Ministry of Justice

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, where the programme was started in custody. The one year proven re-offending rate[1] for 2,045 offenders who were targeted by NOMS CFO Providers in custody was 53.5%, compared with 53.8% for a matched control group of similar offenders. Statistical significance testing has shown that this difference in the re-offending rates is not significant[2]; suggesting that at this stage there is insufficient evidence to draw a conclusion about the impact of participating in a programme co-ordinated by NOMS, on re-offending. However, the results of the analysis do not mean that the programme failed to impact on re-offending.

What you can say: There is insufficient evidence at this stage to draw a conclusion about the impact of participating in a NOMS CFO programme where it started in custody, on re-offending.
What you cannot say: This analysis shows that participating in a NOMS CFO programme where it started in custody, increased proven re-offending by 0.5 percentage points or by any other amount.

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 while in custody. 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
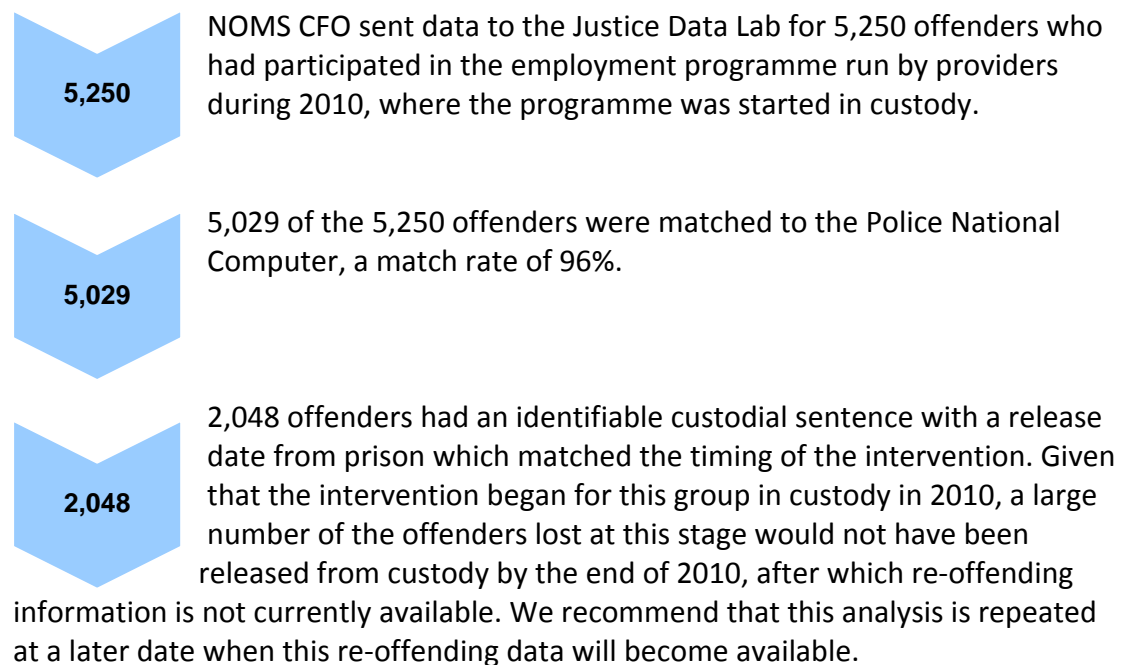
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[1] The **one year proven re-offending rate** is defined as the proportion of offenders in a cohort who commit an offence in a one year follow-up period which was proven through receipt of a court conviction, caution, reprimand or warning during the 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 difference was non-significant, p= 0.81. Statistical significance testing is described on page 5 of this report.
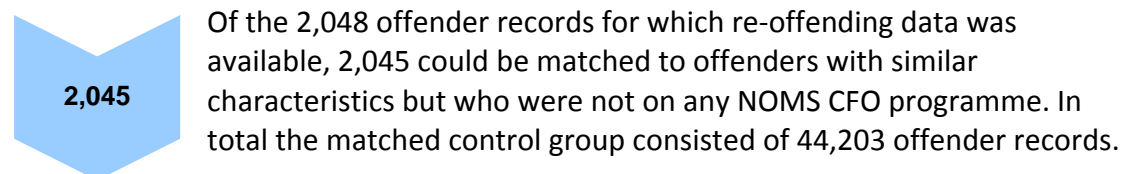
assessment, support in light of offenders' identified barriers to employment e.g. training; education; housing; finance; health; alcohol; drugs; relationships; attitude/life skills, and access to further learning or employment. The programme is voluntary, and participants can self-refer or be targeted by the providers, with the only conditions being that participants must be within three years of release from custody 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.

