Summary

This analysis assessed the impact on re-offending of a relationship course provided by Time for Families, targeted at prisoners and their partners. The one year proven re-offending rate[1] for 101 offenders who received the relationship course whilst in prison was 36%, compared with 31% for a matched control group of similar offenders. Statistical significance testing has shown that this difference is not significant[2]; suggesting that at this stage there is insufficient evidence to draw a conclusion about the impact of the relationship course provided by Time for Families on re-offending. However, the results of the analysis do not mean that the relationship course provided by Time for Families 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 the relationship course provided by Time for Families on re-offending.
What you cannot say: This analysis shows that the relationship course provided by Time for Families increased proven re-offending by 5 percentage points, or by any other amount.
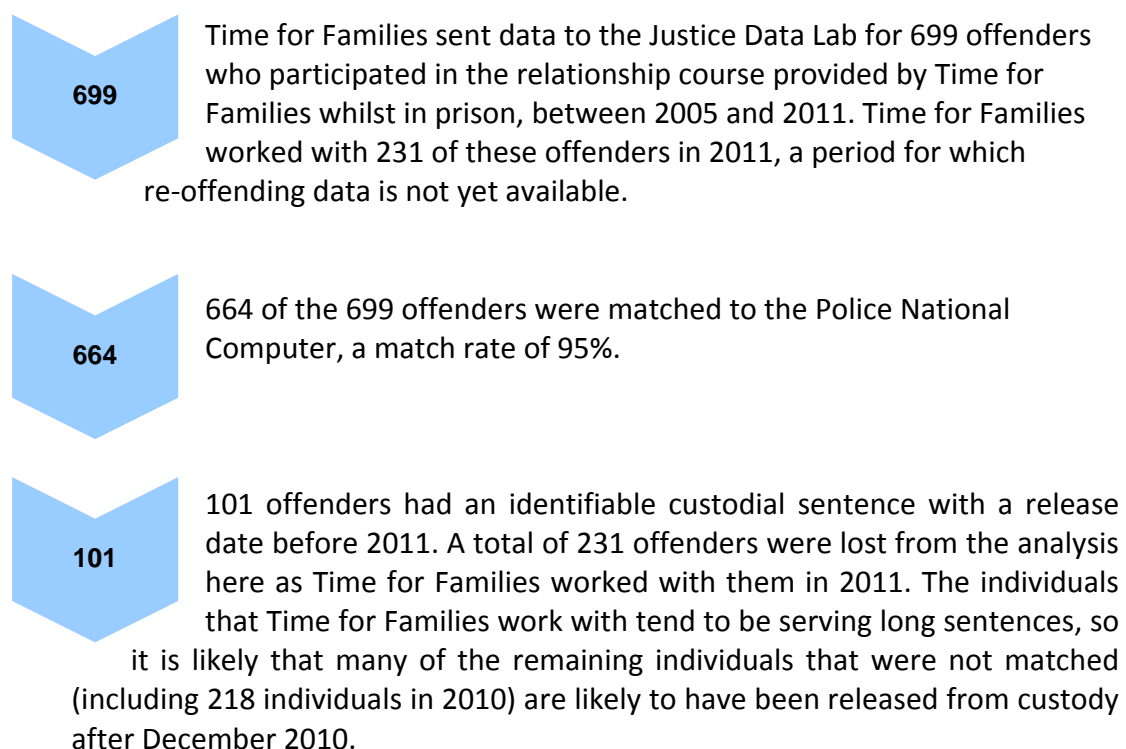
Introduction

Time for Families is a charity that specialises in providing relationship education. One of Time for Families main areas of focus is prisons. Within the prison work that Time for Families carries out, the charity runs a six-day relationship education course for self-selected prisoners and their partners, focusing on strengthening their relationships and addressing their key issues. The aim of the course is to build a firm foundation for the future of the relationship, with the intention that strong relationships will hopefully lead to reduced re-offending. This analysis assessed the impact on re-offending of prisoners that participated in a course provided by Time for Families whilst in prison, between 2005 and 2010.
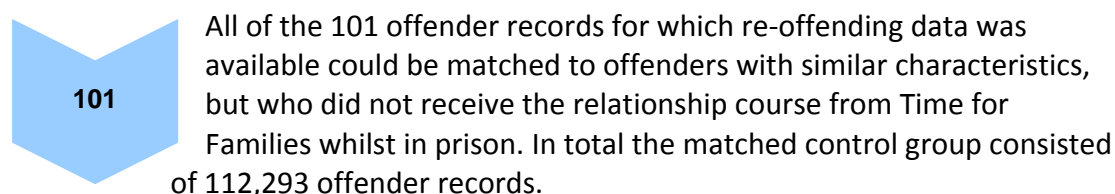
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[1] The **one year proven re-offending rate** is defined as the proportion of offenders in a cohort who commit an offence in a one year follow-up period which was proven through receipt of a court conviction, caution, reprimand or warning during the 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 = 0.34. Statistical significance testing is described on page 5 of this report.

Processing the Data

699

Time for Families sent data to the Justice Data Lab for 699 offenders who participated in the relationship course provided by Time for Families whilst in prison, between 2005 and 2011. Time for Families worked with 231 of these offenders in 2011, a period for which re-offending data is not yet available.

664

664 of the 699 offenders were matched to the Police National Computer, a match rate of 95%.

101

101 offenders had an identifiable custodial sentence with a release date before 2011. A total of 231 offenders were lost from the analysis here as Time for Families worked with them in 2011. The individuals that Time for Families work with tend to be serving long sentences, so it is likely that many of the remaining individuals that were not matched (including 218 individuals in 2010) are likely to have been released from custody after December 2010.

