

**Local Adult Reoffending
1 July 2009 –
30 June 2010
England and Wales**

Ministry of Justice
Statistics bulletin

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Local Adult Reoffending

Introduction

Local adult reoffending data has been developed to provide more timely performance data on trends in reoffending, and to provide insight into reoffending at the regional and local levels.

The key uses of this data are to help local practitioners understand progress in reducing reoffending and to provide key outcome data to assist in assessing probation trust performance.

This bulletin contains reoffending data at the following geographic levels:

- England and Wales as a whole
- Regions within England and Wales
- Probation Trusts
- Local Authorities¹.

It covers reoffending in the period 1 July 2009 to 30 June 2010.

These statistics are published on a quarterly basis, and are available via the Ministry of Justice website:

<http://www.justice.gov.uk/publications//local-adult-reoffending.htm>

The reoffending data in this bulletin are based on a different methodology and timescale to the annual National Statistics on adult reoffending:

www.justice.gov.uk/publications/reoffendingofadults.htm

Appendix B gives details and reasons for the main differences in the measures.

¹ “Local authorities” in this report, are unitary authorities in single-tier areas, or upper tier authorities (e.g. county councils) in two-tier areas.

Local Adult Reoffending

Key points

All statements on increases or decreases in reoffending rates in this section refer to rates that have been adjusted to control for changes in the characteristics of offenders on the probation caseload². The latest reoffending results are compared to the rate in 2007/08 which is hereafter referred to as the baseline. The 2007/08 results covered reoffending between 1 April 2007 to 31 March 2008 and are the earliest published data on this measure.

- The three month reoffending rate of all offenders on the probation caseload in England and Wales who were at risk of reoffending during the period 1 July 2009 to 30 June 2010 was 9.70 per cent. This was a statistically significant decrease of 2.60 per cent compared to the 2007/08 baseline.
- The East of England Region had a statistically significant increase in reoffending compared to the baseline. Three Regions had a statistically significant reduction in reoffending (North East, West Midlands and Yorkshire & Humberside)³.
- Five Probation Trusts⁴ had a statistically significant increase in reoffending, whilst eight Probation Trusts showed a statistically significant reduction in reoffending.
- Nine local authorities had a statistically significant increase in reoffending, whilst twenty eight⁵ local authorities showed a statistically significant reduction in reoffending.
- Reoffending by offenders on licence following a custodial sentence showed a statistically significant increase of 3.75 per cent compared to the baseline, although this was an improvement on the previous quarter. The actual rate of reoffending remained lower than for

² See Appendix C for more information on the predicted rate, what variables we control for and why it is important to control for changes in offender characteristics.

³ Changes in reoffending performance are only reported where the changes are statistically significant (i.e. we are 95 per cent confident that the change is a real one, and not due to random volatility in the datasets).

⁴ The last three months of reoffending that this report covers is the first three months since the formation of Probation Trusts. Most Trusts are equivalent to the old Probation Areas, however some Areas have merged, resulting in a total of 35 Trusts (previously there were 42 Probation Areas). This publication and all future local reoffending publications will no longer report on the old Probation Areas.

⁵ This includes the Isles of Scilly and the City of London, both of whose reoffending rate is based on a very small cohort size.

offenders on court orders under probation supervision (8.01 per cent compared to 10.10 per cent).

- Reoffending by offenders serving a court order showed a statistically significant reduction of 3.70 per cent compared to the baseline.
- The unadjusted rate of reoffending for offenders on the probation caseload in the period 1 July 2009 to 30 June 2010 was 0.12 percentage points lower than reoffending in the baseline period 1 April 2007 to 31 March 2008, and 0.01⁶ percentage points lower than reoffending in the previous quarter (1 April 2009 to 31 March 2010).

Results for all regions, Probation Trusts and local authorities are available in Appendix A.

⁶ This may not match with the difference that can be calculated from Table 1 in Appendix A because the numbers in Table 1 are rounded to two decimal points.

Trends in reoffending by area

The reoffending of individual areas over time has been tracked to assess whether any areas have seen clear trends in reoffending rates since the start of the series in the 2007/08 baseline. This analysis focuses on areas where reoffending has been significantly higher or lower than predicted over four or more consecutive periods.

Reductions in reoffending

At the regional level, North East, West Midlands and Yorkshire & Humberside have had reoffending rates which were consistently lower than predicted over the four most recent periods.

Within the North East region, Durham Tees Valley Probation Trust had reoffending rates which were consistently lower than predicted.

Within the West Midlands region, Staffordshire and West Midlands Probation Trust and both Birmingham and Staffordshire local authorities have had reoffending rates which were consistently lower than predicted.

For the Yorkshire and Humberside region, South Yorkshire and West Yorkshire Probation Trusts and the Barnsley, Bradford, Leeds and Sheffield local authorities have experienced reoffending rates which are also consistently lower than predicted.

Greater Manchester and Nottinghamshire Probation Trusts have had four consecutive quarters of consistently lower than predicted reoffending rates, and within Nottinghamshire Probation Trust Nottingham and Nottinghamshire local authorities has also had consistently lower than predicted rates.

Southwark, Caerphilly and Isles of Scilly⁷ local authority areas have also had reoffending rates which are consistently lower than predicted.

Increases in reoffending

The East of England region has seen rates of reoffending which were significantly higher than predicted over the four most recent periods.

Within the East of England region, Hertfordshire Probation Trust and Hertfordshire and Suffolk local authorities have seen rates of reoffending which were significantly higher than predicted over the four most recent periods.

Kent Probation Trust and Kent local authority have experienced reoffending rates which are consistently higher than predicted.

Wirral local authority has also had reoffending rates that have been consistently higher than predicted.

⁷ Isles of Scilly results are based on very small numbers and are included for completeness.

