Summary

This analysis assessed the impact on re-offending of persons who participated in the resettlement and employment programme at HMP Kirklevington Grange. The one year proven re-offending rate[1] for 180[2] offenders who participated in this programme at Kirklevington Grange was 8%, compared with 16% for a matched control group of similar offenders from England and Wales. Statistical significance testing has shown that this difference in the re-offending rates is statistically significant[3]; meaning that we can be confident that there is a real difference in the re-offending rate for the persons who participated in the resettlement and employment programme at Kirklevington Grange by between 3 and 12 percentage points.

A regional analysis was also performed with HMP Kirklevington Grange being located in the North East area. The one year proven re-offending rate[1] for 179[4] offenders who participated in the resettlement and employment programme at HMP Kirklevington Grange was 8%, compared with 20% for a matched control group of similar offenders from the North East only. As with the matched control group of similar offenders from England and Wales, statistical significance testing has shown that this difference is statistically significant[5].

An analysis involving creating a control group from former HMP Kirklevington Grange inmates was also explored. This analysis proved unsuccessful as the control group was smaller in size than the number of individuals that were in the treatment group.

What you can say: This analysis indicates that individuals, who participated in the programme at HMP Kirklevington Grange, experienced a reduction in re-offending of between 3 and 12 percentage points.

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[1] The **one year proven re-offending rate** is defined as the proportion of offenders in a cohort who commit an offence in a one year follow-up period which was proven through receipt of a court conviction, caution, reprimand or warning during the one year follow-up or in a further six month waiting period. The one year follow-up period begins when offenders leave custody, start their court sentence, or from receipt of their caution.

[2] 180 individuals were matched from a cohort of 372 individuals, whose details were sent to the Justice Data Lab, as described on page 3 of this report.

[3] The difference was significant, p-value less than 0.001. Statistical significance testing is described on page 9 of this report.

[4] 179 individuals were matched from a cohort of 372 individuals, whose details were sent to the Justice Data Lab, as described on page 3 of this report. 1 individual from the national analysis did not match to individuals in the regional control group.

[5] The difference was significant, p-value less than 0.001. Statistical significance testing is described on page 9 of this report.
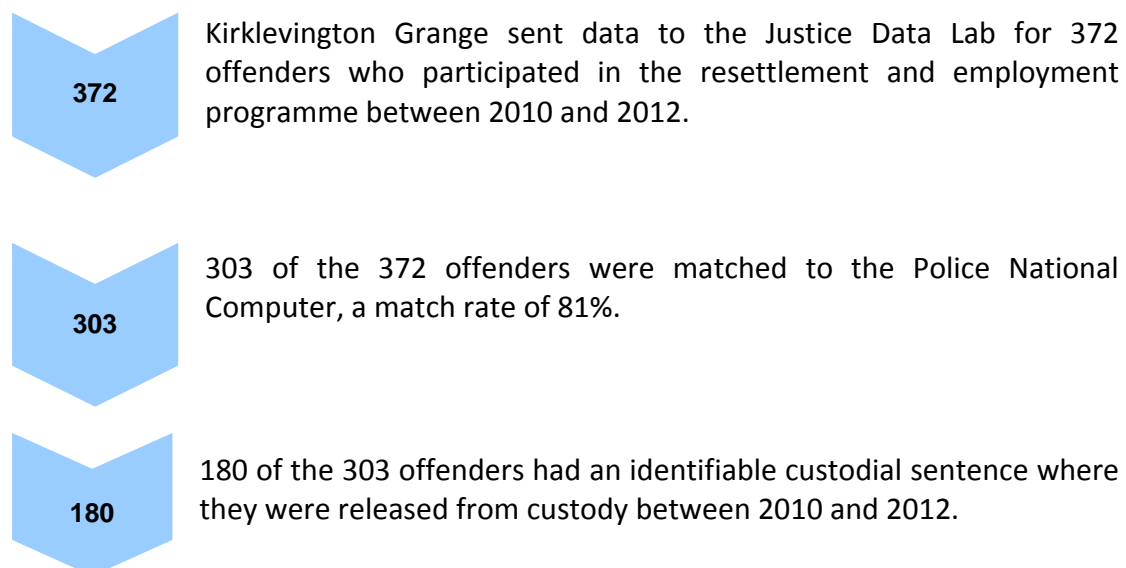
Introduction

