



## Summary

This analysis assessed the impact on re-offending of individuals who received the accommodation-based support service provided by Langley House after receiving a fine or conditional discharge. It follows on from a previous analysis which assessed the impact on re-offending of those who received the service provided by Langley House after receiving a custodial sentence, a community order or suspended sentence<sup>1</sup>, which found that there was a significant impact on the re-offending rate, but not on the frequency of re-offence or time to re-offence.

The one-year proven re-offending rate<sup>2</sup> for 31<sup>3</sup> offenders who received the service after being given a fine or conditional discharge was 35%, compared with 46% for a control group of similar offenders from England and Wales who were matched to the treatment group using standard characteristics. Testing has shown that this difference is not statistically significant<sup>4</sup>; suggesting that at this stage there is insufficient evidence to draw a conclusion about the impact of Langley House's support service on the re-offending rate of those who receive it after receiving a fine or conditional discharge. However, the results of the analysis do not mean that the service failed to impact on re-offending behaviour.

As Langley House's main aim is to support individuals with accommodation issues, a more complex analysis was conducted to account for accommodation and other relevant issues among the offenders who received the support. The control group of similar individuals was found using information from the Offender Assessment System (OASys). As with the simpler analysis, the results were not statistically significant.

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<sup>1</sup> This analysis was first published in December 2014 (<https://www.gov.uk/government/statistics/justice-data-lab-pilot-statistics-december-2014>) and later updated as a test case for incorporating OASys data into the Data Lab service in a methodology report published in January 2016 (<https://www.gov.uk/government/statistics/justice-data-lab-statistics-january-2016>).

<sup>2</sup> The **one-year proven re-offending rate** is defined as the proportion of offenders in a cohort who commit an offence during a one-year follow-up period, where the offence was proven through receipt of a court conviction, caution, reprimand or warning during the follow-up or during a further six month waiting period. The one-year follow-up period begins when an offender leaves custody, starts their court sentence or receives their caution.

<sup>3</sup> In both models 31 individuals were matched from a cohort of 760 individuals whose details were sent to the Justice Data Lab, as described on page 3 of this report. Please note that this cohort also included those who had other sentences.

<sup>4</sup> The p-value for the one-year proven re-offending rate is shown in table 1 on page 6. Statistical significance testing is described on page 10 of this report.

**What you can say:** There is insufficient evidence at this stage to draw a conclusion about the impact of receiving the support service provided by Langley House after receiving a fine or conditional discharge on the one-year proven re-offending rate.

**What you cannot say:** This analysis shows that receiving the support service provided by Langley House after receiving a fine or conditional discharge decreased the one-year proven re-offending rate by 11 percentage points, or by any other amount.

## Introduction

Langley House Trust is a national charity that provides accommodation based and floating support to male and female offenders. Langley House Trust was originally set up to provide supportive accommodation for those coming out of prison in 1958 by a group of Christian professionals. Langley House Trust is established on Christian principles and foundations but the services provided are for anyone – those with faith or no faith. Their mission is to work with those who are at risk of offending or have offended, establishing positive foundations so that they can lead crime-free lives and become contributors to society. This means safer communities, fewer victims and restored lives. Also, Langley House Trust is a Housing Association, regulated by the Home and Communities Agency and is registered with the Care Quality Commission to provide registered care at several sites. Langley House Trust operates from 80 sites, spread over 20 different local authorities throughout England in the following locations: Wakefield, Rossendale, Lancaster, Wyre, Bradford, Medway, Coventry, Cheltenham, Taunton, Winchester, Poole, Rochdale, Bedford, Luton and London.

Langley House Trust works with offenders in the community (including those who are subject to statutory intervention and those who are not) and work in close partnership with local agencies to deliver end to end and holistic support covering the NOMS seven pathways to reducing re-offending. The support services run by Langley House Trust are person-centred, focusing on individual needs and enables offenders to reintegrate into society and move onto independence. The levels of support offered are dependent upon the specific needs of the individuals in question. The services run by Langley House Trust include training and education, support with substance misuse issues, learning disabilities (mild to moderate) support, mental health and personality disorders support, one to one key working, support to enable independence (such as tenancy maintenance and budgeting), support to improve health and wellbeing, support to build positive relationships and reintegrate into society.

