Summary

This analysis assessed the impact on re-offending of a programme co-ordinated by the organisation NOMS CFO (National Offender Management Service Co-Financing Organisation) and delivered by a range of providers, and where the programme was delivered during community sentences. The one year proven re-offending rate[1] for 3,345 offenders who were targeted by NOMS CFO while in the community was 32%, compared with 38% for a matched control group of similar offenders. Statistical significance testing has shown that this difference in the re-offending rates is statistically significant[2]; meaning that we can be confident that there is a real reduction in the re-offending rate for the group who participated in the programme co-ordinated by NOMS CFO, of between 8 and 4 percentage points.

What you can say: This analysis indicates that individuals who participated in the NOMS CFO programme delivered by providers while on community sentences experienced a reduction in re-offending of between 4 and 8 percentage points.
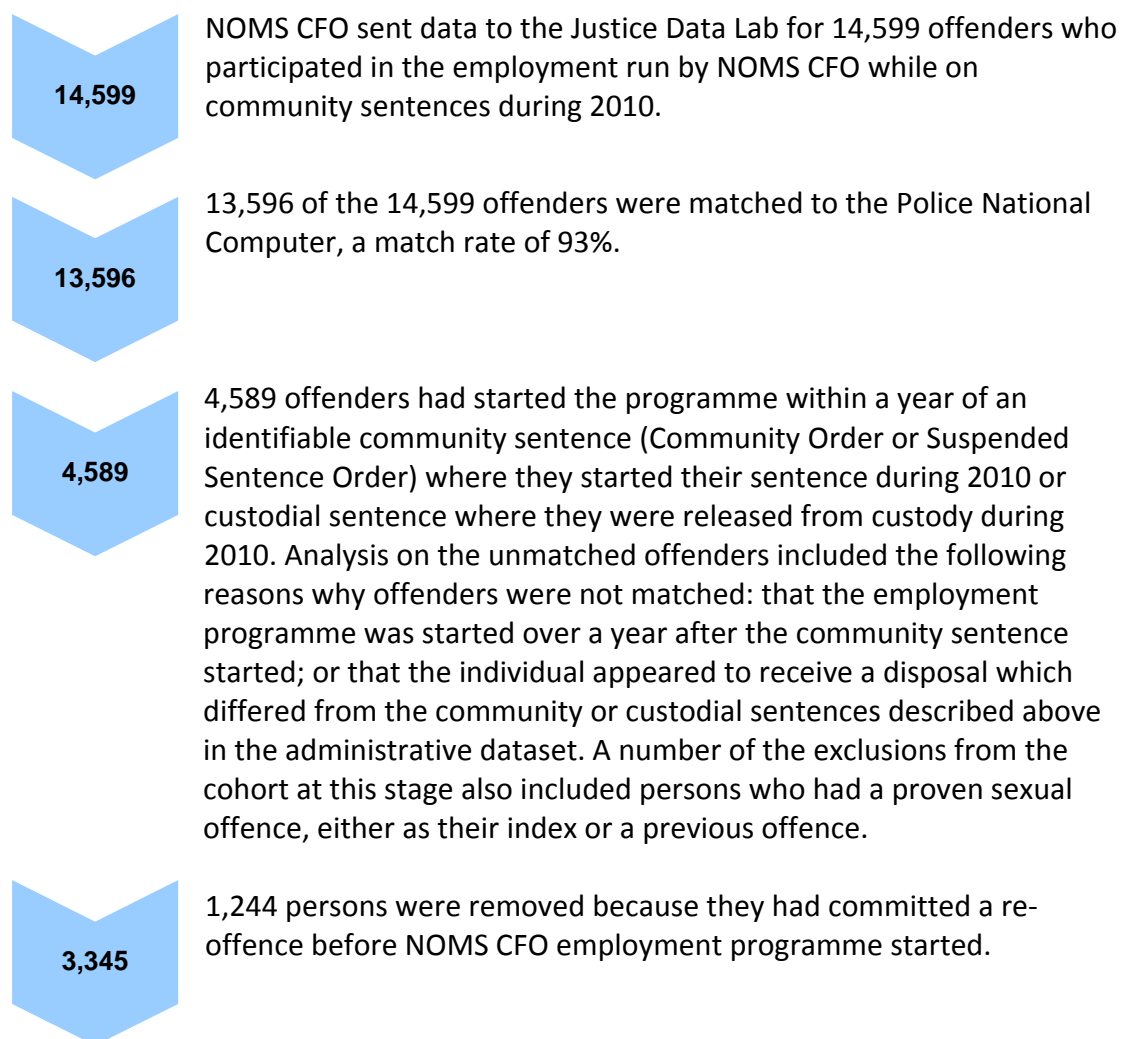
Introduction