HMP Kirklevington Grange is a specialist adult male resettlement prison, situated in the North East of England. All offenders at Kirklevington Grange are approaching the end of a relatively long sentence and transfer in from other custodial establishments. Approximately 25% are serving indeterminate sentences and around half of these are on life sentences. The resettlement and employment programme is a whole prison approach to developing employability and life skills. The resettlement strategy revolves around extensive use of Release on Temporary Licence (ROTL). All offenders are expected to progress to ROTL based employment and/or training prior to release, with the only exceptions being due to age related retirement or health/disability issues. The success of the regime in preparing offenders for meaningful work while ensuring public protection is heavily dependent upon effective partnership working. Key partners include employers, voluntary organisations and colleges in the community.

A typical offender's journey will commence with close working with offender supervisors from arrival at Kirklevington Grange, National Careers Service support, Maths/English tuition from the OLASS (Offenders Learning and Skills Service) provider, prison based work, then progress to ROTL based community work and finally ROTL based paid employment and/or education/training. Robust risk assessment is integral throughout. All work is completed at HMP Kirklevington Grange. Selected offenders were released between 2010-12 and arrived at the prison with 6 - 18 months left to serve, based on earliest possible release date. Individuals in this analysis have been deliberately selected from those who made effective use of ROTL for employment/training purposes while in Kirklevington Grange, as it is believed these, together with settled accommodation, are key drivers in helping to reduce re-offending. ISPs (Indeterminate Sentence Prisoners) have been included in the sample, but it also includes determinate sentenced prisoners. Some of the offenders were subject to MAPPA (Multi Agency Public Protection Arrangements) and, while in Kirklevington Grange, managed via Inter Departmental Risk Management Meetings (IDRRM).

Kirklevington Grange believes that their highly individualised approach is effective, particularly as they base the support on a realistic assessment of need and effective offender management. Work is carried out with long term offenders who have real resettlement needs, due to a combination of general "institutionalisation" and a range of other issues. At the point of release, any one offender will have had ROTL opportunities from which to learn, improve confidence and crucially, gain authentic experience which can be used as evidence to employers when applying for real jobs in highly competitive marketplaces. Some of the individuals are able to continue in ROTL based paid employment on release, whereas others are not, due to the geographical location to which they resettle. The resettlement and employment programme has had positive feedback from a range of external organisations, on the individualised approach and strong community links. The main aim is to facilitate every offender taking pro-active responsibility for his own future and having the necessary support to achieve what he needs to lead a crime-free life after release.

Kirklevington Grange seek to do three main things, (i) demonstrate the extent to which their staged resettlement and highly individualised approach is effective post-release, (ii) understand the extent to which they provide value for money and (iii) ensure that they make maximum effort to utilise information tools available to plan further improvements, both within NOMS (National Offender Management Service) and across their key partners, which include the National Careers Service and OLASS/NOMS Co-Financing Organisation (CFO) contractors. Since 2012, Kirklevington Grange have worked to make rapid progress with implementing innovative approaches to prison and ROTL based opportunities for offenders, ranging from prisoner drivers, increased use of peer mentors, launch of a highly successful cafe/shop/car valeting service outside the prison, staff and prisoner attendance at Town Centre markets, service provision for Forestry Commission and planning to open a Warehousing & Distribution Centre in the community.

Processing the Data

372

Kirklevington Grange sent data to the Justice Data Lab for 372 offenders who participated in the resettlement and employment programme between 2010 and 2012.

303

303 of the 372 offenders were matched to the Police National Computer, a match rate of 81%.

180

180 of the 303 offenders had an identifiable custodial sentence where they were released from custody between 2010 and 2012.

