



Ministry
of Justice

Justice Data Lab Statistics

September 2014

11th September 2014



**Ministry
of Justice**

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Introduction

This report presents a summary of the requests for re-offending information through the Justice Data Lab for the period 2nd April 2013 to 31st August 2014.

This report has been produced and published in line with the Code of Practice for Official Statistics. This report will be updated and published on the second Thursday of each month for the duration of the Justice Data Lab pilot.

What is the Justice Data Lab initiative and how does it work?

The Justice Data Lab has been launched as a pilot from April 2013. During the pilot, a small team from Analytical Services within the Ministry of Justice (the Justice Data Lab team) is supporting organisations that provide offender services by allowing them easy access to aggregate re-offending data, specific to the group of people they have worked with. This service is intended to support organisations in understanding their effectiveness at reducing re-offending.

Participating organisations supply the Justice Data Lab with details of the offenders who they have worked with, and information about the services they have provided. The Justice Data Lab team matches these individuals to the re-offending datasets held within the Ministry of Justice and uses statistical modelling techniques to generate a matched control group of individuals with very similar characteristics. As a standard output, the Justice Data Lab supplies aggregate one year proven re-offending rates for the group of offenders the organisation has worked with, and those of the matched control group of similar offenders.

The re-offending rates for the organisation's group and the matched control group are also compared using statistical testing to assess the impact of the organisation's work on reducing re-offending. The results are then returned to the organisation with explanations of the key metrics, and any caveats and limitations necessary for interpretation of the results.

Finally, the tailored reports produced for each organisation are published on the Ministry of Justice website to promote transparency and ensure that findings produced through this service can be used by others to improve the rehabilitation of offenders.

Key Findings

To date:

This publication reports on the Justice Data Lab requests received in the sixteen months between the launch of the Justice Data Lab on the 2nd April 2013, and 31st August 2014. During this period there were 142 requests for re-offending information through the Justice Data Lab. Of these requests;

- 117 reports have been published previously.
- 17 requests could not be answered as the minimum criteria for a Data Lab analysis had not been met.
- 1 request was withdrawn by the submitting organisation.
- The remaining 7 requests will be processed in due course.

The following activity has taken place this month:

- No new reports are ready for publication this month. We have been working on requests received previously which will be published in due course.
- One request has been rejected this month.
- This month, we have updated forest plots which show the effect sizes of all analyses published to date. A forest plot is a graphical display used in meta-analysis that shows the effect size and precision (confidence intervals) against the treatment group size for multiple analyses. These forest plots were originally made available in "Justice Data Lab: the pilot year"¹ published in March 2014. These forest plots can be seen in the section below, and also within the publication summary Excel file which accompanies this word document.

¹ Available at www.gov.uk/government/uploads/system/uploads/attachment_data/file/289250/justice-data-lab-pilot-year.pdf

Effect sizes observed through the Justice Data Lab

In this section, we look at the re-offending outcomes that we have reported for each request, which are displayed graphically in forest plots. Forest plots were previously published in “Justice Data Lab: the pilot year”¹ in March 2014 where a more detailed description of how to interpret these plots can be found.