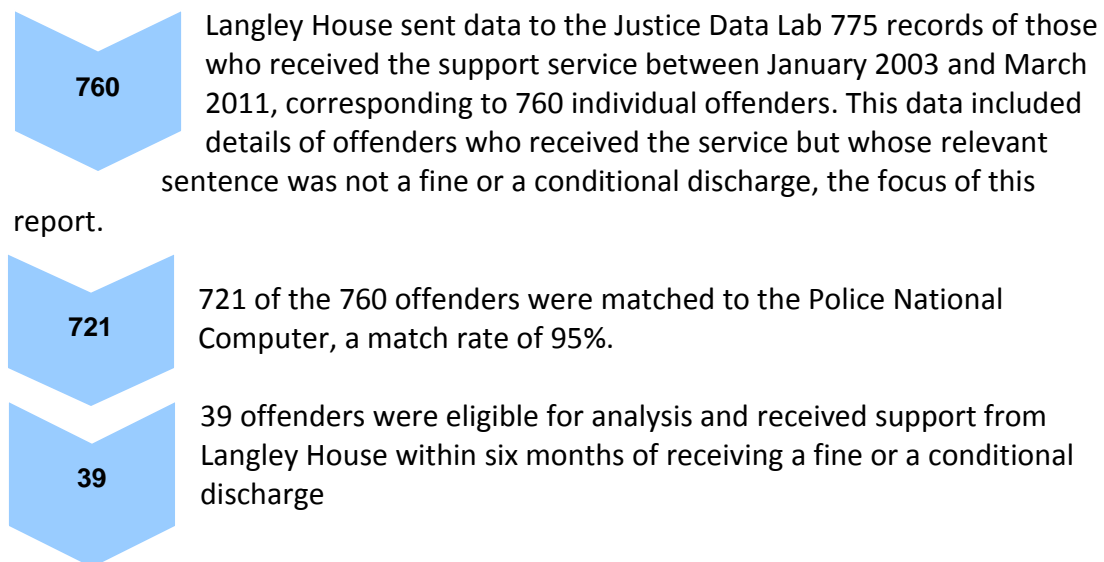
Individuals are referred to the services run by Langley House through criminal justice agencies for example, probation and prison and by self-referrals or referrals through friends and families. Langley House Trust works with any offender as long as the individual is over the age of 18 and is willing to engage with the service. Langley House Trust works with a large number of hard to place offender groups including those with substance misuse needs, mental health needs, housing needs, multiple complex needs and those with a wide spectrum of risk (including high risk of harm

and high risk of re-offending). Additionally, Langley House Trust works with a number of sex offenders. These individuals have been excluded in this analysis as sex offenders are known to have very different patterns of re-offending and particularly complex needs which are not adequately reflected in our administrative datasets.

This analysis relates to offenders who received the support service run by Langley House Trust between March 2005 and December 2010 after being sentenced to a fine or conditional discharge.

More information on the services Langley House Trust provide can be found here: [www.langleyhoustrust.org](http://www.langleyhoustrust.org)

## Processing the data



Analysis of the 721 individuals who matched to the PNC revealed the following:

- There were 444<sup>5</sup> individuals whose identifiable sentence was not a fine or conditional discharge.
- There were 176 individuals who received the support service after six months of their index date. This group included a mix of those on community sentences and those released from prison, which are not the sentences analysed in this report.
- There were 43 individuals for whom sentences could not be found in the administrative data sets.
- There were 14 individuals who were not convicted on or before the date they started receiving the support service.
- There were 3 individuals who were excluded as they had current or previous sex offences.

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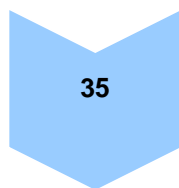
<sup>5</sup> This analysis follows on from the original analysis published in December 2014, which accounts for the majority of the 444 individuals (<https://www.gov.uk/government/statistics/justice-data-lab-pilot-statistics-december-2014>). Further details can be found on page 10 in 'Caveats and limitations'.

- There were 2 individuals who were excluded for modelling purposes.
- This left 39 individuals in the final treatment group.