Trends since 2007/08

Chart 1 shows the proportion of Probation Trusts that have seen increases/decreases/no significant change over each of the nine quarters since the baseline. For the most recent quarter about fourteen per cent of trusts show an increase and twenty three per cent show a decrease. Note that these percentages should not be directly compared to those in previous reports as they were based on the former forty two Probation Areas.

Chart 1: Proportion of Probation Trusts with increases/decreases/no change in reoffending, July 2007 – June 2010

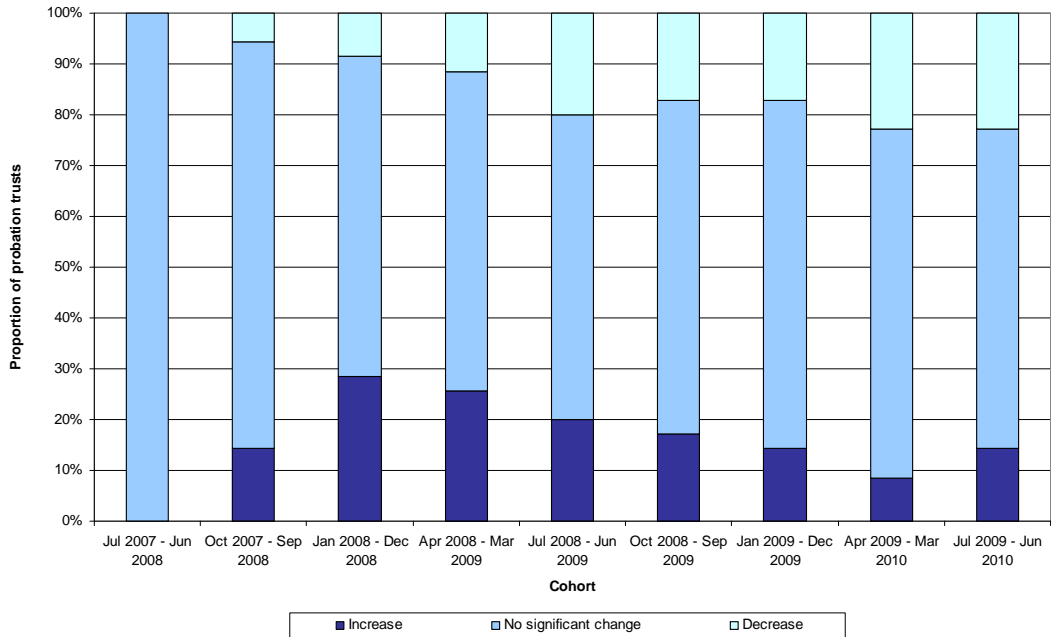
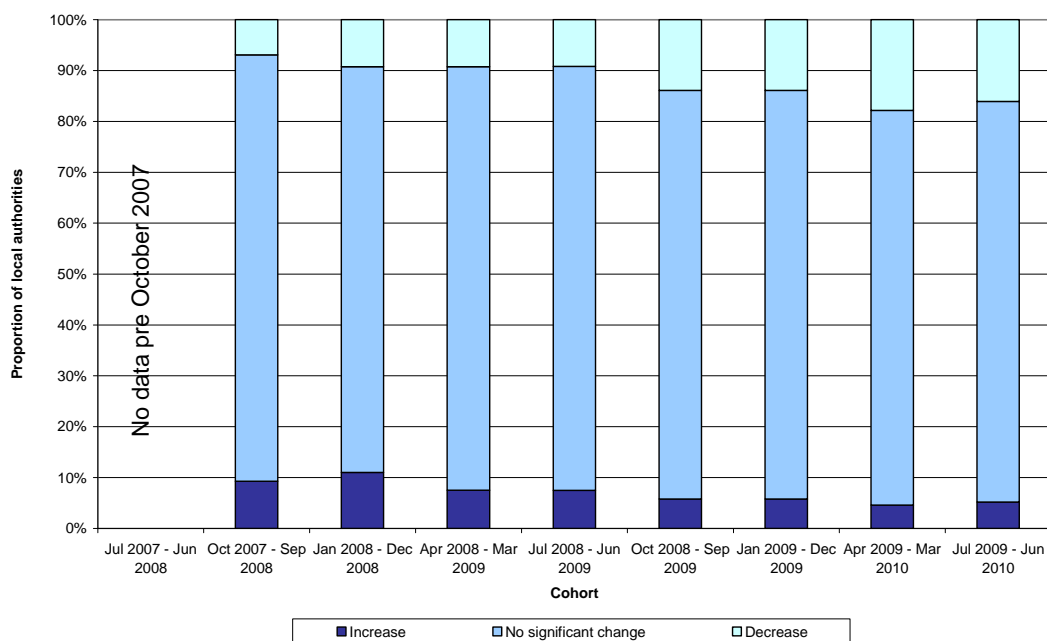


Chart 2 presents the same information for local authorities⁸. For the most recent quarter the proportion showing an increase was about five per cent and the proportion showing a decrease about sixteen per cent.

Chart 2: Proportion of local authorities with increases/decreases/no change in reoffending, October 2007 – June 2010



Comparing reoffending rates between areas

Comparing changes in the actual rates of reoffending between areas does not ensure a like for like comparison as the mix of offenders being dealt with may vary across areas and over time.

In comparing reductions in reoffending between areas, it is important that comparisons are made on the basis of the reduction in reoffending after controlling for changes in the characteristics of offenders on the caseload and taking into account the size of the caseload in each area⁹.

⁸ Data for periods prior to October 2007 cannot be broken down to the local authority level.

⁹ Column titled '% difference from baseline' in data tables in Appendix A.

Future reports

This is the eighth of a series of quarterly reports which monitors local adult reoffending. The previous report was published on 17 August 2010.

This measure is based on combining four quarters of data to give a rolling four quarter report. Each quarter, the latest quarter of data is added, and the oldest removed.

This report covers reoffending in the period 1 July 2009 to 30 June 2010. These results are compared to the baseline which covered reoffending in the period 1 April 2007 to 31 March 2008.