Analysis of the 123 unmatched individuals revealed the following:

- There were 37 individuals who did not have a custodial sentence for the most recent proven offence before participating in the resettlement and employment programme run at Kirklevington Grange; this includes persons who appear to have received community sentences, conditional discharges, or cautions. However, it is possible that that these individuals also received a custodial sentence around the same time, and that they had not been released from that custodial sentence before the end of 2012, the period for which we currently have re-offending data.
- There were 27 individuals who participated in the resettlement and employment programme run at Kirklevington Grange but the given start date

for the programme did not fall within or near the custodial sentence recorded (i.e. this conflicts with information about the programme).

- There were 19 individuals who were not included in these analyses as they received indeterminate or life custodial sentences which were not suitable to include in this analysis due to modelling purposes. It was necessary to remove these 19 individuals at this stage; however it does mean the results of this analysis should be interpreted with particular care as the effect on re-offending detailed within these analyses may not be expected for those individuals who received indeterminate or life custodial sentences.
- There were 2 individuals who could not be included in these analyses for modelling purposes as the necessary variables used within the modelling were not fully complete.
- Relevant sentences could not be found on the administrative datasets for the remaining 38 individuals.

Creating a Matched Control Group

180
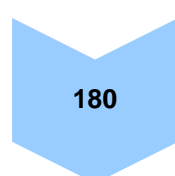
All of the 180 offender records for which re-offending data was available could be matched to offenders with similar characteristics in England and Wales, but who did not participate in the resettlement and employment programme at Kirklevington Grange. In total the national matched control group consisted of 47,496 offender records.

In the regional analysis, 179 of the 180 offender records for which re-offending data was available could be matched to offenders with similar characteristics, but who did not participate in the resettlement and employment programme at Kirklevington Grange. The regional matched control group consisted of 1,734 offender records from the North East region.

The Annex provides information on the similarity between the treatment and control groups. Further data on the matching process is available upon request.

Results

The one year proven re-offending rate[1] for 180[2] offenders who participated in the resettlement and employment programme at Kirklevington Grange was 8%. This compares to 16% for a matched national control group of similar offenders (see Figure 1).

In the regional analysis the one year proven re-offending rate[1] for 179[4] offenders who participated in the resettlement and employment programme at Kirklevington Grange was 8%. This compares to 20% for a matched regional (North East) control group of similar offenders (see Figure 2).

Figures 1 and 2 presents the 95 per cent confidence intervals for the re-offending rates of both groups, i.e. the range in which we can be 95 per cent sure that the true

re-offending rate for the groups lie. For the analysis at a national level we can be confident that the true difference in re-offending between the two groups is between a 3 percentage point reduction and a 12 percentage point reduction. For the regional analysis, we can be confident that the true difference in re-offending between the two groups is between a 6 percentage point reduction and an 18 percentage point reduction. It is important to show confidence intervals because both the treatment and matched control groups are samples of larger populations; the re-offending rate is therefore an estimate for each population based on a sample, rather than the actual rate.

