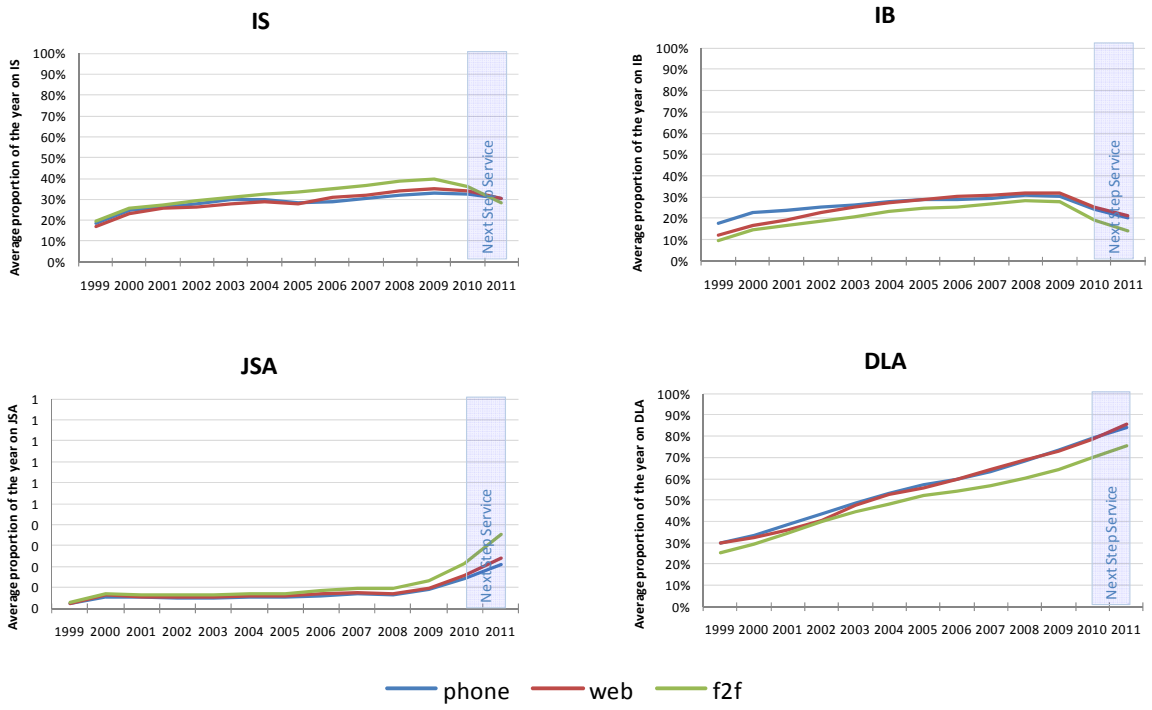
Figure 49: Average level achieved, by number of interventions



Source: London Economics' analysis of Next Step data

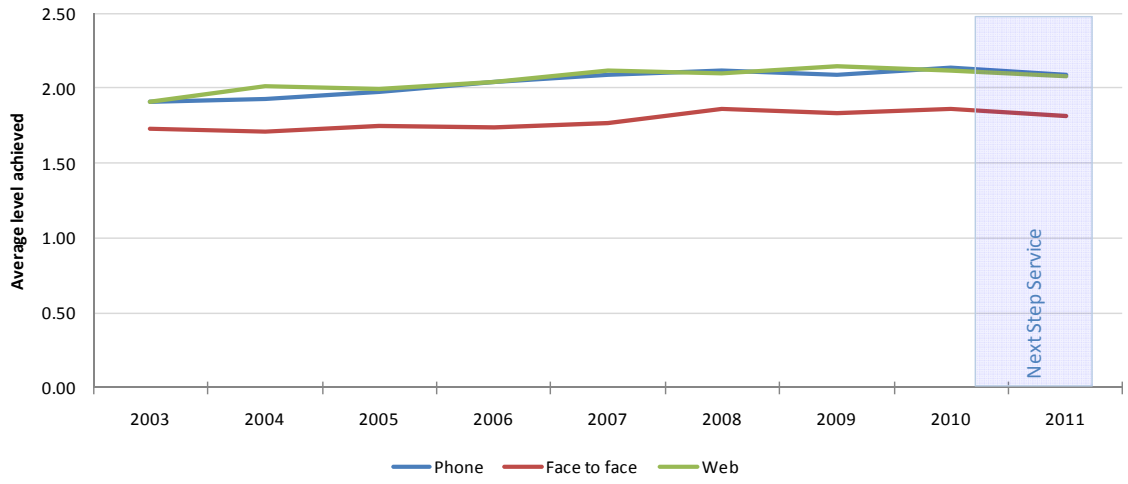
Disaggregated analysis by type of intervention