The next report will be published on 22 February 2011 and will cover reoffending in the period 1 October 2009 to 30 September 2010.

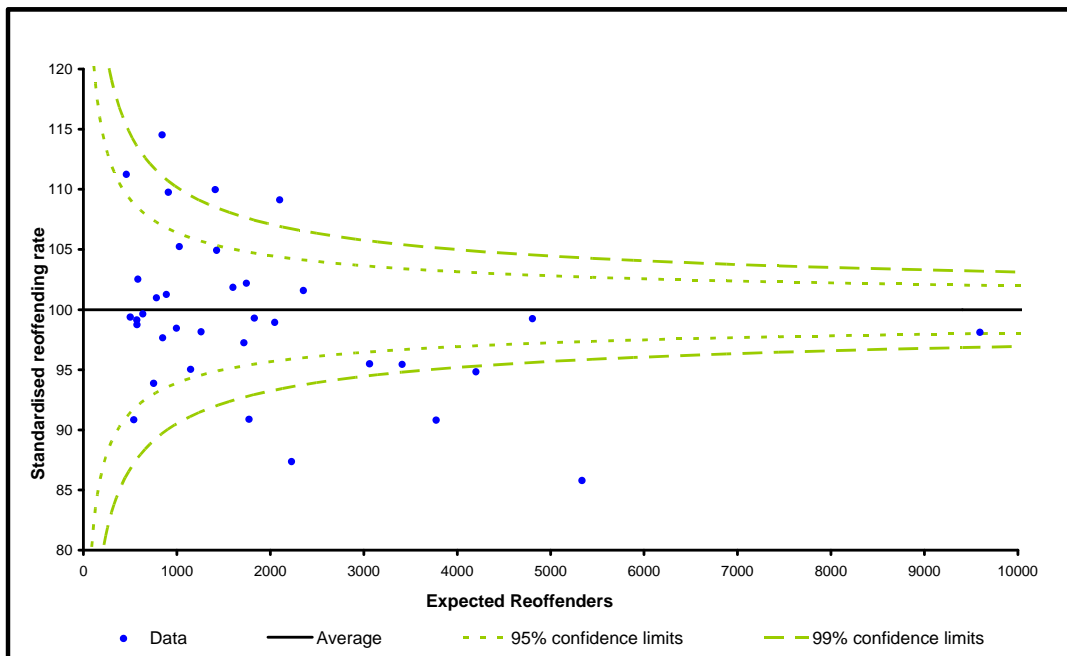
Reoffending rates by Probation Trust

Changes in reoffending from the baseline can be illustrated by use of a funnel plot¹⁰.

The funnel plot below shows, for all Probation Trusts, how many had shown a statistically significant increase in the rate of reoffending (data points above the “funnels”) and how many had shown a statistically significant reduction in the rate of reoffending (data points below the “funnels”).

Statistical significance in this report has been assessed at the 95 per cent level.

Figure A – Changes in reoffending at the Probation Trust level



There are five trusts showing a statistically significant increase in reoffending since the baseline, and eight trusts showing a statistically significant reduction.

¹⁰ See Appendix C for more detail on funnel plots, statistical significance and the predicted rate.

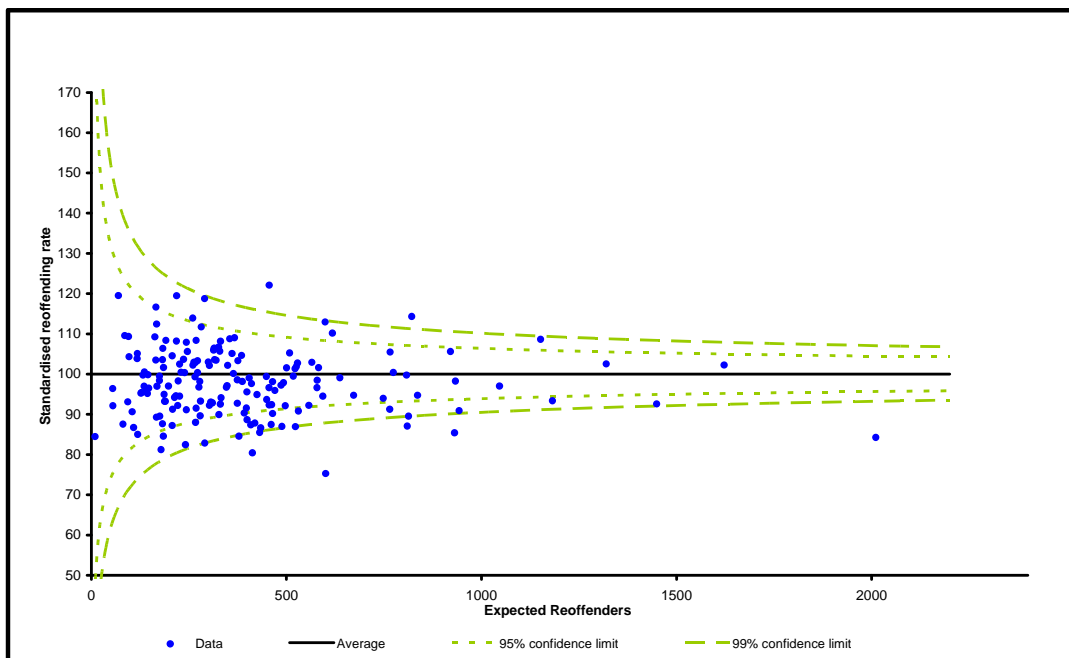
Reoffending by Local Authority Area

Changes in reoffending from the baseline can be illustrated by use of a funnel plot¹¹.

The funnel plot below shows, for all local authority areas, how many areas had shown a statistically significant increase in the rate of reoffending (data points above the “funnels”) and how many had shown a statistically significant reduction in the rate of reoffending (data points below the “funnels”).