Figure 1: The best estimates for the one year proven re-offending rate for offenders who participated in the resettlement and employment programme at HMP Kirklevington Grange, and a matched control group from England and Wales
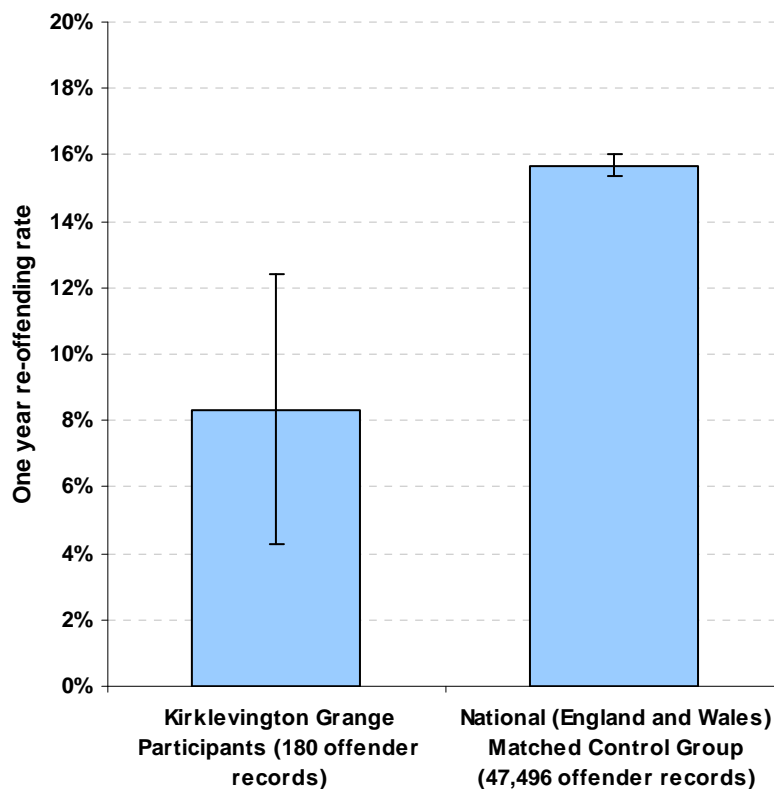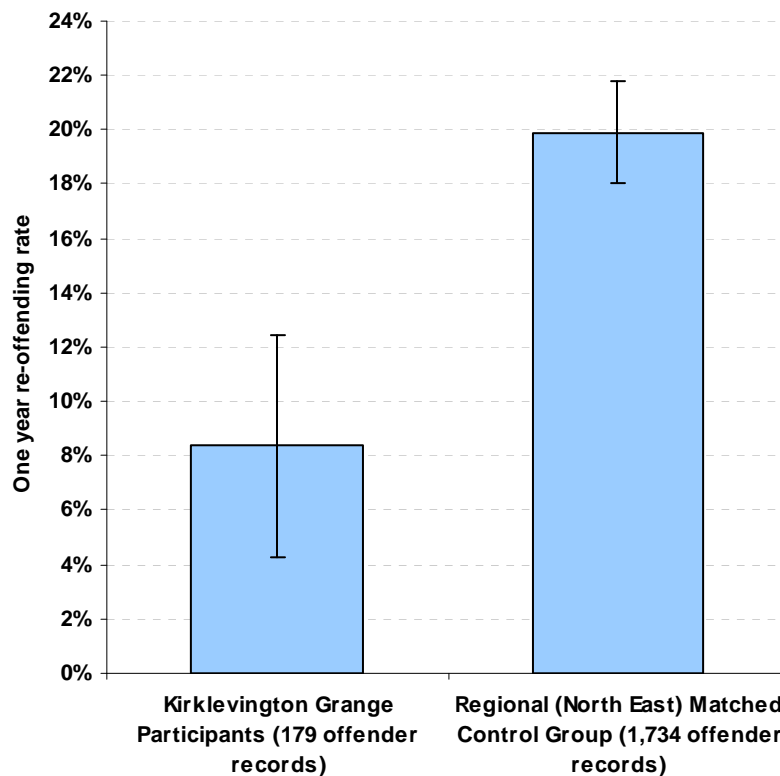
Figure 2: The best estimates for the one year proven re-offending rate for offenders who participated in the resettlement and employment programme at HMP Kirklevington Grange, and a matched regional (North East) control group

In both cases, the confidence intervals are quite wide; this is to be expected when the size of the treatment group (in this case, participants of the Kirklevington resettlement and employment programme) is small. It is important to show confidence intervals because both the treatment and matched control groups are samples of larger populations; the re-offending rate is therefore an estimate for each population based on a sample, rather than the actual rate.

Additional proven re-offending measures
Frequency of re-offending
The frequency of one year proven re-offending[6] for 180[2] offenders who participated in the resettlement and employment programme was 0.10 offences per individual, compared with 0.37 per individual in the matched control group. Statistical significance testing has shown that this difference in the frequency of re-offending is statistically significant[7].

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[6] The **frequency of one year proven re-offending** is defined as the number of re-offences committed in a one year follow-up period which were proven through receipt of a court conviction, caution, reprimand or warning during the one year follow-up or in a further six month waiting period. The one year follow-up period begins when offenders leave custody, start their court sentence, or from receipt of their caution.

[7] The difference was significant, p-value less than 0.001. Statistical significance testing is described on page 9 of this report.

Similarly, in the regional analysis, the difference in the frequency of one year proven re-offending[6] for the 179[4] offenders participating in the resettlement and employment programme at Kirklevington Grange is statistically significant[8] from the matched regional control group for the North East region (0.10 offences per individual, compared with 0.49 per individual respectively).

