Ministry of Justice

Justice Data Lab
Re-offending Analysis:
NOMS CFO South East
Serco (delivered during community sentences)

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) in the South East region, provided by Serco and where the programme was started during community sentences. The one year proven re-offending rate[1] for 234 offenders who were targeted by Serco while in the community was 30%, compared with 40% 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 difference in the re-offending rate for the group who participated in the programme run by Serco, of between 4 and 16 percentage points.

What you can say: This analysis indicates that individuals who participated in the NOMS CFO programme run by Serco while on a sentence, experienced a reduction in re-offending of between 4 and 16 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 in the South East region. 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; attitude/life skills, and access to further learning or

[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 less than 0.001. Statistical significance testing is described on page 6 of this report.

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.

Producing re-offending reports for the NOMS CFO region

A single report was received from the organisation NOMS CFO to assess the impact on re-offending of this programme. The request included all individuals who had participated in the programme during 2010 in the nine regions in England. The programme in each region is delivered by a supplier who receives a contract from NOMS CFO, funding in partnership with ESF. The regions and providers are shown below:

Region	Provider
East Midlands	Leicestershire & Rutland Probation Trust
East of England	Serco
London	London Probation Trust
North East	Pertemps People Development Group
North West (including Merseyside)	Merseyside Probation Trust
South East	Serco
South West (including Cornwall)	A4E
West Midlands	The Manchester College
Yorkshire and the Humber (including South Yorkshire)	SOVA

In agreement with NOMS CFO, the Justice Data Lab will be issuing two reports for each region / provider; one report which covers individuals who participated in the programme whilst in custody; and a further report which covers individuals who participated in the programme after leaving custody or during a community sentence. There may be one or more reports in the North West, South West and the Yorkshire and Humber, where distinct counties within the region were identified by NOMS CFO as appropriate for separate follow up. In each region, the provider will aim to deliver similar interventions, but each provider will have different targets based on populations they deliver to.

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

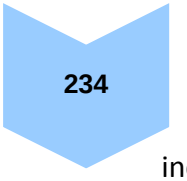
NOMS CFO sent data to the Justice Data Lab for 1,186 offenders who participated in the employment programme run by Serco while on community sentences in the South East region during 2010.

1,067 of the 1,186 offenders were matched to the Police National Computer, a match rate of 90%.

310 offenders had an identifiable community sentence 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 two 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.

43 persons were removed because they had committed a re-offence before the Serco employment programme started.

Creating a Matched Control Group



Of the 267 offender records for which re-offending data was available, 234 could be matched to offenders with similar characteristics, but who were not on any NOMS CFO programme. . A substantial number of the exclusions from the cohort at this stage include persons who had a proven sexual offence, either as their index or a previous offence. In total the matched control group consisted of 95,505 offender records (none of the control group were NOMS CFO participants from any other region in 2010).

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 Serco 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 Serco counterparts. Any matches where the control group had committed a proven re-offence prior to the start date of the Serco 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.

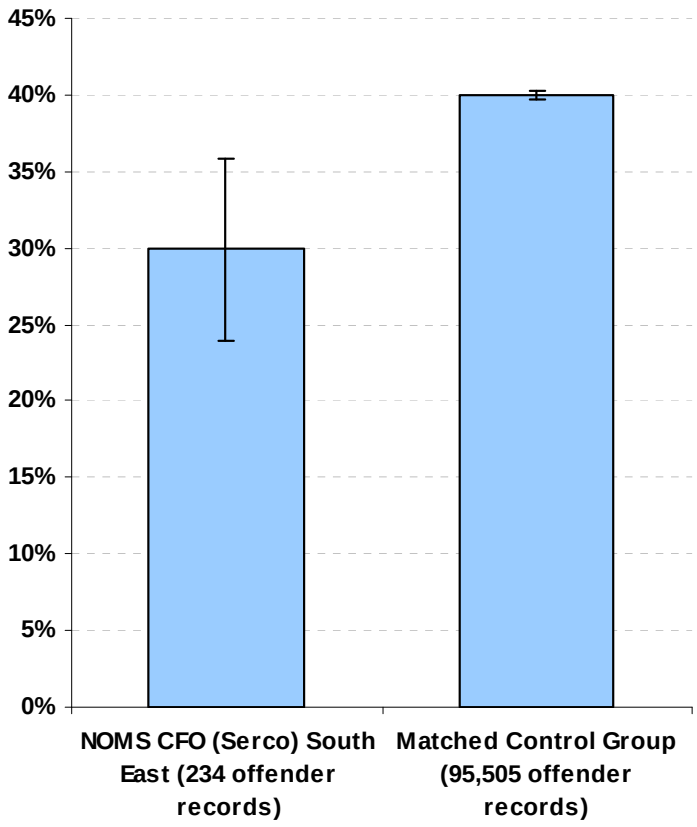
The Annex provides information on the similarity between the treatment and control groups. Further data on the matching process is available upon request.