Statistical significance in this report has been assessed at the 95 per cent level.

Figure B – Changes in reoffending at the local authority level



There are nine local authorities showing a statistically significant increase in reoffending since the baseline, and twenty eight local authorities showing a statistically significant reduction¹².

¹¹ See appendix C for more detail on funnel plots, statistical significance and the predicted rate.

¹² The twenty eight local authorities showing a significant decrease since the baseline includes the Isles of Scilly and the City of London, both of whose reoffending rate is based on a very small cohort size. The chart only has twenty six data points showing a statistically significant decrease. This is because the standardised reoffending rate for the Isles of Scilly and the City of London was below the scale of the graph.

Explanatory notes

Which offenders are included in the analysis?

The local adult reoffending measure takes a snapshot of every offender, aged 18 or over, who is under probation supervision at the end of a quarter, and combines four such snapshots together.

This means that the measure includes offenders who have been under supervision in the community (either on licence after release from custody or on a court order) for a range of time from one day to a number of years. However, the measure does not include offenders aged 22 or over who have been released from a custodial sentence of less than one year (as they do not receive probation supervision on release).

This also means that some offenders will be included in the sample more than once by combining four snapshots, as offenders can remain under probation supervision for a number of quarters.

Why are the results being compared to 2007/08 results (the baseline)?

The 2007/08 results were used to build the predictive rate model, which allow comparisons to be made across time, controlling for changes in the mix of offenders in the caseload. The 2007/08 results are also the first available for this measure. For more information on the predictive rate model please see Appendix C.

Methodology for measuring reoffending

The local adult measure counts the proportion of offenders who reoffend in a three month period, and compares this to the proportion expected to reoffend given their characteristics. The results of four snapshots are then combined to form a rolling four quarter average. Each quarterly update will include the latest available quarter, and remove the oldest quarter.

What counts as a reoffence?

The local measure allows three months from each snapshot for reoffending to occur (with a further three months for offences to be proved by court conviction or caution).

The measure includes recordable offences, as entered on the Police National Computer (PNC), which are proven by either court convictions or cautions.

The predicted rate

The predicted rate is the proportion of offenders we would expect to reoffend given the known characteristics of the offenders in the snapshot and reoffending rates in the baseline period. More detail on the predicted rate, and the statistical model used to calculate it, is provided in Appendix C.

Assigning offenders to Probation Trusts and local authorities

Offenders are assigned to a Probation Trust based on where they are recorded on each Trust's Caseload Management System. In a small number of cases (less than 1 per cent), offenders cannot be assigned to a Probation Trust as they are recorded under more than one Probation Trust at the end of a quarter. They are therefore classified as having an unknown Probation Trust, and only counted towards the England and Wales level data.

Offenders postcode information is used to assign them to a local authority (98-99 per cent of offenders can be assigned to a local authority). Those offenders that do not have any relevant address information are not matched to a local authority and are included under the heading of unknown local authority (shown at the end of table 4).

A small proportion of offenders (roughly 1 per cent) have a postcode that is in a local authority area outside the Probation Trust which supervises them.

Probation Trusts

On 1 April 2010, 29 new Probation Trusts were established following a rigorous formal application process, resulting in all 42 former Probation Boards having been replaced by 35 Probation Trusts¹³.

As part of these changes, a number of former Probation Boards were involved in mergers to become Probation Trusts. This publication is the first to present data on the Probation Trust boundaries as it covers a reporting period (1 July 2009 to 30 June 2010) which was partly after the mergers came into effect.

For more information on the move from Probation Boards to Probation Trusts please see http://www.opsi.gov.uk/si/si2010/uksi_20100195_en_1

Differences to the National Statistics on adult reoffending, and other local measures of offending

This measure of local adult reoffending has been developed primarily as a more timely source of data on reoffending, and to provide information at the regional and local level.

As such, this measure is substantially different to the National Statistics approach. This reflects changes needed for more rapid reporting and to enable statistically robust analysis at the lower levels of disaggregation.

¹³ The first six Probation Trusts were established from 1 April 2008 and a further two were established from 1 April 2009 under powers of the Offender Management Act 2007.

These differences, and differences to other local measures of offending are covered in detail in Appendix B.

Data sources and quality

The data presented in this bulletin are drawn from Probation Caseload Management systems and the Ministry of Justice extract of the PNC. Although care is taken when processing and analysing the returns, the detail collected is subject to the inaccuracies inherent in any large-scale recording system. While the figures shown have been checked as far as practicable, they should be regarded as approximate and therefore have been rounded to two decimal places.

This bulletin covers all offenders who are on the probation caseload and are at risk of reoffending. Offenders who are recorded as being in custody at the end of each quarter are excluded from the analysis. However, offenders who have entered custody during this three month follow up period cannot be identified in the dataset, and are therefore included in these figures.

Revisions policy

The local adult reoffending results are not subject to routine revisions.

Whilst the Police National Computer is a live system and the Ministry of Justice extract is updated on a weekly basis, the local adult reoffending results are produced using snapshots of this database at the end of each quarter. We do not, therefore, update the results to reflect later updates to the database.

Revisions will only be made in the case of methodological change (on which we would consult in advance) or errors in the dataset (which will be corrected at the first available opportunity). In both cases, any revisions would be clearly explained in the report and accompanying tables showing the old and revised data would be included.

Contact points for further information

Current and previous editions of this publication are available for download at www.justice.gov.uk/publications//local-adult-reoffending.htm. Spreadsheet files of the tables contained in this document are also available for download from this address.

Reports are published on a quarterly basis. The next report will cover reoffending in the period 1 July 2009 to 30 June 2010 and will be published on 22 February 2011.

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

Tel: 020 3334 3523

Email: pressofficenewsdesk@justice.gsi.gov.uk

Other enquiries about these statistics should be directed to:

Ministry of Justice
Offender Management and Sentencing – Analytical Services
Reoffending and Criminal Careers
Floor 7/B
102 Petty France
London
SW1H 9AJ

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 UK is available from www.statistics.gov.uk.