Figure 50: Average proportion of year on benefits over all Next Step customers, by benefit type and intervention type



Source: London Economics' analysis of Next Step data

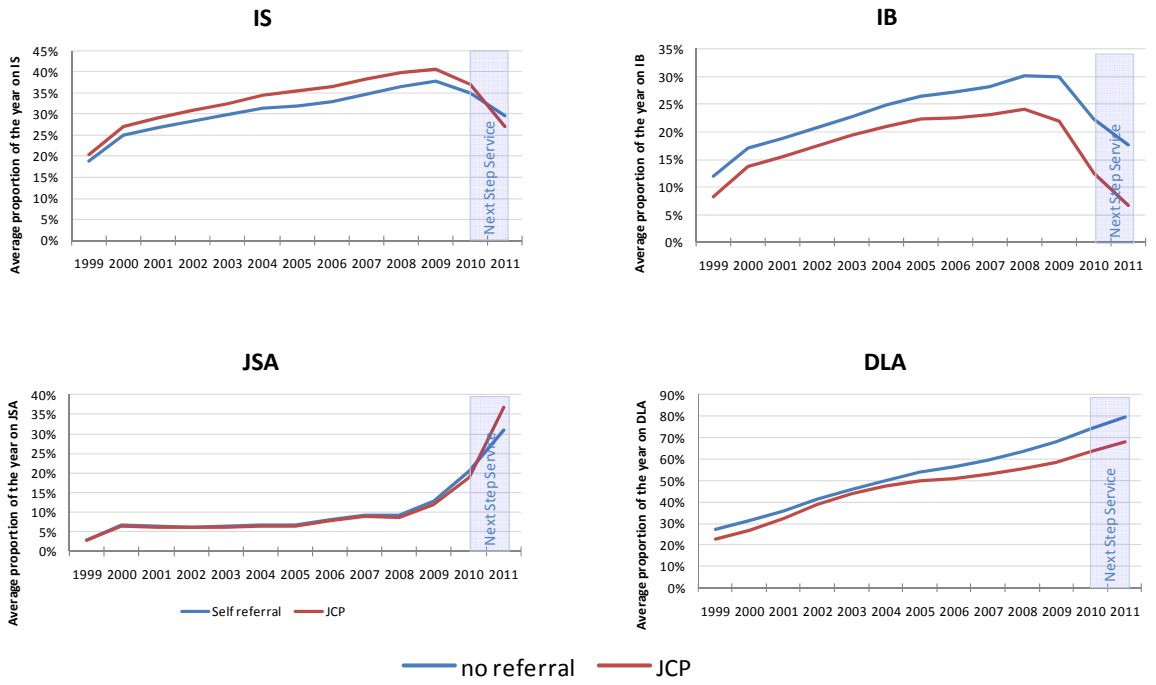
Figure 51: Average education level achieved, by intervention type



Source: London Economics' analysis of Next Step data

Disaggregated analysis by referral type

Figure 52: Average proportion of year on benefits over all Next Step customers, by benefit type and referral type