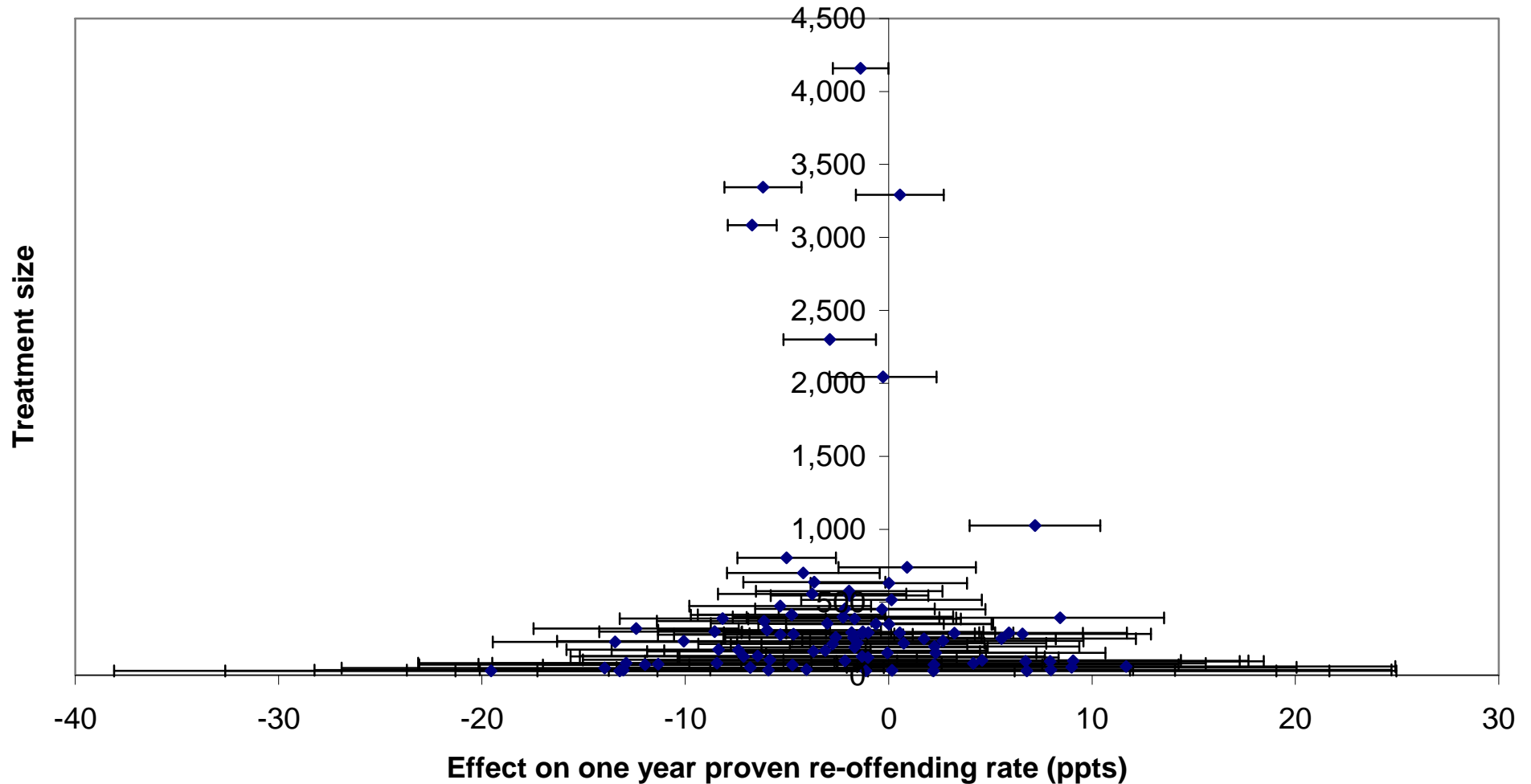
Interpreting Forest plots

The forest plots below illustrate the relationship between the size of the matched treatment group and the range (confidence interval around the estimate of impact) presented around the change in re-offending between the treatment and the matched control group. If the confidence interval crosses 0, it indicates that the request has an inconclusive result which means that at this stage we cannot be sure either way that receiving the intervention led to a reduction or increase in re-offending and thus cannot draw a firm conclusion about its impact. However, if the confidence interval does not cross 0, this indicates a statistically significant result meaning that we can be confident that there is a real difference in the re-offending rate for the matched individuals who received the intervention. Estimates of impact on the left hand side of the forest plots indicate the treatment group has a lower re-offending rate than the matched control group, whereas estimates on the right hand side of the forest plots indicate the treatment group has a higher re-offending rate than the matched control group.

The forest plots below show that generally as the treatment group size increases, the precision of the effect size of the one year proven re-offending rate increases. We can tell the precision of the effect size increases by looking at the width of the confidence intervals, which get narrower as the size of the cohort increases in most cases. Forest plot 1 demonstrates that the majority of the final matched group sizes have been less than 500 and have therefore been presented with quite large confidence intervals. Looking at forest plot 1 we can see that over half of the requests had a confidence interval that crosses the y-axis (i.e the estimate of impact crosses 0); meaning that at this stage these requests are said to be an inconclusive result.