More information on this and on wider aspects of the NOMS CFO project can be found here: co-financing.org/about_main.php

Processing the Data

5,250

NOMS CFO sent data to the Justice Data Lab for 5,250 offenders who had participated in the employment programme run by providers during 2010, where the programme was started in custody.

5,029

5,029 of the 5,250 offenders were matched to the Police National Computer, a match rate of 96%.

2,048

2,048 offenders had an identifiable custodial sentence with a release date from prison which matched the timing of the intervention. Given that the intervention began for this group in custody in 2010, a large number of the offenders lost at this stage would not have been released from custody by the end of 2010, after which re-offending information is not currently available. We recommend that this analysis is repeated at a later date when this re-offending data will become available.

Creating a Matched Control Group

2,045

Of the 2,048 offender records for which re-offending data was available, 2,045 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 44,203 offender records.

Annex A (Table 1) 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 2,045 offenders who were targeted by NOMS CFO providers in custody was 53.5%, compared with 53.8% 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 difference in proven re-offending between the groups is somewhere between -3 and 2 percentage points. However because this difference crosses 0, we cannot be sure either way that participating in this programme lead to a reduction or increase in re-offending, and thus cannot draw a firm conclusion about its impact. 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 (started in custody) and a matched control group.
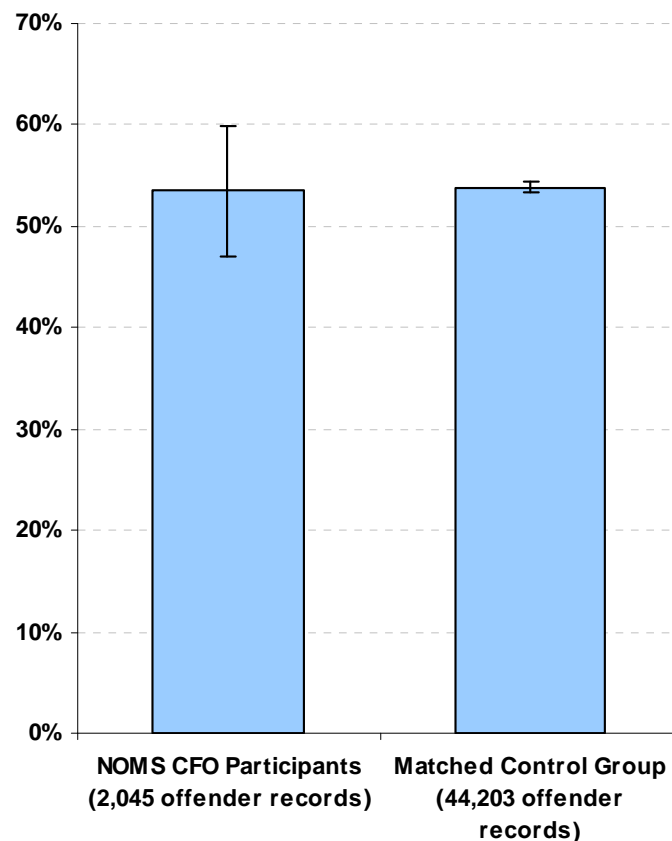
Additional proven re-offending measures
Frequency of re-offending
The frequency of one year proven re-offending for 2,045 offenders targeted by NOMS providers while in custody was 2.44 offences per individual, compared with

2.41 per individual in the matched control group. Statistical significance testing has shown that this difference in the re-offending rates is not statistically significant[3].