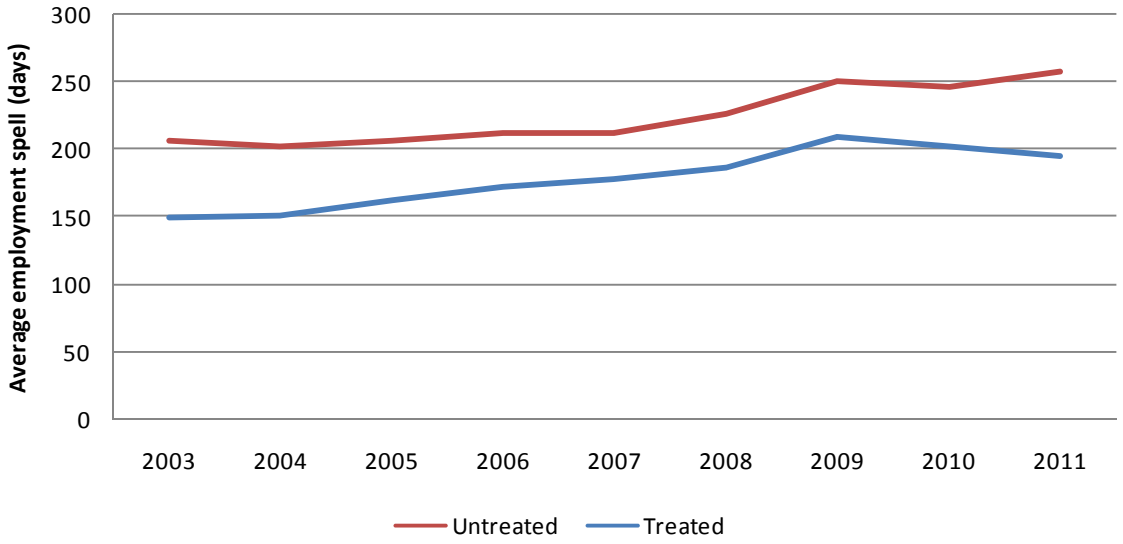


Source: London Economics' analysis of Next Step data

Annex 3: Supplementary information on treated versus untreated

Average length of employment spell

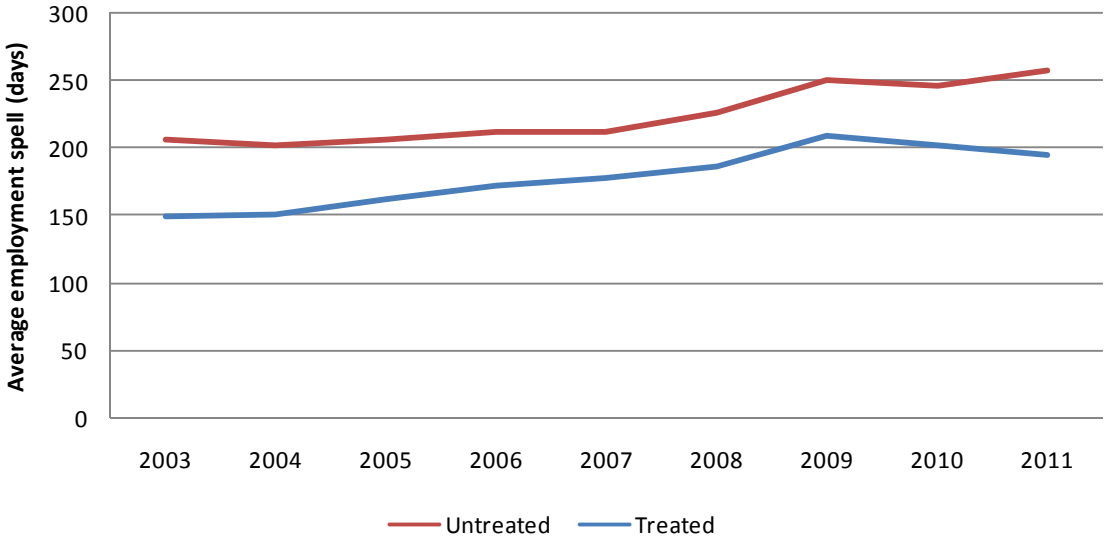
Figure 53: Average employment spell (treated vs. untreated)