Appendix A – Main results

Table 1: Reoffending rates, all offenders on the probation caseload in England and Wales^{14,15}

Reoffending period covered	Cohort size (combining four quarters of probation caseload data)	Actual rate of reoffending	Predicted rate of reoffending	% difference from baseline
April 1 2007 to March 31 2008 (baseline period)	685873	9.82%	9.82%	0.00%
July 1 2007 to June 30 2008	690049	9.84%	9.81%	0.31%
October 1 2007 to September 30 2008	692330	9.88%	9.83%	0.56%
January 1 2008 to December 31 2008	691588	9.95%	9.86%	0.91%
April 1 2008 to March 31 2009	691638	9.98%	9.92%	0.57%
July 1 2008 to June 30 2009	691517	9.93%	9.98%	-0.52%
October 1 2008 to September 30 2009	690994	9.87%	10.02%	-1.46%
January 1 2009 to December 31 2009	691261	9.82%	10.02%	-2.03%
April 1 2009 to March 31 2010	688616	9.71%	10.00%	-2.88%
July 1 2009 to June 30 2010	683540	9.70%	9.96%	-2.60%

¹⁴ The number of offenders is the sum of the number of offenders from the four snapshots who could be matched to PNC. Therefore many offenders will be included more than once. For the purposes of measuring reoffending, however, they are considered separately for each snapshot in which they are included. This number is not the number of offenders on the probation caseload at a point in time, as it reflects the aggregation of four quarters of data.

¹⁵ Data in bold illustrates that the change in reoffending from the baseline is statistically significant.

Table 2: Reoffending rates – all offenders on licence under probation supervision, England and Wales^{16,17}

Reoffending period covered	Cohort size (combining four quarters of probation caseload data)	Actual rate of reoffending	Predicted rate of reoffending	% difference from baseline
April 1 2007 to March 31 2008 <i>(baseline period)</i>	102721	8.22%	8.22%	0.00%
July 1 2007 to June 30 2008	106840	8.37%	8.24%	1.51%
October 1 2007 to September 30 2008	111402	8.63%	8.28%	4.24%
January 1 2008 to December 31 2008	114614	8.69%	8.24%	5.45%
April 1 2008 to March 31 2009	118112	8.78%	8.24%	6.50%
July 1 2008 to June 30 2009	120290	8.67%	8.16%	6.18%
October 1 2008 to September 30 2009	122255	8.44%	8.06%	4.71%
January 1 2009 to December 31 2009	125000	8.31%	7.95%	4.60%
April 1 2009 to March 31 2010	127724	8.15%	7.84%	4.07%
July 1 2009 to June 30 2010	130074	8.01%	7.72%	3.75%

¹⁶ The number of offenders is the sum of the number of offenders from the four snapshots who could be matched to PNC. Therefore many offenders will be included more than once. For the purposes of measuring reoffending, however, they are considered separately for each snapshot in which they are included. This number is not the number of offenders on the probation caseload at a point in time, as it reflects the aggregation of four quarters of data.

¹⁷ Data in bold illustrates that the change in reoffending from the baseline is statistically significant.

Table 3: Reoffending rates – all offenders on court orders under probation supervision, England and Wales^{18,19}

Reoffending period covered	Cohort size (combining four quarters of probation caseload data)	Actual rate of reoffending	Predicted rate of reoffending	% difference from baseline
April 1 2007 to March 31 2008 (baseline period)	583152	10.10%	10.10%	0.00%
July 1 2007 to June 30 2008	583209	10.11%	10.10%	0.14%
October 1 2007 to September 30 2008	580928	10.12%	10.12%	-0.02%
January 1 2008 to December 31 2008	576974	10.20%	10.18%	0.18%
April 1 2008 to March 31 2009	573526	10.23%	10.27%	-0.41%
July 1 2008 to June 30 2009	571227	10.19%	10.36%	-1.64%
October 1 2008 to September 30 2009	568739	10.18%	10.44%	-2.49%
January 1 2009 to December 31 2009	566261	10.15%	10.48%	-3.14%
April 1 2009 to March 31 2010	560892	10.07%	10.50%	-4.07%
July 1 2009 to June 30 2010	553466	10.10%	10.49%	-3.70%

¹⁸ The number of offenders is the sum of the number of offenders from the four snapshots who could be matched to PNC. Therefore many offenders will be included more than once. For the purposes of measuring reoffending, however, they are considered separately for each snapshot in which they are included. This number is not the number of offenders on the probation caseload at a point in time, as it reflects the aggregation of four quarters of data.

¹⁹ Data in bold illustrates that the change in reoffending from the baseline is statistically significant.

Detailed tables

Hypothetical examples to illustrate how reoffending rates relate to numbers of reoffenders

For an area with a caseload of 10,000 offenders:

A 10 per cent reoffending rate means that 1,000 offenders (out of the 10,000) reoffended.

An 11 per cent reoffending rate means that 1,100 offenders (out of the 10,000) reoffended.

An increase from the baseline of 10 per cent (assuming predicted rate of 10 per cent, and actual rate of 11 per cent) for a caseload of 10,000 would mean that there were 100 reoffenders more than was predicted.

For an area with a caseload of 5000 offenders:

A 10 per cent reoffending rate means that 500 offenders (out of the 5,000) reoffended.

A 9.5 per cent reoffending rate means that 475 offenders (out of the 5,000) reoffended.

A decrease from the baseline of 5 per cent (assuming predicted rate of 10 per cent, and actual rate of 9.5 per cent) for a caseload of 5000 would mean that there were 25 reoffenders fewer than predicted.

Table 4: Local adult reoffending rates for 1 July 2009 to 30 June 2010, at the Regional, Probation Trust and local authority level of disaggregation

Where data in the ‘% difference from baseline’ column is in bold, this indicates that the change is statistically significant at the 95 per cent level.