The treatment group were assessed against those who were matched to the administrative data and had been given a fine or conditional discharge but could not be included in the analysis to check that the treatment group was representative of the people Langley House work with who have been given these sentences:

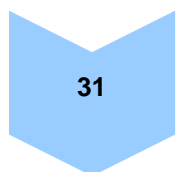
- Both groups had similar ethnicity, severity of offence and sentence type.
- In terms of gender and nationality, those not analysed were more likely to be female (15% compared to none in the group analysed). Those not analysed also had fewer people of British nationality (90% compared to 97%) and more people of unknown nationality (8% compared to none).
- Those not analysed were less likely to have theft and handling offences (34% compared to 51%), and more likely to have fraud and forgery offences (12% compared to 5%) or drugs offences (10% compared to 5%).

As such, the final treatment group may not be representative of all offenders dealt with by Langley House who were given a fine or conditional discharge so all results should be interpreted with care.



4 people were removed because they had committed a re-offence before receiving the support service provided by Langley House.

## Creating matched treatment and control groups



31 of the 35 eligible individuals for whom re-offending data was available were successfully matched to 142,362 records of offenders who had similar characteristics but who did not receive the support service provided by Langley House, when controlling for standard characteristics.

When accounting for more complex characteristics, such as accommodation needs, the same individuals were matched to a control group of 101,448 offender records. 18 (58%) people in the treatment group had a relevant OASys assessment and could be matched on those characteristics.

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

## Results

Two models of risk and need were assessed:

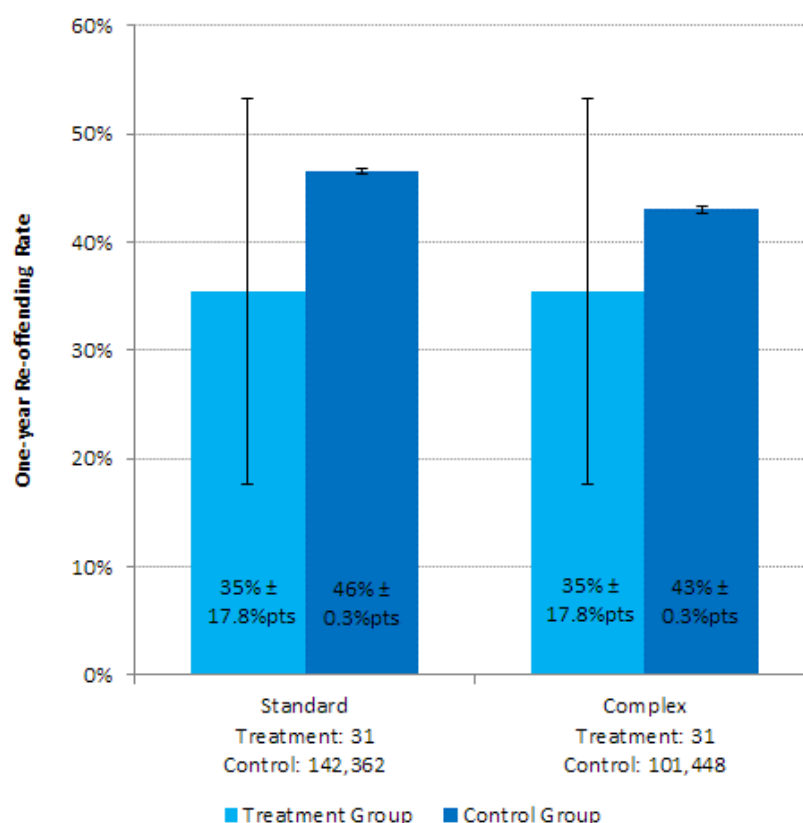
- Standard model – standard characteristics used, with no OASys information included.
- Complex model – characteristics of standard model used, along with OASys information on accommodation status, drug and alcohol use, mental health, and relationships issues.

### One year re-offending rate

When controlling for standard characteristics, the one-year proven re-offending rate<sup>2</sup> for 31<sup>3</sup> offenders who received the support service provided by Langley House after being given a fine or conditional discharge was 35%. This compares to 46% for a matched control group of 142,362 similar offender records.