Source: London Economics' analysis

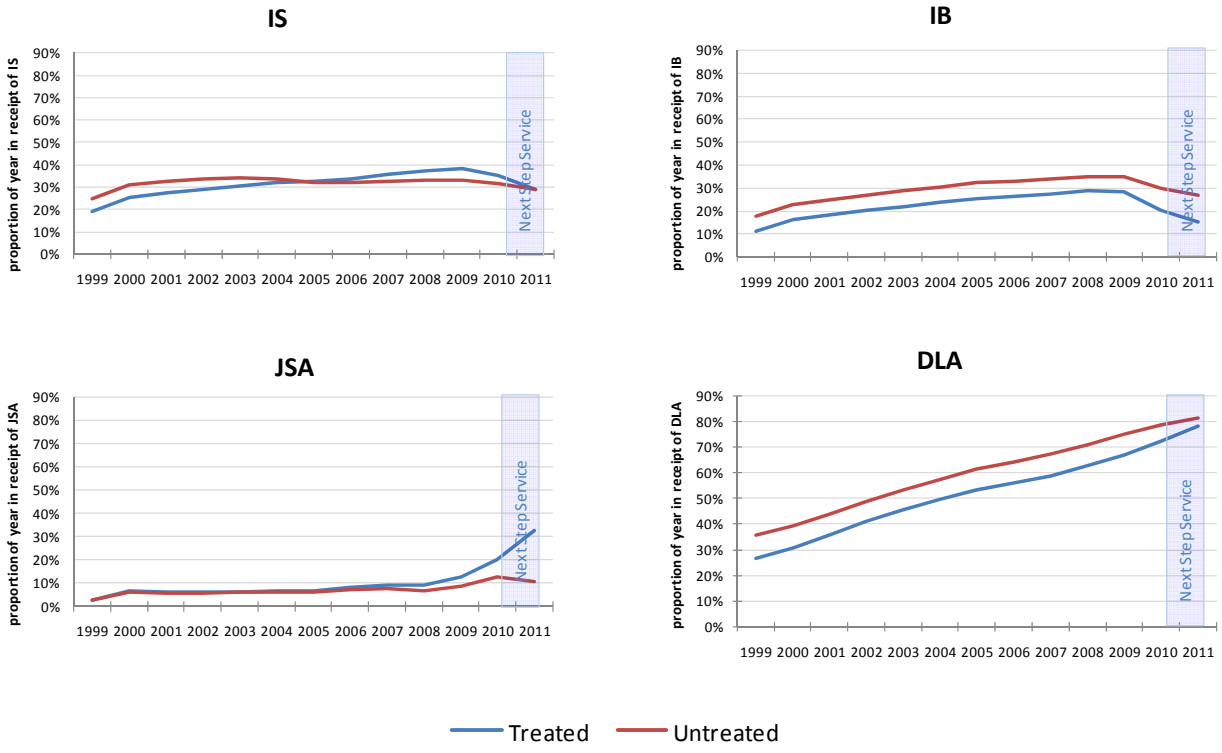
Average length of benefit spells

Figure 54: Average benefit spell (treated vs. untreated)



Source: London Economics' analysis

Figure 55: Average benefit spell, by type of benefit (treated vs. untreated)