Data in this table has been formatted so that regional data is left aligned, Probation Trust data centre aligned, and local authority data right aligned in each cell to assist users in viewing the data (this data is also available in excel format and is available from <http://www.justice.gov.uk/publications/local-adult-reoffending.htm>).

Region	Probation Trust	Local Authority	Cohort size (combining four quarters of probation caseload data) ²⁵	Actual rate of reoffending	Predicted rate of reoffending	% difference from baseline (2007/08 results) ²⁶
East Midlands			50771	9.20%	9.36%	-1.69%
	Derbyshire		11669	8.55%	7.79%	9.76%
		Derby	3815	8.10%	7.86%	2.99%
		Derbyshire	7773	8.71%	7.71%	12.94%
	Leicestershire		10493	7.90%	8.09%	-2.34%
		Leicester	5551	8.21%	8.37%	-1.87%
		Leicestershire	4758	7.76%	7.87%	-1.46%
		Rutland	181	4.42%	5.23%	-15.53%

Local Adult Reoffending – 1 July 2009 – 30 June 2010

Region	Probation Trust	Local Authority	Cohort size (combining four quarters of probation caseload data) ²⁵	Actual rate of reoffending	Predicted rate of reoffending	% difference from baseline (2007/08 results) ²⁶
	Lincolnshire		6148	9.74%	9.50%	2.53%
		Lincolnshire	6144	9.64%	9.48%	1.59%
	Northamptonshire		7619	8.32%	8.35%	-0.37%
		Northamptonshire	7623	8.28%	8.35%	-0.93%
	Nottinghamshire		14842	10.85%	11.94%	-9.11%
		Nottingham	6640	10.96%	12.25%	-10.47%
		Nottinghamshire	8083	10.60%	11.67%	-9.11%
East of England			61210	9.27%	8.97%	3.42%
	Bedfordshire		6258	7.97%	8.02%	-0.63%
		Bedford ²⁰	1972	8.67%	8.38%	3.49%
		Central ²⁰ Bedfordshire	1573	6.74%	7.43%	-9.35%
		Luton	2806	8.23%	8.19%	0.46%

²⁰ Formerly Bedford and Central Bedfordshire were both part of Bedfordshire Local Authority.

Local Adult Reoffending – 1 July 2009 – 30 June 2010

Region	Probation Trust	Local Authority	Cohort size (combining four quarters of probation caseload data) ²⁵	Actual rate of reoffending	Predicted rate of reoffending	% difference from baseline (2007/08 results) ²⁶
	Cambridgeshire and Peterborough		8879	10.13%	10.00%	1.26%
		Cambridgeshire	5503	9.61%	9.49%	1.34%
		Peterborough	3253	10.30%	10.65%	-3.28%
	Essex		21207	8.57%	8.63%	-0.72%
		Essex	15542	8.71%	8.49%	2.51%
		Southend-on-Sea	2914	8.44%	9.22%	-8.48%
		Thurrock	2470	8.26%	8.96%	-7.85%
	Hertfordshire		10604	9.10%	7.95%	14.52%
		Hertfordshire	10252	9.16%	8.01%	14.32%
	Norfolk and Suffolk		14262	10.50%	10.00%	4.93%
		Norfolk	7667	10.51%	10.54%	-0.26%
		Suffolk	6517	10.45%	9.48%	10.19%
London			110083	8.55%	8.72%	-1.89%

Region	Probation Trust	Local Authority	Cohort size (combining four quarters of probation caseload data) ²⁵	Actual rate of reoffending	Predicted rate of reoffending	% difference from baseline (2007/08 results) ²⁶
		Barking and Dagenham	3033	8.24%	9.20%	-10.38%
		Barnet	2983	7.78%	7.59%	2.48%
		Bexley	2384	7.89%	7.76%	1.65%
		Brent	4033	8.63%	8.09%	6.72%
		Bromley	3232	8.17%	8.22%	-0.69%
		Camden	2581	10.89%	10.54%	3.31%
		<i>City of London</i> ²¹	44	2.27%	9.99%	-77.25%
		Croydon	5718	9.36%	8.89%	5.26%
		Ealing	4150	8.00%	7.55%	5.95%
		Enfield	3867	7.21%	7.82%	-7.78%
		Greenwich	4455	8.26%	9.41%	-12.20%

²¹ Data for the City of London is based on only 44 offenders and has only been included for completeness in covering all Local Area Agreements. Any changes between actual and predicted should be treated with caution.

Local Adult Reoffending – 1 July 2009 – 30 June 2010

Region	Probation Trust	Local Authority	Cohort size (combining four quarters of probation caseload data) ²⁵	Actual rate of reoffending	Predicted rate of reoffending	% difference from baseline (2007/08 results) ²⁶
		Hackney	4511	7.85%	8.85%	-11.33%
		Hammersmith and Fulham	2752	10.57%	9.76%	8.39%
		Haringey	4593	8.30%	8.68%	-4.43%
		Harrow	1880	7.55%	7.83%	-3.53%
		Havering	2229	7.00%	8.28%	-15.43%
		Hillingdon	3018	7.95%	7.92%	0.36%
		Hounslow	3490	9.60%	9.02%	6.43%
		Islington	3402	10.52%	9.73%	8.17%
		Kensington and Chelsea	1395	9.82%	9.77%	0.52%
		Kingston upon Thames	1127	8.43%	9.30%	-9.37%
		Lambeth	5633	8.13%	8.83%	-7.88%
		Lewisham	5635	8.55%	8.74%	-2.13%
		Merton	1971	8.27%	8.53%	-3.04%
		Newham	5751	8.83%	8.70%	1.55%