These results are in line with the findings around the indicator of one year proven re-offending; the subject of this report. The same caveats and limitations apply to these findings, which are described below.

Time to re-offending
The average time to the first offence within a year of release for the 15 individuals that were matched, and re-offended, after participating in the resettlement and employment programme at Kirklevington Grange was 177 days. This compares to 165 days for the 14,802 individuals who re-offended from the national matched control group. Statistical significance testing has shown that this difference in the time to first re-offence within a year is not statistically significant[9].

For the regional analysis, the difference in the time to first re-offence within a year of release is also not statistically significant[10]. For the 15 individuals that were matched, and re-offended, the average time to the first offence within a year, after participating in the resettlement and employment programme at Kirklevington Grange was 177 days and for the 586 individuals who re-offended from the matched control group it was 158 days.

These result are not in line with the findings around the indicator of one year proven re-offending; the subject of this report. The same caveats and limitations apply to these findings, which are described below.

Caveats and Limitations
The statistical methods used in this analysis are based on data collected for administrative purposes. While these include details of each offender's previous criminal, benefit and employment history alongside more basic offender characteristics such as age, gender and ethnicity, it is possible that other important contextual information that may help explain the results has not been accounted for.

In particular, in these analyses we have been unable to statistically control for settled accommodation or training. These are important as one of the main aims of the resettlement and employment programme provided by Kirklevington Grange is

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[8] The difference was significant, p-value less than 0.001. Statistical significance testing is described on page 9 of this report.
[9] The p-value for this significance test was 0.67. Statistical significance testing is described on page 9 of this report.
[10] The p-value for this significance test was 0.49. Statistical significance testing is described on page 9 of this report.

to provide training and it is believed settled accommodation is a key indicator that an individual will not re-offend upon release from prison. The control group against which re-offending rates for those participating in the resettlement and employment programme have been compared will therefore include offenders both with and without the specific needs that Kirklevington Grange are seeking to address. It is also possible that there are additional underlying characteristics about the individuals included in the analysis which were not captured by the data, for example attendance at other interventions targeted at offenders, that may have impacted re-offending behaviour. Therefore, there remains a possibility that any difference in re-offending behaviour after matching reflects differences in underlying characteristics between the two groups, which are not recorded in the data, rather than differences in re-offending behaviour.

Many organisations that work with offenders will look to target specific needs of individuals; for example improving housing, or employability. However, how the organisations select those individuals to work with could lead to selection bias, which can impact on the direction of the results. For example; individuals may self select into a service, because they are highly motivated to address one or more of their needs. This would result in a positive selection bias, meaning that for these persons we would generally expect a better re-offending outcome as they are more motivated. Alternatively, some organisations might specifically target persons who are known to have more complex needs and whose attitudes to addressing their needs are more challenging. This would result in a negative selection bias, meaning that for these persons we would generally expect a poorer re-offending outcome as they are not motivated. However, factors which would lead to selection bias in either direction are not represented in our underlying data, and cannot be reflected in our modelling. Kirklevington Grange has deliberately selected offenders who have made effective use of ROTL for employment/training purposes while in Kirklevington and offenders who, for example, were transferred back to closed conditions for risk/behavioural reasons (eg drug test failures) have not been included in the sample. This means that all results should be interpreted with care, as selection bias cannot be accounted for in analyses. In this instance individuals are deliberately selected from those individuals who perform most effectively at ROTL, therefore this will lead to negative selection bias.

Furthermore, only 180 (179 in the regional analysis) of the 372 offenders originally shared with the MoJ were in the final treatment group. The section "Processing the Data" outlines key steps taken to obtain the final group used in the analysis. In many analyses, the creation of a matched control group will mean that some individuals, who will usually have particular characteristics – for example a particular ethnicity, or have committed a certain type of offence, will need to be removed to ensure that the modelling will work. Steps will always be taken at this stage to preserve as many individuals as possible, but due to the intricacies of statistical modelling some attrition at this stage will often result. As such, the final treatment group may not be representative of all offenders who participated in the resettlement and employment programme at Kirklevington Grange. In all analyses from the Justice

Data Lab, persons who have ever been convicted of sex offences will be removed, as these individuals are known to have very different patterns of re-offending.