Figure 1 illustrates this result and that of the more complex analysis which controls for accommodation, alcohol/drugs, mental health and relationship issues, showing the ranges in which the true re-offending rates are estimated to be.

*Figure 1: The best estimates for the one year proven re-offending rate for the Langley House treatment group and matched national control groups*



For those supported by Langley House following receipt of a fine or conditional discharge, the differences between treatment and control groups are estimated to be:

- Between a 29 percentage point reduction and a 7 percentage point increase in the one year re-offending rate for the standard analysis (without controlling for OASys information).
- Between a 25 percentage point reduction and a 10 percentage point increase in the one year re-offending rate for the complex analysis (controlling for accommodation, drugs/alcohol, mental health, and relationship issues).

Both analyses showed inconclusive results and the one year re-offending rates are broadly similar with minor differences, most likely due to the changes in the number of individuals in the matched control groups. Therefore we do not have significant evidence that receiving the support service after being given a fine or conditional discharge led to a reduction or an increase in re-offending by the treatment group. As such, we cannot draw a firm conclusion about its impact.

Table 1 gives the results of these analyses, including the ranges within which the true differences between the groups are estimated to be:

*Table 1: One year re-offending rates and p-values*

Model Type	Number In Treatment Group	Number In Control Group	1 year proven re-offending rate				
			Treatment Group (%)	Control Group (%)	Statistically significant	Estimate of impact on re-offending (% points)	P value
Standard	31	142,362	35	46	No	-28.8 to +6.8	0.22
Complex	31	101,448	35	43	No	-25.3 to +10.3	0.40

The precision of these estimates could be improved if the sizes of the Langley House treatment group used in these analyses were increased<sup>6</sup>. The impact on the analyses by adding OASys variables is quite small, showing that controlling for the most complex needs of the treatment group in this analysis gives only minor differences in the estimated impact on the one year re-offending rate.

<sup>6</sup> If the measured difference in the one-year re-offending rate is correct, there is a 95% chance that this difference would become statistically significant if the treatment group in the standard analysis contained at least 247 individuals. The corresponding figure for the complex analysis is 532.

## Additional proven re-offending measures

### Frequency of re-offending

When controlling for standard characteristics the frequency of one-year proven re-offending<sup>7</sup> for 31<sup>3</sup> offenders who received the support service provided by Langley House after receiving a fine or conditional discharge was 1.32 offences per individual, compared with 1.57 offences per record in the matched control group.

Table 2 shows that the results for the frequency of re-offending are similar in the more complex analysis controlling for accommodation, alcohol/drugs, mental health and relationship issues and not statistically significant for either.

Like for the one-year re-offending indicator, the standard analysis gave a higher frequency of re-offences per person for the matched control group but the inclusion of OASys variables has not altered the overall result.

*Table 2: Frequency of re-offending rates and p-values*

Model Type	Matched Treatment Group	Matched Control Group	Frequency of re-offending			
			Treatment Group	Control Group	Statistically significant	P value
Standard	31	142,362	1.32	1.57	No	0.60
Complex	31	101,448	1.32	1.41	No	0.86

### Time to re-offending

The average time to the first re-offence for the 11 individuals who received the support service after being given a fine or conditional discharge, and who re-offended within a one-year follow-up period, was 182 days. This compares to 155 days for the 68,165 with re-offences in a one-year follow-up period from the matched control group for the standard analysis. The results for the time to first re-offence are not statistically significant for either analysis.

None of the analyses shows a statistically significant difference in the time to first proven re-offence within a year. Table 3 gives the results of these analyses:

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<sup>7</sup> The **frequency of one-year proven re-offending** is defined as the number of re-offences that were committed during a one-year follow-up period and that were proven through receipt of a court conviction, caution, reprimand or warning during the follow-up or during a further six-month waiting period. The one-year follow-up period begins when an offender leaves custody, starts their court sentence or receives their caution.

*Table 3: Time to first re-offence and p-values*

Model Type	Matched Treatment Group	Matched Control Group	Days to first re-offence			
			Treatment Group	Control Group	Statistically significant	P value
Standard	11	68,165	182	155	No	0.31
Complex	11	47,644	182	161	No	0.42

Both of the above 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 in Appendix A.