Local Adult Reoffending – 1 July 2009 – 30 June 2010

Region	Probation Trust	Local Authority	Cohort size (combining four quarters of probation caseload data) ²⁵	Actual rate of reoffending	Predicted rate of reoffending	% difference from baseline (2007/08 results) ²⁶
		Redbridge	2921	8.39%	8.09%	3.67%
		Richmond upon Thames	1142	9.11%	8.33%	9.32%
		Southwark	5298	7.61%	8.70%	-12.55%
		Sutton	2048	7.81%	8.91%	-12.35%
		Tower Hamlets	4206	9.53%	9.63%	-0.95%
		Waltham Forest	3647	7.81%	8.40%	-6.96%
		Wandsworth	3098	8.42%	9.03%	-6.73%
		Westminster	1951	9.07%	9.73%	-6.76%
North East			43165	14.32%	15.00%	-4.53%
	Durham Tees Valley		20706	14.13%	14.79%	-4.51%
		Darlington	1927	14.22%	13.82%	2.88%
		Durham	6638	11.93%	12.59%	-5.26%
		Hartlepool	2098	19.21%	18.36%	4.64%
		Middlesbrough	3973	16.03%	16.92%	-5.26%

Local Adult Reoffending – 1 July 2009 – 30 June 2010

Region	Probation Trust	Local Authority	Cohort size (combining four quarters of probation caseload data) ²⁵	Actual rate of reoffending	Predicted rate of reoffending	% difference from baseline (2007/08 results) ²⁶
		Redcar and Cleveland	2739	13.29%	14.51%	-8.44%
		Stockton-on-Tees	3247	13.09%	15.05%	-13.04%
	Northumbria		22459	14.50%	15.19%	-4.55%
		Gateshead	3402	13.26%	13.82%	-4.11%
		Newcastle-upon- Tyne	5475	16.75%	17.05%	-1.74%
		North Tyneside	2898	14.53%	15.74%	-7.71%
		Northumberland	3461	10.86%	12.54%	-13.38%
		South Tyneside	2282	13.41%	14.50%	-7.50%
		Sunderland	4899	15.86%	15.80%	0.40%
North West			104344	9.92%	9.97%	-0.48%
	Cheshire		11150	8.80%	8.94%	-1.55%
		Cheshire East	3111	7.55%	8.58%	-12.01%

Local Adult Reoffending – 1 July 2009 – 30 June 2010

Region	Probation Trust	Local Authority	Cohort size (combining four quarters of probation caseload data) ²⁵	Actual rate of reoffending	Predicted rate of reoffending	% difference from baseline (2007/08 results) ²⁶
		Cheshire West and Chester	3785	8.93%	9.20%	-2.90%
		Halton	1976	9.77%	8.37%	16.66%
		Warrington	2342	9.35%	9.52%	-1.73%
	Cumbria		6058	11.65%	12.41%	-6.13%
		Cumbria	6028	11.66%	12.41%	-6.03%
	Greater Manchester		42577	9.36%	9.87%	-5.17%
		Bolton	3961	10.12%	10.37%	-2.37%
		Bury	2751	8.07%	8.86%	-8.90%
		Manchester	11360	9.71%	10.40%	-6.66%
		Oldham	3415	8.61%	9.58%	-10.09%
		Rochdale	3806	8.41%	9.94%	-15.44%
		Salford	4574	9.62%	9.95%	-3.36%
		Stockport	3104	9.95%	9.75%	2.10%

Local Adult Reoffending – 1 July 2009 – 30 June 2010

Region	Probation Trust	Local Authority	Cohort size (combining four quarters of probation caseload data) ²⁵	Actual rate of reoffending	Predicted rate of reoffending	% difference from baseline (2007/08 results) ²⁶
		Tameside	3123	10.60%	10.25%	3.43%
		Trafford	2317	8.20%	8.99%	-8.74%
		Wigan	3982	8.97%	8.78%	2.17%
	Lancashire		21427	11.16%	10.99%	1.58%
		Blackburn with Darwen	3001	10.90%	10.52%	3.58%
		Blackpool	3953	10.19%	10.74%	-5.10%
		Lancashire	14543	11.40%	11.15%	2.24%
	Merseyside		23132	9.91%	9.08%	9.12%
		Knowsley	2616	9.02%	8.34%	8.20%
		Liverpool	10072	9.65%	9.14%	5.58%
		St Helens	2573	10.22%	9.48%	7.88%
		Sefton	3007	9.01%	8.75%	2.96%
		Wirral	4776	11.66%	9.55%	22.10%
South East			74196	9.48%	9.33%	1.58%

Local Adult Reoffending – 1 July 2009 – 30 June 2010

Region	Probation Trust	Local Authority	Cohort size (combining four quarters of probation caseload data) ²⁵	Actual rate of reoffending	Predicted rate of reoffending	% difference from baseline (2007/08 results) ²⁶
	Hampshire		19353	10.47%	10.58%	-1.07%
		Hampshire	10476	9.69%	9.98%	-2.96%
		Isle of Wight	1604	11.72%	10.43%	12.41%
		Portsmouth	2782	13.87%	12.76%	8.78%
		Southampton	4316	9.89%	10.71%	-7.62%
	Kent		16224	9.57%	8.70%	9.97%
		Kent	13288	9.41%	8.67%	8.64%
		Medway	2880	10.28%	9.02%	13.93%
	Surrey and Sussex		20081	8.87%	8.68%	2.19%
		Brighton and Hove	3195	8.54%	8.71%	-1.86%
		East Sussex	4410	8.80%	8.51%	3.33%
		Surrey	6373	9.13%	8.87%	2.93%
		West Sussex	6185	8.78%	8.55%	2.73%
	Thames Valley		18538	9.01%	9.27%	-2.77%
		Bracknell Forest	864	8.22%	9.38%	-12.43%