NOMS CFO service providers work with offenders in prison and the community, to help them access mainstream services with the aim of gaining skills and employment. This initiative is funded in partnership with the European Social Fund (ESF). The interventions are targeted at offenders considered to be 'hard to help', and who are typically unskilled, unqualified or de-motivated, and can often have drugs/alcohol, behavioural, debt or accommodation problems. This analysis relates to offenders who were involved in Phase 1 of the programme in 2010, starting the intervention after leaving custody or during a community sentence. The programme is about helping to put offenders into employment, or making services provided by the Skills Funding Agency and Department for Work and Pensions more accessible, as it is recognised that offenders in employment are less likely to re-offend than those who are unemployed. The programme uses a case management model which involves assessment, support in light of offenders' identified barriers to employment e.g. training; education; housing; finance; health; alcohol; drugs; relationships;

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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 or start their probation sentence.
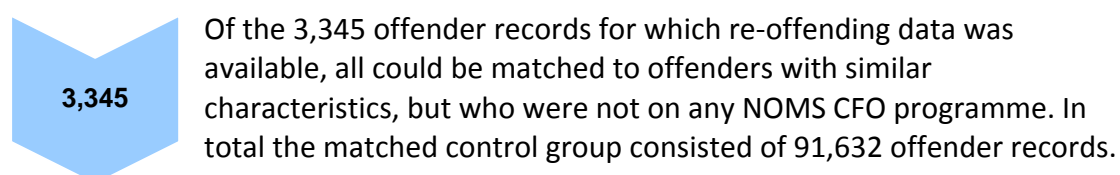
[2] The p-value for this significance test was 0.001. Statistical significance testing is described on page 5 of this report.

attitude/life skills, and access to further learning or employment. The programme is voluntary, and participants can self-refer or be targeted by the providers, with the only conditions being that participants must be unemployed or economically inactive and eligible to work in the UK. Annex B presents the findings published last month by the Justice Data Lab on the impact of the programme in each region of England.

Processing the Data

14,599 NOMS CFO sent data to the Justice Data Lab for 14,599 offenders who participated in the employment run by NOMS CFO while on community sentences during 2010.

13,596 13,596 of the 14,599 offenders were matched to the Police National Computer, a match rate of 93%.

4,589 4,589 offenders had started the programme within a year of an identifiable community sentence (Community Order or Suspended Sentence Order) where they started their sentence during 2010 or custodial sentence where they were released from custody during 2010. Analysis on the unmatched offenders included the following reasons why offenders were not matched: that the employment programme was started over a year after the community sentence started; or that the individual appeared to receive a disposal which differed from the community or custodial sentences described above in the administrative dataset. A number of the exclusions from the cohort at this stage also included persons who had a proven sexual offence, either as their index or a previous offence.

3,345 1,244 persons were removed because they had committed a re-offence before NOMS CFO employment programme started.

Creating a Matched Control Group

3,345 Of the 3,345 offender records for which re-offending data was available, all could be matched to offenders with similar characteristics, but who were not on any NOMS CFO programme. In total the matched control group consisted of 91,632 offender records.