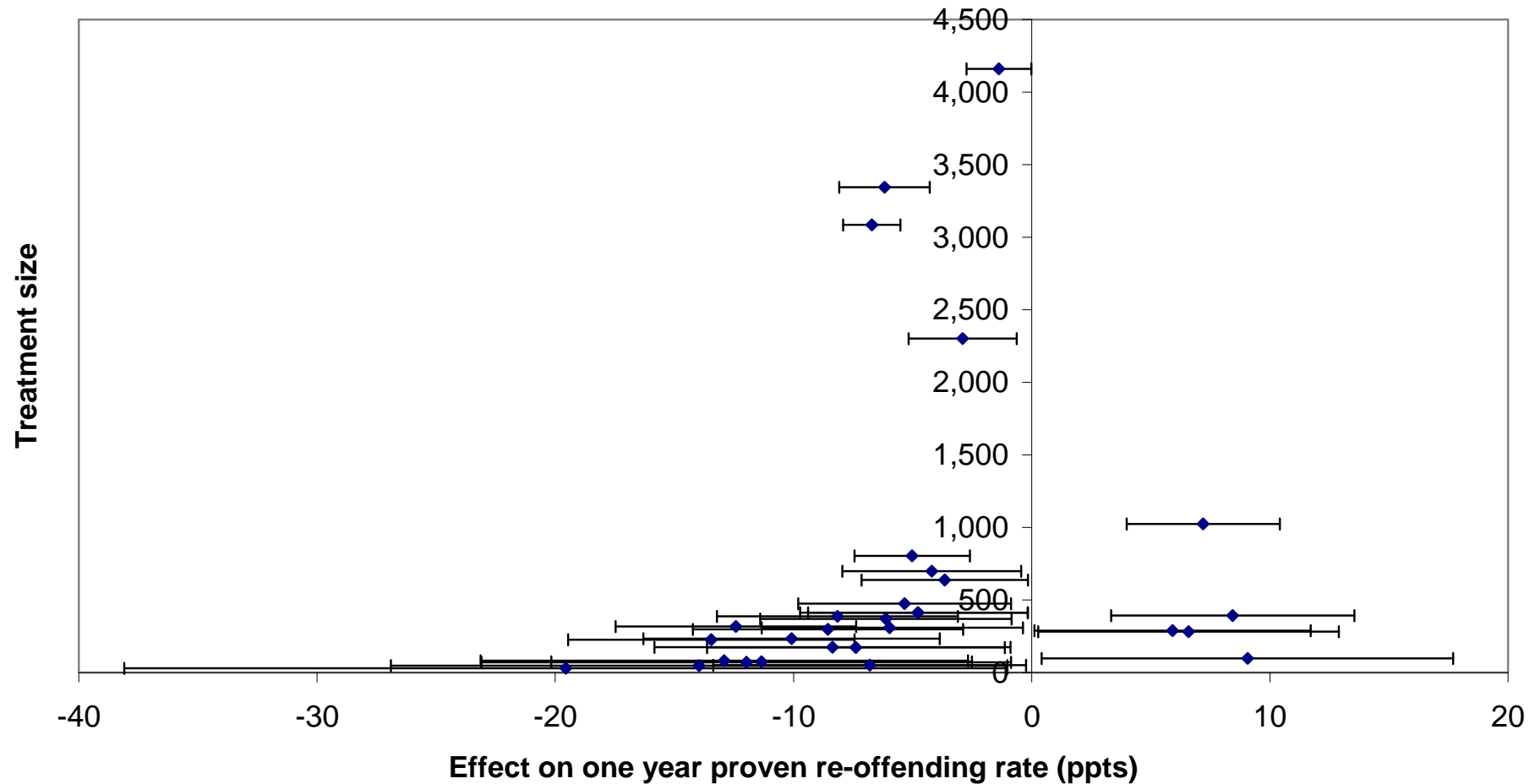
Forest plot 2 shows the same information but for 25 requests published previously, which have indicated a statistically significant reduction in re-offending and 5 requests that have indicated a statistically significant increase in re-offending. These totals for statistically significant findings are slightly different to all requests published, because we have excluded the NOMS CFO 2011 analyses where a regional control group was used. These findings were almost identical to analyses using a national control group (which are included in the forest plots), so the same information would be displayed graphically.

Forest plot 1: Effect on the one year proven re-offending rate (shown in percentage points (ppts)) against treatment size (all requests published to date)². Estimates of impact on the left hand side of the forest plot indicate the treatment group has a lower re-offending rate than the matched control group, whereas estimates on the right hand side of the forest plot indicate the treatment group has a higher re-offending rate than the matched control group.



² This forest plot excludes the NOMS CFO 2011 analyses where a regional control group was used.

Forest plot 2: Effect on the one year proven re-offending rate (shown in percentage points (ppts)) against treatment size (all statistically significant requests published to date)³. Estimates of impact on the left hand side of the forest plot indicate the treatment group has a lower re-offending rate than the matched control group, whereas estimates on the right hand side of the forest plot indicate the treatment group has a higher re-offending rate than the matched control group.



³ This forest plot excludes the NOMS CFO 2011 analyses where a regional control group was used.

Contact points for further information

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For further guidance about the Justice Data Lab, and how to access the service, please refer to the guidance which can be found at the following link:

www.justice.gov.uk/justice-data-lab

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