Source: London Economics' analysis

Annex 4: Supplementary information on treated versus control

Benefit Dependency

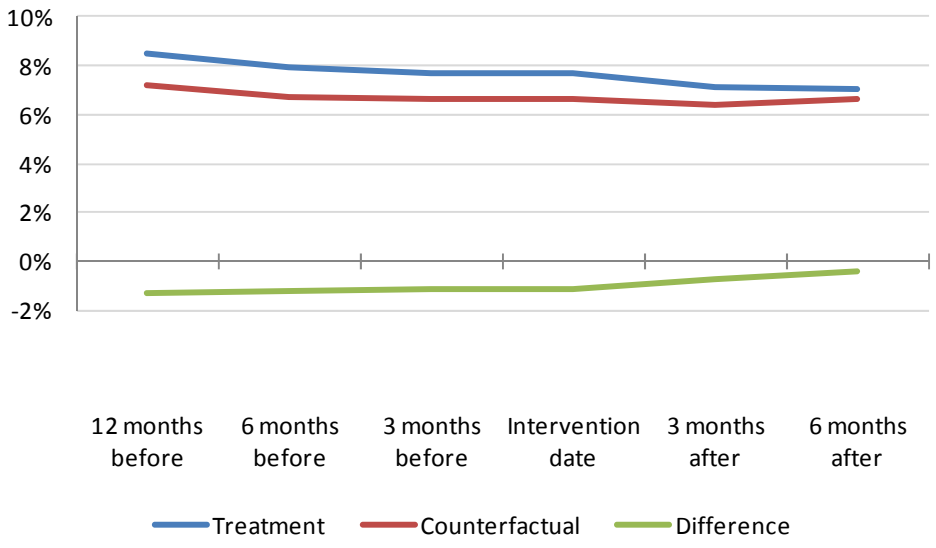
Proportion of individuals on Income Support (All Next Step customers - Treatment 1 vs Control 1)

Table 29: Proportion of individuals on Income Support, entire matched sample

	Treatment 1	Control 1	Difference
12 months before	8.5%	7.2%	-1.3%
6 months before	7.9%	6.7%	-1.2%
3 months before	7.7%	6.6%	-1.1%
Intervention	7.7%	6.6%	-1.1%
3 months after	7.1%	6.4%	-0.7%
6 months after	7.0%	6.6%	-0.4%

Note: Maximum sample size = 1,057,056 12 months to receipt of Next Step support is received by Next Step customers (sample size for the treatment group and counterfactual stands at 528,528 each.
Source: London Economics' analysis

Figure 56: Proportion of individuals on Income Support, entire matched sample



Source: London Economics' analysis

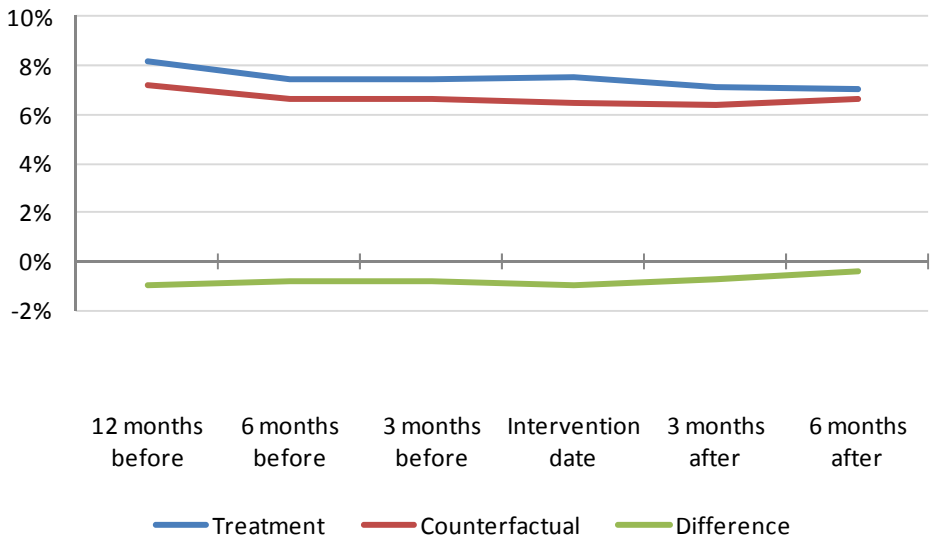
Proportion of individuals on Income Support (Next Step customers prior to 1st Jan 2011 - Treatment 3 vs Control 3)