Creating a Matched Control Group

101

All of the 101 offender records for which re-offending data was available could be matched to offenders with similar characteristics, but who did not receive the relationship course from Time for Families whilst in prison. In total the matched control group consisted of 112,293 offender records.

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 101 offenders who participated in the relationship course provided by Time for Families whilst in prison was 36%. This compares to 31% for a matched control group of similar offenders. This information is displayed in Figure 1 on the next page.

Figure 1 on the next page 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 -5 and 14 percentage points. However, because this difference crosses 0, we cannot be sure either way that receiving the relationship course provided by Time for Families

whilst in prison led to a reduction or an 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 who received the relationship course provided by Time for Families whilst in prison and, a matched control group
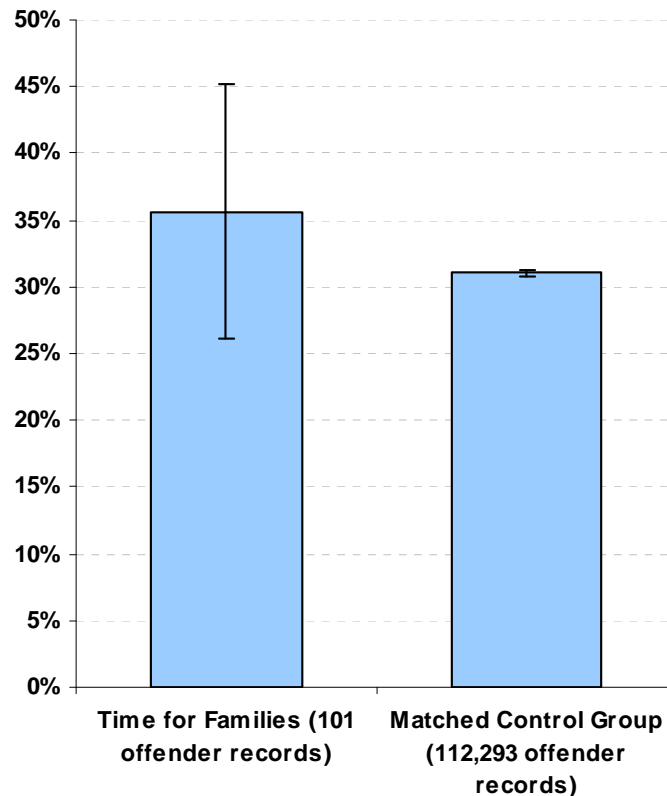
In this case the confidence intervals are particularly wide; this is to be expected when the size of the treatment group (in this case, Time for Families) is small. The precision of this estimate could be improved if the size of the Time for Families course group used in the analysis was increased. It is recommended that the analysis is repeated on a larger sample when additional years of data become available, as a significant number of offenders had intervention start dates at the end of 2010 or within 2011, and therefore they were likely to have not been released from custody until 2011 or after, a period for which the re-offending data is not currently available.

Additional proven re-offending measures
Frequency of re-offending
The frequency of one year proven re-offending for 101 offenders targeted by Time for Families was 1.02 offences per individual, compared with 0.94 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. It should be noted that it has only been possible to control for a limited amount of information about the offenders who are included within this analysis. 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 this instance, it would have been particularly beneficial to be able to take account of relationship status for both the group that Time for Families worked with, and the matched control group. This information is currently not available routinely to the Justice Data Lab. Therefore, the control group against which re-offending rates for those participating in the relationship course have been compared will include offenders both with and without the specific relationship problems that Time for Families are seeking to address. Whilst the success of the matching described in the Annex suggests that the individuals were well matched to the control group on key characteristics such as demographic and criminal history, individuals with relationship problems are known to have particular difficulties in breaking the cycle of re-offending. As this key information is missing from the underlying data used, the results of this analysis should be interpreted with particular care.

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.

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

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[3] The p-value for this significance test was 0.70. Statistical significance testing is described on page 5 of this report.

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 101 of the 699 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 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 relationship course provided by Time for Families whilst in prison. 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 relationship course provided by Time for Families whilst in prison, 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 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	**101**	**112,293**	
Ethnicity			
White	89%	89%	0
Black and Asian	11%	11%	0
Nationality			
UK Citizen	100%	100%	0
Gender			
Proportion that were male	100%	100%	0
Age			
Mean age at Index Offence	32	32	2
Mean age at first contact with CJS	19	19	0
Index Offence[1]			
Violent offences including robbery	41%	41%	-1
Burglary	12%	11%	2
Motoring offences, including theft of and from Vehicles	8%	8%	0
Drugs	32%	32%	0
Other[2]	8%	8%	-1
Length of Custodial Sentence			
12 months or less	8%	8%	1
12 months to 4 years	68%	68%	0
4 years to 10 years	24%	24%	-1
Criminal History[3]			
Mean Copas Rate	-0.986	-0.997	1
Mean total previous offences	30	28	4
Mean previous criminal convictions	11	11	4
Mean previous custodial sentences	4	3	4
Mean previous court orders	3	3	2
Employment and Benefit History			
In P45 employment (year prior to conviction)	33%	33%	-1
In P45 employment (month prior to conviction)	14%	14%	0
Claiming Out of Work Benefits (year prior to conviction) [4]	57%	57%	1
Claiming Job Seekers Allowance (year prior to conviction)	35%	35%	0
Claiming Incapacity Benefit (year prior to conviction)	27%	26%	1
Claiming Income Support (year prior to conviction)	21%	20%	1

Notes:

1 Index Offence is based on OGRS categories. Further details on make-up of categories available upon request.
2 Other offences including theft, fraud, forgery and criminal or malicious damage.
3 All excluding Penalty Notices for Disorder. All prior to Index Offence.
4 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 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.

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