As this analysis pertains to employment which happened during probation, an additional check needed to be imposed on the control group to ensure that the matched individuals had similar characteristics to the NOMS CFO group. All members

of the matched control group could not have committed a proven re-offence before the start date of employment for the matched NOMS CFO counterparts. Any matches where the control group had committed a proven re-offence prior to the start date of the NOMS CFO counter part were excluded from the analysis. This check ensures that we have greater confidence that the matched control group presents a more accurate counterfactual for comparison.

Annex A 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 for 3,345 offenders who were targeted by NOMS CFO while on community sentences was 32%, compared with 38% for a matched control group of similar offenders. This information is displayed in Figure 1 below.

Figure 1 below 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 this analysis we can be confident that the true reduction in re-offending between two groups is between 4 and 8 percentage points. 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 on the NOMS CFO programme and a matched control group.
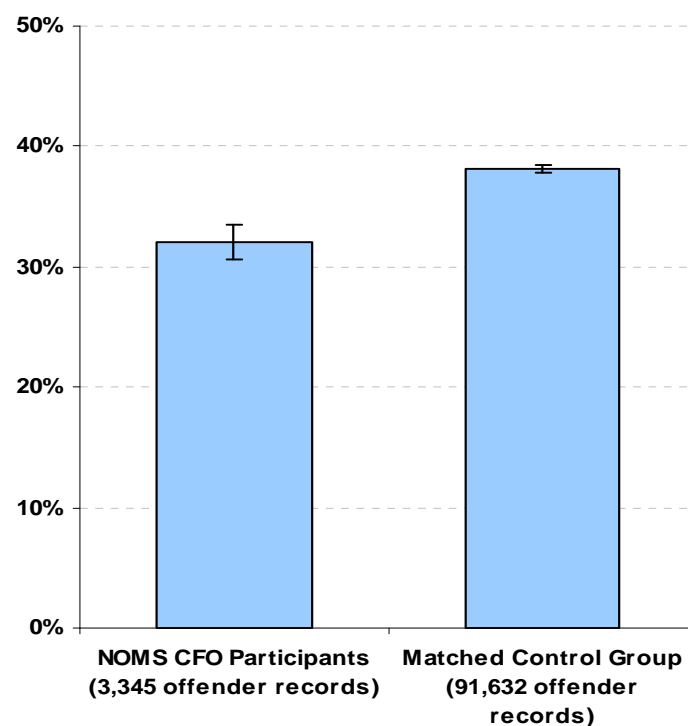
Additional proven re-offending measures
Frequency of re-offending
The one year proven re-offending frequency rate for 3,345 offenders targeted by NOMS CFO while on community sentences was 0.80 offences per individual, compared with 1.2 per individual in the matched control group. Statistical significance testing has shown that the difference in re-offending is statistically significant [3].

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. It is possible that underlying characteristics about the individuals included in the analysis which were not captured by the data (e.g. attendance at other interventions or services targeted at offenders) may have impacted 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 on other interventions targeted at offenders, that may have impacted re-offending behaviour.

In this analysis we have not been able to statistically control for employment outcomes in the control group, therefore this analysis cannot present a direct comparison with NOMS CFO employment programme and any other type of employment, or NOMS CFO employment programme and no employment at all. This analysis presents a comparison between offenders with similar characteristics, where one group (the treatment group) was known to receive support through the NOMS CFO employment programme, and the comparison group did not.

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

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[3] The p-value for this significance test was 0.001. Statistical significance testing is described on page 5 of this report.

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.

Furthermore, only 3,345 of the 14,599 offenders on the NOMS CFO programme while on community sentences 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 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 NOMS CFO. 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 targeted by NOMS CFO while in the community who 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 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.