This result is 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. It is possible that underlying characteristics about the individuals included in the analysis which were not captured by the data (e.g. previous employment history; education history) may have impacted participants' success in achieving the aims of the programme, and 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.

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 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.

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[3] The p-value for this significance test was 0.68. Statistical significance testing is described on page 5 of this report.

Furthermore, only 2,045 of the 5,250 offenders on the NOMS CFO programme run by providers 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 the 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 have been on this programme. 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 NOMS CFO participants targeted by providers while in custody, 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 upto 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 A
Table 1: Characteristics of offenders in the treatment and control groups

	Treatment Group	Matched Control Group	Standardised Difference
Number in group	**2,045**	**44,203**	
Ethnicity			
White	88%	88%	**0**
Black and Asian	12%	12%	**0**
Gender			
Proportion that were male	85%	86%	**-1**
Age			
Mean age at Index Offence	29	29	**0**
Mean age at first contact with CJS	17	17	**0**
Index Offence[1]			
Violent offences including robbery	40%	40%	**0**
Burglary	13%	13%	**0**
Theft and handling	20%	20%	**0**
Fraud and Forgery/Criminal Damage/Other	9%	8%	**0**
Motoring offences, including theft of and from Vehicles	8%	8%	**-1**
Drugs	10%	10%	**0**
Length of Custodial Sentence			
6 months or less	34%	34%	**0**
6 months to 12 months	14%	15%	**0**
12 months to 4 years	44%	44%	**1**
4 years to more than 10 years	7%	7%	**0**
Criminal History[2]			
Mean Copas Rate	-0.6	-0.6	**0**
Mean total previous offences	38	38	**0**
Mean previous criminal convictions	15	15	**0**
Mean previous custodial sentences	5	5	**0**
Mean previous court orders	5	5	**0**
Employment and Benefit History			
In P45 employment (year prior to conviction)	28%	28%	**0**
In P45 employment (month prior to conviction)	12%	12%	**0**
Claiming Out of Work Benefits (year prior to conviction) [3]	79%	79%	**0**
Claiming Job Seekers Allowance (year prior to conviction)	59%	58%	**0**
Claiming Incapacity Benefit (year prior to conviction)	30%	30%	**0**
Claiming Income Support (year prior to conviction)	15%	15%	**0**
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% or less)
Amber - the two groups were reasonably matched on this variable (6%-10%)
Red - the two groups were poorly matched on this variable (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 Custody

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 custody.

Table 2: Regional and overall results of NOMS analyses

Region- delivered in custody (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)	220	No	inconclusive	No
East England (Serco)	121	No	inconclusive	No
London (London Probation Trust)	95	No	inconclusive	No
North East (Pertemps People Development Group)	235	No	inconclusive	No
North West (including Merseyside) (Merseyside Probation Trust)	351	No	inconclusive	No
South East (Serco)	95	No	inconclusive	No
South West (including Cornwall and Isles of Scilly) (A4E)	355	No	inconclusive	No
West Midlands (The Manchester College)	164	No	inconclusive	No
Yorkshire and the Humber (SOVA)	401	No	inconclusive	No
Overall	*2,045[1]*	*No*	*inconclusive*	*No*

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

This overall analysis covers all regions in England. The number in the final overall treatment group (2,045) does not sum exactly to the treatment groups for all regions separately (2,037), as quoted in previously published analyses. This is due to the processes of statistical modelling and matching, and indicates that slightly more individuals could be matched in the overall group than in the regional groups separately. This happened when certain characteristics (such as ethnicity or OGRS index) had enough cases to include in modelling for the overall analysis where there had been insufficient cases to include in the regional analyses.

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