### **Measures of severity of re-offending/ re-offending resulting in custody**

Further measures regarding the severity of re-offending and of re-offences resulting in custody have not been included in this report. This is because the numbers within each category were too small to make reliable estimates for these measures.



## **Appendix A**

### **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, and assessed needs in specific areas 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.

It is possible that underlying characteristics about the individuals included in the analysis which were not captured by the data (e.g. motivation to change) may have impacted participants' success in achieving the aims of the support provided by Langley House Trust, and may also have a role in affecting their re-offending behaviour. 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 associated with support from Langley House Trust.

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. This means that all results should be interpreted with care, as selection bias cannot be accounted for in analyses. In this instance individuals are referred to the support service run by Langley House Trust through criminal justice agencies (such as probation and prison) or personal referrals (including self-referrals or by their friends and families), therefore this will lead to positive and negative selection bias.

Furthermore, this analysis only looked at those who were referred to Langley House after being given a fine or conditional discharge and only 31 of the 761 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. Following on from the original analyses, the methodology has been enhanced which resulted in a number of improvements. This includes updates to the administrative data used and a sharper focus on selecting the treatment group. Those whose identifiable sentence was a caution, a drug testing order or any other type of sentence will not have been included in either 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. 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. Langley House Trust accommodates and supports a variety of offenders with mixed backgrounds of offending, including those who have been convicted of sex offences who have also been excluded from this analysis. The final treatment group will not be representative of all offenders who received the support service. **Therefore, this analysis should not be seen as a full reflection of the effectiveness of Langley House Trust on all of the individuals they work with.**

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 received the support service provided by Langley House Trust after being given a fine or conditional discharge, and could be matched. Any other comparison, including against the previous analysis of the data provided by Langley House, 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 a measured difference in re-offending behaviour can reasonably be attributed to chance, or if the intervention is likely to have led to a real change in behaviour. The outcome of each statistical test is a ‘p-value’, which is between 0 and 1, indicating the certainty that a real difference in re-offending between the two groups has been observed. The smaller the p-value, the less likely it is that chance is the explanation for the measured difference.

If the p-value is less than, or equal to, 0.05, the result is regarded as 'significant' because chance appears to be an unlikely explanation. The measured difference is then attributable either to the treatment intervention or to some other difference between the treatment and control groups (see 'caveats and limitations' above). 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, it indicates that there is significant evidence of a real difference between their re-offending rates.

## **Annex B – Quality of matching summary**

The quality of matching between the treatment and control groups is assessed using the standardised differences for all variables that are included in the matching process (please see Tables A1 and A2 in the Excel annex accompanying this report). Table A1 looks at the similarity of the treatment and control groups in the standard analysis and A2 shows similar figures for the complex analysis, which includes OASys information.

Table A1 shows that in the standard analysis the two groups were well matched on most variables found to have associations with receiving treatment and/or re-offending. The standardised differences highlighted as amber (pre-conviction P45 employment, for example) suggest that the treatment and control groups could have been slightly better matched in these factors, but were still indicative of groups who exhibit similar characteristics.

Table A2 shows that, when accounting for more complex needs of the offenders, the two groups were well matched on many of the variables found to have associations with receiving treatment and/or re-offending, including many variables from OASys information. The standardised differences highlighted as amber (i.e. between 6% to 10% or -6% to -10%), which particularly focus on criminal history, suggest that the treatment and control groups could have been slightly better matched in these factors but were still indicative of groups who exhibit similar characteristics.

## **Annex C – Profile of the treatment group**

Charts B1-B2 (in the Excel annex accompanying this report) give a profile of the 18 individuals in the matched treatment group with OASys records, showing the needs and issues relevant to this group as determined by their OASys records.

Chart B1 shows that the biggest issue faced by the group was accommodation, with 61% having no fixed abode. This is not surprising as addressing accommodation issues is a key aim of Langley House. Substance misuse is the next substantial issue, with 44% currently using drugs at least weekly at the time of assessment and 33% saying their current alcohol use is a problem. The need for support with building relationships and mental health was also prevalent, with 44% having at least some

problems with interpersonal skills and 28% having some or significant psychological problems.