The re-offending rates included in this analysis **should not** be compared to the national average, nor any other reports or publications which include re-offending rates – including those assessing the impact of other interventions. The re-offending rates included in this report are specific to the characteristics of those persons who participated in the resettlement and employment programme at Kirklevington Grange, and could be matched. Any other comparison would not be comparing like for like.

For a full description of the methodology, including the matching process, see http://www.justice.gov.uk/downloads/justice-data-lab/justice-data-lab-methodology.pdf.

Assessing Statistical Significance

This analysis uses statistical testing to assess whether any differences in the observed re-offending rates are due to chance, or if the intervention is likely to have led to a real change in behaviour. The outcome of the statistical testing is a value between 0 and 1, called a 'p-value', indicating the certainty that a real difference in re-offending between the two groups has been observed. A value closer to 0 indicates that the difference in the observed re-offending rates is not merely due to chance. For example, a p-value of 0.01 suggests there is only a 1 per cent likelihood that any observed difference in re-offending has been caused by chance.

For the purposes of the analysis presented in this report, we have taken a p-value of up to 0.05 as indicative of a real difference in re-offending rates between the treatment and control groups.

The confidence intervals in the figure are helpful in judging whether something is significant at the 0.05 level. If the confidence intervals for the two groups do not overlap, this indicates that there is a real difference between the re-offending rates.

Annex

Table 1: Characteristics of offenders in the treatment and national (England and Wales) control group

	Treatment Group	Matched Control Group	Standardised Difference
Number in group	**180**	**47,496**	
Ethnicity			
White	84%	84%	0
Black	4%	5%	-1
Asian	9%	9%	0
Other + Unknown[1]	2%	2%	1
Nationality			
UK Citizen	91%	91%	-1
Foreign + Unknown Nationality	9%	9%	1
Gender			
Proportion that were male	100%	100%	0
Age			
Mean age at Index Offence	35	35	1
Mean age at first contact with CJS	20	20	0
Index Offence[2]			
Violent offences including robbery	31%	31%	0
Burglary, theft and handling	5%	5%	0
Fraud and Forgery	8%	8%	-1
Drugs related[3]	51%	51%	0
Other[4]	5%	5%	0
Length of Custodial Sentence			
12 months to 4 years	36%	37%	-4
4 years to 10 years	56%	55%	3
More than 10 years	2%	2%	1
Imprisonment for Public Protection (IPP)	6%	6%	1
Criminal History[5]			
Mean Copas Rate[6]	-1.46	-1.46	0
Mean total previous offences	15	15	0
Mean previous criminal convictions	6	6	0
Mean previous custodial sentences	1	1	0
Mean previous court orders	2	2	0
Employment and Benefit History			
In P45 employment (year prior to conviction)	37%	37%	0
In P45 employment (month prior to conviction)	26%	24%	5
Claiming Out of Work Benefits (year prior to conviction) [7]	50%	51%	-3
Claiming Job Seekers Allowance (year prior to conviction)	39%	39%	-1
Claiming Incapacity Benefit and/or Income Support (year prior to conviction)	18%	18%	0
Notes:			
1 Groups combined due to low numbers 2 Index Offence is based on OGRS categories. Further details on make-up of categories available upon request.			

3 Drug related offences including importation, exportation, possession, and supply of drugs.
4 Other offences including Criminal or Malicious damage and Motoring offences, including theft of and from Vehicles
5 All excluding Penalty Notices for Disorder. All prior to Index Offence.
6 The Copas rate controls for the rate at which an offender has built up convictions throughout their criminal career. The higher the rate, the more convictions an offender has in a given amount of time.
7 Out of Work Benefits include people on Jobseeker's Allowance (JSA), Employment and Support Allowance (ESA), Incapacity Benefits (IB) and Income Support (IS) but it does not count people whose primary benefit is Carer's Allowance (CA).
All figures (except mean copas rate) are rounded to the nearest whole number, this may mean that percentages do not sum to 100%.
Standardised Difference Key
Green - the two groups were well matched on this variable (-5% to 5%)
Amber - the two groups were reasonably matched on this variable (6% to 10% or -6% to -10%)
Red - the two groups were poorly matched on this variable (greater than 10% or less than -10%)