Table 30: Proportion of individuals on Income Support - Next Step customers prior to 1st Jan 2011

	Treatment 3	Control 3	Difference
12 months before	8.2%	7.2%	-1.0%
6 months before	7.4%	6.6%	-0.8%
3 months before	7.4%	6.6%	-0.8%
Intervention	7.5%	6.5%	-1.0%
3 months after	7.1%	6.4%	-0.7%
6 months after	7.0%	6.6%	-0.4%

Note: Maximum sample size = 452,520 12 months to receipt of Next Step support is received by Next Step customers (sample size for the treatment group and counterfactual stands at 226,260 each.
Source: London Economics' analysis

Figure 57: Proportion of individuals in receipt of Income Support - Next Step customers prior to 1st Jan 2011



Source: London Economics' analysis

Incapacity Benefit

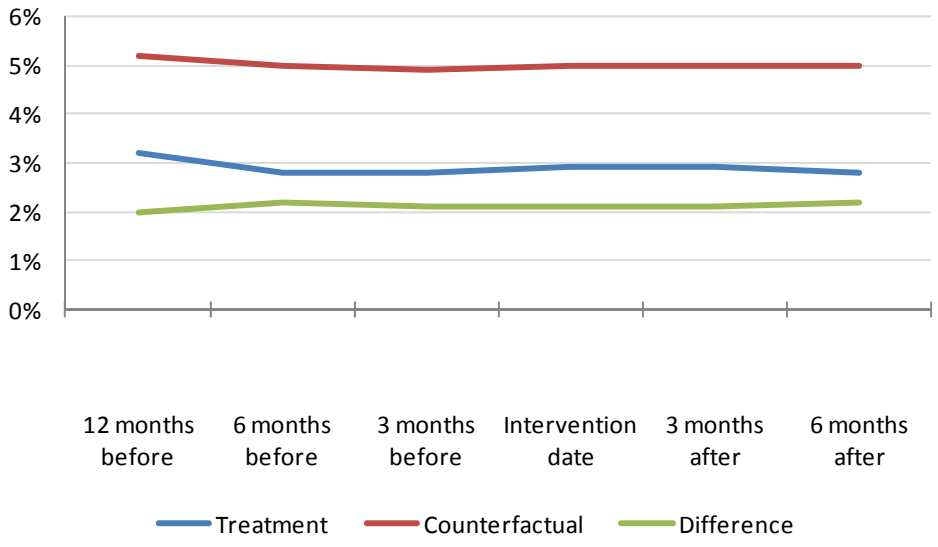
Proportion of individuals on Incapacity Benefit (All Next Step customers - Treatment 1 vs Control 1)

Table 31: Proportion of individuals on Incapacity Benefit, All Next Step customers

	Treatment 1	Control 1	Difference
12 months before	3.2%	5.2%	2.0%
6 months before	2.8%	5.0%	2.2%
3 months before	2.8%	4.9%	2.1%
Intervention	2.9%	5.0%	2.1%
3 months after	2.9%	5.0%	2.1%
6 months after	2.8%	5.0%	2.2%

Note: Maximum sample size = 1,057,056 12 months to receipt of Next Step support is received by Next Step customers (sample size for the treatment group and counterfactual stands at 528,528 each.
Source: London Economics' analysis

Figure 58: Proportion of individuals on Incapacity Benefit, All Next Step customers