Of those who had no fixed abode, only 1 individual had only this issue and no current problems with substance misuse, problems with interpersonal skills or psychological problems. This indicates that many of those who received the support service provided by Langley House after receiving a conditional discharge or fine had multiple needs.

Chart B2 compares those in the treatment group with current problems related to drugs and alcohol to those who previously had these problems. 89% indicated that they had used drugs some point in their lives, with 44% currently using drugs at least weekly at the time of their assessment. Chart B2 also shows that nearly half (44%) of the treatment group have had problems with alcohol misuse at some point in their lives and a third (33%) had current problems with alcohol misuse at the time of their assessment. This indicates that drug usage in the treatment group is as much a previous as a current problem. In relation to alcohol misuse, for most of those who had had problems, the issue was still current at the time of the assessment.

## **Annex D**

### **Glossary of terms**

#### **95% confidence intervals**

If the measured value for a re-offending measure were equal to the true mean, 95% of repeat analyses would give a value that is within the measured 95% confidence intervals.

#### **Copas rate**

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.

#### **Custodial sentence**

A sentence that requires an individual to serve time in custody as a result of a conviction for one or more offences.

#### **Follow-up period**

This refers to the time period for which re-offending is measured from the index date.

#### **Frequency of one-year proven re-offending**

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 follow-up or in a further six month waiting period. The one-year follow-up period begins when an offender leaves custody, starts their court sentence, or from receipt of their caution.

#### **Index date**

The date from which proven re-offences are measured. This is defined as the date of prison discharge for custodial sentences, the date of court conviction for non-custodial sentences, the date of receipt for a caution, reprimand or final warning or the date of a positive drug test.

#### **Index offence**

The offence of which an individual has been convicted, which leads to a sentence and an index date.

#### **Matched control group**

The matched control group contains all individuals who have available re-offence records, who are eligible for analysis, who did not receive the treatment intervention and who could be matched to at least one member of the matched treatment group.

**Matched treatment group**

The matched treatment group contains all individuals who have available re-offence records, who are eligible for analysis, who received the treatment intervention and who could be matched to at least one member of the matched control group.

**One-year proven re-offending rate**

The proportion of offenders in a cohort who commit an offence in a one-year follow-up period, where the offence 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.

**p-value**

A value, between 0 and 1, that indicates the likelihood that a real difference in re-offending between the treatment and control groups has been observed. A p-value that is less than, or equal to, 0.05 is a significant piece of evidence in support of the idea that the treatment intervention is effective in changing re-offending behaviour – provided the two groups are well matched. Statistical significance testing is described on page 10 of this report.

**Re-offence**

An offence committed following conviction of the index offence which was proven through receipt of a court conviction, caution, reprimand or warning. The first re-offence refers to the first offence committed after conviction for the index offence.

**Severity**

The Ministry of Justice and the Home Office have developed a severity classification system to identify three tiers of offences, with tier 1 offences being the most serious and tier 3 offences being the least serious. Annex A of the 'Measurements and definitions' document, which accompanies proven re-offending quarterly statistics, gives the latest classification for tier 1 and tier 2 offences – please see the following link:

[https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/368435/proven-reoffending-definitions-measurement-oct13.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/368435/proven-reoffending-definitions-measurement-oct13.pdf)

**Standardised difference**

The standardised differences shown in Annex B measure the differences between the treatment and control groups in terms of the variation within each group. Each standardised difference represents the quality of the matching between the two groups for a single variable, with a smaller difference representing a better match.

**Time to re-offending**

Time to re-offending is defined as the average number of days between the index date and the date of the first re-offence within a one-year follow-up period. This measure is only calculated for individuals who re-offended during the one-year follow-up period.

**Treatment intervention**

The programme whose impact on re-offending is being analysed.

**True mean**

The true mean for a re-offending measure is the mean value that would be obtained from many repeat analyses. It is the 'real value' of the re-offending measure for large populations of people with the characteristics of the matched treatment and control groups. The measured value for a re-offending measure is the best available estimate of the true mean.

## Contact Points

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