Table 2: Characteristics of offenders in the treatment and Regional (North East) control group

	Treatment Group	Matched Control Group	Standardised Difference
Number in group	**179**	**1,734**	
Ethnicity			
White	84%	85%	**-1**
Black	4%	4%	**-2**
Asian	9%	10%	**-2**
Other + Unknown[1]	2%	1%	**11**
Nationality			
UK Citizen	91%	90%	**2**
Foreign + Unknown Nationality	9%	10%	**-2**
Gender			
Proportion that were male	100%	100%	**0**
Age			
Mean age at Index Offence	35	35	**-1**
Mean age at first contact with CJS	20	20	**1**
Index Offence[2]			
Violent offences including robbery	31%	31%	**1**
Burglary, theft and handling	5%	5%	**2**
Fraud and Forgery	8%	7%	**3**
Drugs related[3]	51%	52%	**-3**
Other[4]	5%	5%	**-1**
Length of Custodial Sentence			
12 months to 4 years	35%	36%	**-2**
4 years to 10 years	56%	54%	**4**
More than 10 years	2%	3%	**-3**
Imprisonment for Public Protection (IPP)	6%	7%	**-2**
Criminal History[5]			
Mean Copas Rate[6]	-1.46	-1.46	**0**
Mean total previous offences	15	15	**1**
Mean previous criminal convictions	6	6	**0**
Mean previous custodial sentences	1	1	**0**
Mean previous court orders	2	2	**7**
Employment and Benefit History			
In P45 employment (year prior to conviction)	37%	36%	**1**
In P45 employment (month prior to conviction)	26%	26%	**1**
Claiming Out of Work Benefits (year prior to conviction)[7]	50%	47%	**5**
Claiming Job Seekers Allowance (year prior to conviction)	39%	38%	**3**
Claiming Incapacity Benefit and/or Income Support (year prior to conviction)	17%	15%	**7**
Notes:			

1 Groups combined due to low numbers
2 Index Offence is based on OGRS categories. Further details on make-up of categories available upon request.
3 Drug related offences including importation, exportation, possession, and supply of drugs.
4 Other offences including Criminal or Malicious damage and Motoring offences, including theft of and from Vehicles

5 All excluding Penalty Notices for Disorder. All prior to Index Offence.
6 The Copas rate controls for the rate at which an offender has built up convictions throughout their criminal career. The higher the rate, the more convictions an offender has in a given amount of time.
7 Out of Work Benefits include people on Jobseeker's Allowance (JSA), Employment and Support Allowance (ESA), Incapacity Benefits (IB) and Income Support (IS) but it does not count people whose primary benefit is Carer's Allowance (CA).
All figures (except mean copas rate) are rounded to the nearest whole number, this may mean that percentages do not sum to 100%.
Standardised Difference Key
Green - the two groups were well matched on this variable (-5% to 5%)
Amber - the two groups were reasonably matched on this variable (6% to 10% or -6% to -10%)
Red - the two groups were poorly matched on this variable (greater than 10% or less than -10%)

We assess whether the treatment group and the matched control group are balanced and well matched through a comparison of the standardised differences generated for every variable included in the matching process. Table 1 shows, in the national analysis, that the two groups were well matched on all variables found to have associations with receiving treatment and/or re-offending. All of the standardised mean differences are highlighted green because they were between -5% and 5%, indicating close matches on these characteristics. For the regional analysis, Table 2 shows that the two groups were reasonably matched on all variables found to have associations with receiving treatment and/or re-offending. The standardised differences are highlighted as amber (i.e. between 6% to 10% or -6% to -10%) red (i.e. greater than 10% or less than -10%) in a few cases, suggesting that the control group could have been slightly better matched in these cases, but were still indicative of a control group who exhibit similar characteristics.

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General information about the official statistics system of the United Kingdom is available from www.statistics.gov.uk