Source: London Economics' analysis

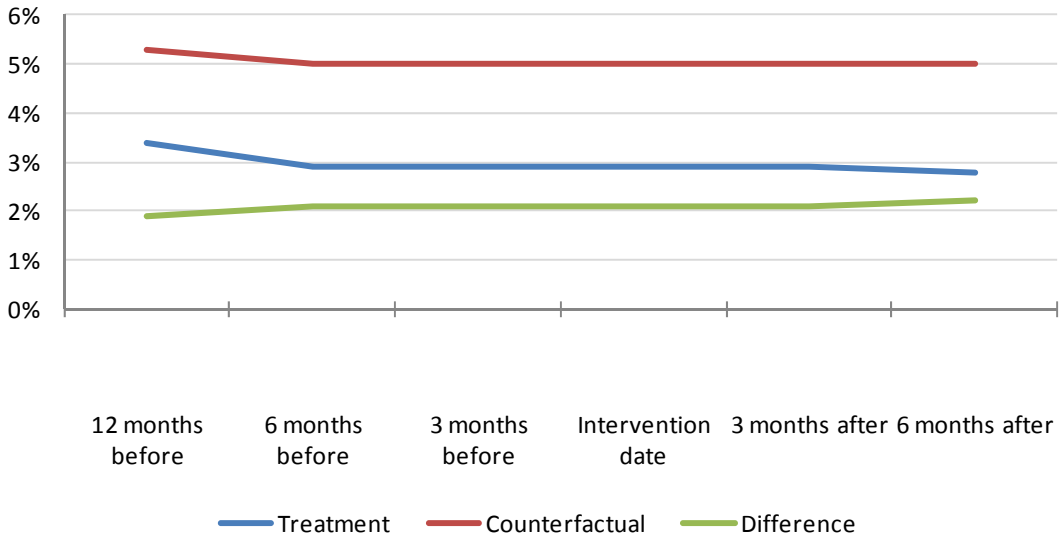
Proportion of individuals on Incapacity Benefit (Next Step customers prior to 1st Jan 2011 - Treatment 3 vs Control 3)

Table 32: Proportion of individuals on Incapacity Benefit - Next Step customers prior to 1st Jan 2011

	Treatment 3	Control 3	Difference
12 months before	3.4%	5.3%	1.9%
6 months before	2.9%	5.0%	2.1%
3 months before	2.9%	5.0%	2.1%
Intervention	2.9%	5.0%	2.1%
3 months after	2.9%	5.0%	2.1%
6 months after	2.8%	5.0%	2.2%

Note: Maximum sample size = 452,520 12 months to receipt of Next Step support is received by Next Step customers (sample size for the treatment group and counterfactual stands at 226,260 each.
Source: London Economics' analysis

Figure 59: Proportion of individuals in receipt of Incapacity Benefit - Next Step customers prior to 1st Jan 2011



Source: London Economics' analysis

Disability Living Allowance

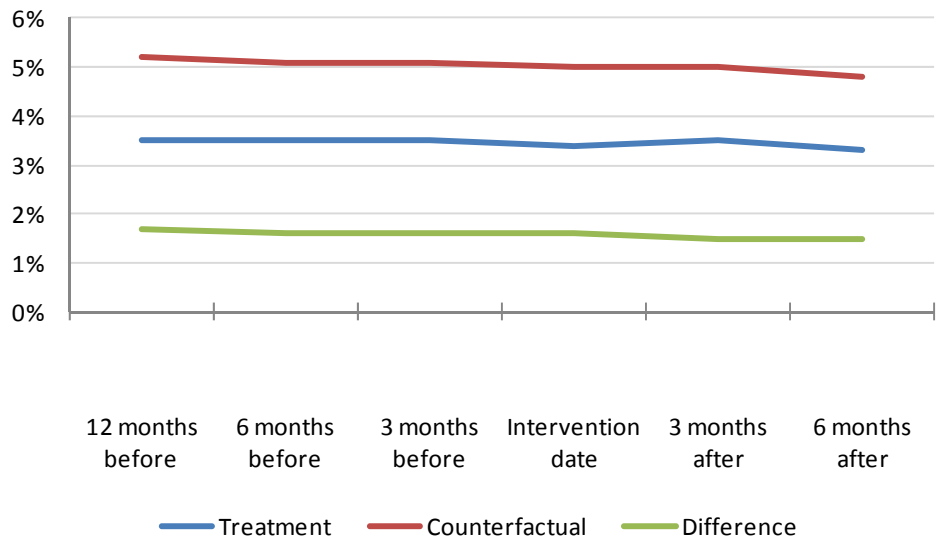
Proportion of individuals on Disability Living Allowance (All Next Step customers - Treatment 1 vs Control 1)