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Annex A

Table 1: Characteristics of offenders in the treatment and control groups

	Treatment Group	Matched Control Group	Standardised Difference
Number in group	**3,345**	**91,632**	
Ethnicity			
Other	13%	13%	**0**
White	87%	87%	**0**
Nationality			
UK Citizen	100%	100%	**0**
Gender			
Proportion that were male	84%	84%	**1**
Age			
Mean age at Index Offence	29	29	**-1**
Mean age at first contact with CJS	19	19	**0**
Index Offence[1]			
Violent offences including robbery	41%	41%	**0**
Burglary	9%	9%	**0**
Theft and handling	15%	15%	**-1**
Drugs	13%	13%	**0**
Criminal or malicious damage	6%	6%	**0**
Motoring offences	13%	13%	**0**
Other / Fraud and Forgery	7%	7%	**0**
Criminal History[2]			
Mean Copas Rate	-0.172	-0.172	**0**
Mean total previous offences	16	16	**-1**
Mean previous criminal convictions	7	7	**-1**
Mean previous custodial sentences	1	1	**-1**
Mean previous court orders	2	3	**-1**
Employment and Benefit History			
In P45 employment (year prior to conviction)	39%	39%	**0**
In P45 employment (month prior to conviction)	21%	21%	**1**
Claiming Out of Work Benefits (year prior to conviction) [3]	86%	86%	**0**
Claiming Job Seekers Allowance (year prior to conviction)	66%	66%	**1**
Claiming Incapacity Benefit (year prior to conviction)	27%	28%	**-1**
Claiming Income Support (year prior to conviction)	16%	16%	**-1**
Notes:			

1 Index Offence is based on OGRS categories. Further details on make-up of categories available upon request.
2 All excluding Penalty Notices for Disorder. All prior to Index Offence.
3 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 1 on the previous page shows 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.

Annex B: Regional analyses of the NOMS CFO project delivered in the community

The analysis presented in this report looks at the impact on re-offending at the National level for the NOMS CFO project. This complements earlier analyses on the NOMS CFO project delivered in each region of England. These analyses were published in November 2013 and can be found at the following link: www.gov.uk/government/publications/justice-data-lab-statistics-november-2013

The table below shows the findings in each region for those programmes delivered in the community.

Table 2: Regional and overall results of NOMS programme delivered in the community

Region- delivered in the community (programme delivered by)	Treatment Group size[1]	Significant difference?	Estimate of impact on re-offending	Reduction in frequency of re-offending
East Midlands (Leicestershire & Rutland Probation Trust)	371	Yes	1% to 11%	Yes
East England (Serco)	310	Yes	0% to 11%	Yes
London (London Probation Trust)	475	Yes	1% to 10%	Yes
Merseyside (Merseyside Probation Trust)	298	Yes	3% to 14%	Yes
North East (Pertemps People Development Group)	277	No	inconclusive	Yes
North West (excluding Merseyside) (Merseyside Probation Trust)	413	Yes	0% to 10%	Yes
South East (Serco)	234	Yes	4% to 16%	Yes
South West (including Cornwall and Isles of Scilly) (A4E)	227	Yes	7% to 19%	Yes
West Midlands (The Manchester College)	319	Yes	7% to 17%	Yes
Yorkshire and the Humber (SOVA)	700	Yes	0% to 8%	Yes
Overall	*3,345[1]*	*Yes*	*4% to 8%*	*Yes*

1 The total overall treatment group does not sum to the individual regions due to modelling techniques. See caveats below.

This analysis covers all regions in England; however the number in the final overall treatment group (3,345) does not sum exactly to the treatment groups for all regions separately (3,624), as quoted in previously published analyses. When analysing the regions together, the modelling at the overall level will be slightly different to the model built in each regional level; this can result in smaller categories being deleted, for example those with particular ethnicity groupings or Index Offence types. For example, at the regional level, there may be 5% of the cohort who have a particular Index Offence grouping. However, at the national level, the proportion is lower – for example 4.5%, and in this instance it has not been viable to carry these individual through to the analytical stage. This has affected; the Index Offence criminal or malicious damage; the Index Offences with fraud and forgery have been merged with "other"; and offenders with the highest tier of index offences have been

removed. These are all modelling differences when compared with the regional levels.

Contact Points

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