Results

The one year proven re-offending rate for 234 offenders who were targeted by Serco while in the community was 30%, compared with 40% 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 re-offending between two groups is between 4 and 16 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 South East (Serco) programme and a matched control group.



Additional proven re-offending measures

Frequency of re-offending

The frequency of one year proven re-offending rate for 234 offenders who were targeted by Serco while on community sentences in the South East was 0.43 offences per individual, compared with 1.23 per individual in the matched control group. Statistical significance testing has shown that this difference in the re-offending rates is 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 offenders' 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 from the organisation Serco, 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

[3] The p-value for this significance test was 0.03. Statistical significance testing is described on page 6 of this report.

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.

Furthermore, only 234 of the 1,186 offenders on the NOMS CFO South East programme run by Serco 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 South East programme run by Serco. 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 South East participants targeted by Serco 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.

Annex

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

	Treatment Group	Matched Control Group	Standardised Difference
Number in group	**234**	**95,505**	
Ethnicity			
White	100%	100%	**0**
Nationality			
UK Citizen	100%	100%	**0**
Gender			
Proportion that were male	86%	86%	**1**
Age			
Mean age at Index Offence	29	29	**0**
Mean age at first contact with CJS	19	19	**0**
Index Offence[1]			
Violent offences including robbery	42%	42%	**-1**
Theft and handling	21%	20%	**1**
Fraud and Forgery	8%	8%	**0**
Motoring offences, including theft of and from Vehicles	10%	10%	**0**
Drugs	8%	8%	**-1**
Other	11%	11%	**1**
Criminal History[2]			
Mean Copas Rate	-1.1	-1.1	**0**
Mean total previous offences	17	17	**1**
Mean previous criminal convictions	7	7	**1**
Mean previous custodial sentences	1	1	**1**
Mean previous court orders	3	3	**1**
Employment and Benefit History			
In P45 employment (year prior to conviction)	44%	45%	**-2**
In P45 employment (month prior to conviction)	19%	19%	**-5**
Claiming Out of Work Benefits (year prior to conviction)[3]	83%	83%	**0**
Claiming Job Seekers Allowance (year prior to conviction)	67%	66%	**0**
Claiming Incapacity Benefit (year prior to conviction)	24%	24%	**1**
Claiming Income Support (year prior to conviction)	15%	16%	**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% 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.

Contact Points

Press enquiries should be directed to the Ministry of Justice press office:

Tel: 020 3334 3555

Other enquiries about the analysis should be directed to:

Justice Data Lab Team
Ministry of Justice
Justice Data Lab
Justice Statistical Analytical Services
7th Floor
102 Petty France
London
SW1H 9AJ
Tel: 0203 334 4396
E-mail: Justice.DataLab@justice.gsi.gov.uk

General enquiries about the statistical work of the Ministry of Justice can be e-mailed to: statistics.enquiries@justice.gsi.gov.uk
General information about the official statistics system of the United Kingdom is available from www.statistics.gov.uk