Table 33: Proportion of individuals on DLA - All Next Step customers

	Treatment 1	Control 1	Difference
12 months before	3.5%	5.2%	1.7%
6 months before	3.5%	5.1%	1.6%
3 months before	3.5%	5.1%	1.6%
Intervention	3.4%	5.0%	1.6%
3 months after	3.5%	5.0%	1.5%
6 months after	3.3%	4.8%	1.5%

Note: Maximum sample size = 1,057,056 12 months to receipt of Next Step support is received by Next Step customers (sample size for the treatment group and counterfactual stands at 528,528 each.
Source: London Economics' analysis

Figure 60: Proportion of individuals on DLA - All Next Step customers



Source: London Economics' analysis

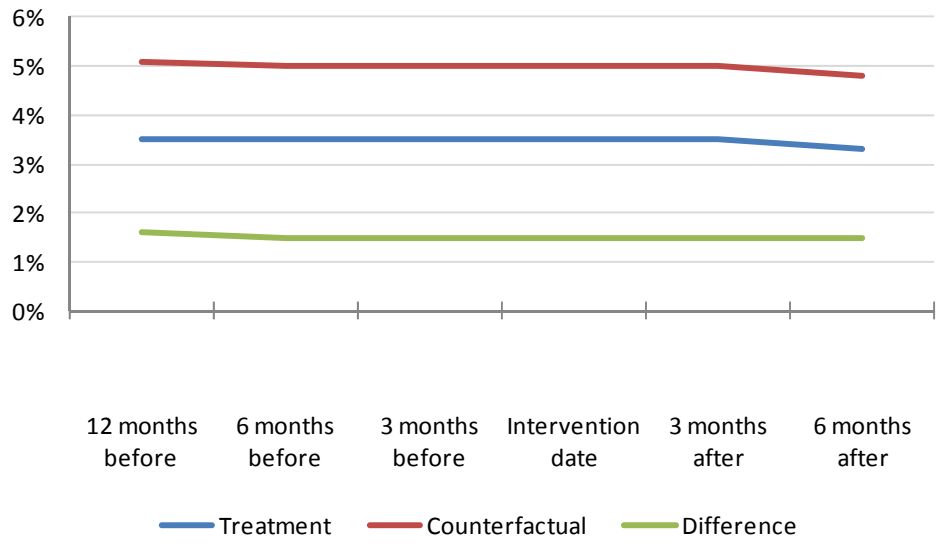
Proportion of individuals on Disability Living Allowance (Next Step customers prior to 1st Jan 2011 - Treatment 3 vs Control 3)

Table 34: Proportion of individuals on DLA - Next Step customers prior to 1st Jan 2011

	Treatment	Counterfactual	Difference
12 months before	3.5%	5.1%	1.6%
6 months before	3.5%	5.0%	1.5%
3 months before	3.5%	5.0%	1.5%
Intervention	3.5%	5.0%	1.5%
3 months after	3.5%	5.0%	1.5%
6 months after	3.3%	4.8%	1.5%

Note: Maximum sample size = 452,520 12 months to receipt of Next Step support is received by Next Step customers (sample size for the treatment group and counterfactual stands at 226,260 each.
Source: London Economics' analysis

Figure 61: Proportion of individuals in receipt of DLA - Next Step customers prior to 1st Jan 2011



Source: London Economics' analysis

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