Local Adult Reoffending – 1 July 2009 – 30 June 2010

Region	Probation Trust	Local Authority	Cohort size (combining four quarters of probation caseload data) ²⁵	Actual rate of reoffending	Predicted rate of reoffending	% difference from baseline (2007/08 results) ²⁶
		Buckinghamshire	3295	8.10%	8.38%	-3.26%
		Milton Keynes	2568	10.12%	9.59%	5.59%
		Oxfordshire	4378	9.62%	10.27%	-6.34%
		Reading	2109	9.10%	9.39%	-3.00%
		Slough	2472	8.29%	8.77%	-5.42%
		West Berkshire	1003	10.07%	9.65%	4.32%
		Windsor and Maidenhead	1087	8.00%	8.60%	-6.90%
		Wokingham	716	7.40%	7.68%	-3.61%
South West			43817	9.94%	9.66%	2.91%
	Avon and Somerset		16232	10.05%	9.87%	1.85%
		Bath and N.E. Somerset	1361	8.89%	9.33%	-4.76%
		City of Bristol	6960	11.61%	11.01%	5.48%
		North Somerset	1966	9.00%	9.48%	-5.05%
		Somerset	3843	9.86%	9.38%	5.11%

Region	Probation Trust	Local Authority	Cohort size (combining four quarters of probation caseload data) ²⁵	Actual rate of reoffending	Predicted rate of reoffending	% difference from baseline (2007/08 results) ²⁶
		South Gloucestershire	1882	7.70%	7.72%	-0.16%
	Devon and Cornwall		11319	9.54%	9.07%	5.24%
		Cornwall	2244	7.75%	7.79%	-0.51%
		Devon	3559	9.78%	9.25%	5.67%
		<i>Isles of Scilly</i> ²²	3	0.00%	4.63%	-100.00%
		Plymouth	3890	10.28%	9.43%	9.01%
		Torbay	1333	9.23%	9.68%	-4.63%
	Dorset		5776	9.82%	9.90%	-0.86%
		Bournemouth	2546	10.72%	10.69%	0.34%
		Dorset	2083	8.40%	9.01%	-6.76%
		Poole	1206	10.28%	9.78%	5.13%

²² Data for the Isles of Scilly is based on only 3 offenders and has only been included for completeness in covering all Local Area Agreements. The actual and predicted rates have been removed as they are unreliable for interpretation due to the small number of offenders.

Local Adult Reoffending – 1 July 2009 – 30 June 2010

Region	Probation Trust	Local Authority	Cohort size (combining four quarters of probation caseload data) ²⁵	Actual rate of reoffending	Predicted rate of reoffending	% difference from baseline (2007/08 results) ²⁶
	Gloucestershire		5506	10.30%	10.43%	-1.25%
		Gloucestershire	5542	10.29%	10.44%	-1.52%
	Wiltshire		4984	10.27%	9.23%	11.25%
		Swindon	1734	10.27%	9.40%	9.26%
		Wiltshire	3118	10.10%	9.04%	11.73%
Wales			43701	10.91%	11.00%	-0.75%
		Blaenau Gwent	1051	8.94%	10.31%	-13.28%
		Bridgend	1996	10.87%	10.40%	4.55%
		Caerphilly	2441	8.15%	9.89%	-17.58%
		Cardiff	6242	11.18%	12.25%	-8.75%
		Carmarthenshire	2099	12.43%	10.41%	19.47%
		Ceredigion	643	7.93%	8.61%	-7.87%
		Conwy	1333	10.28%	10.80%	-4.85%
		Denbighshire	1327	9.87%	10.18%	-3.02%
		Flintshire	1886	7.90%	8.85%	-10.73%

Local Adult Reoffending – 1 July 2009 – 30 June 2010

Region	Probation Trust	Local Authority	Cohort size (combining four quarters of probation caseload data) ²⁵	Actual rate of reoffending	Predicted rate of reoffending	% difference from baseline (2007/08 results) ²⁶
		Gwynedd	1599	12.20%	11.46%	6.40%
		Isle of Anglesey	800	11.75%	10.72%	9.58%
		Merthyr Tydfil	1223	10.96%	11.45%	-4.29%
		Monmouthshire	629	13.20%	11.04%	19.51%
		Neath Port Talbot	1993	10.39%	9.59%	8.35%
		Newport	2846	12.83%	12.81%	0.14%
		Pembrokeshire	1161	11.37%	11.40%	-0.25%
		Powys	1113	10.96%	10.56%	3.84%
		Rhondda, Cynon, Taff	3951	9.62%	9.80%	-1.86%
		Swansea	3837	11.62%	11.69%	-0.59%
		Torfaen	1108	9.12%	10.73%	-15.01%
		The Vale of Glamorgan	1801	11.16%	11.85%	-5.79%
		Wrexham	2428	14.21%	11.96%	18.77%
West Midlands			77071	7.99%	9.11%	-12.32%

Local Adult Reoffending – 1 July 2009 – 30 June 2010

Region	Probation Trust	Local Authority	Cohort size (combining four quarters of probation caseload data) ²⁵	Actual rate of reoffending	Predicted rate of reoffending	% difference from baseline (2007/08 results) ²⁶
	Staffordshire and West Midlands		60156	7.61%	8.87%	-14.22%
		Birmingham	23061	7.35%	8.72%	-15.76%
		Coventry	5655	8.05%	9.25%	-13.05%
		Dudley	3453	8.34%	8.98%	-7.15%
		Sandwell	5163	7.15%	8.36%	-14.50%
		Solihull	2239	6.48%	7.97%	-18.78%
		Staffordshire	7580	5.96%	7.92%	-24.75%
		Stoke-on-Trent	4518	9.27%	10.28%	-9.80%
		Walsall	3850	9.19%	10.18%	-9.67%
		Wolverhampton	4135	8.39%	9.05%	-7.27%
	Warwickshire		5242	9.37%	10.31%	-9.16%
		Warwickshire	5169	9.32%	10.27%	-9.21%
	West Mercia		11673	9.35%	9.84%	-4.97%
		Herefordshire	1692	11.17%	10.78%	3.58%
		Shropshire	2160	8.38%	9.61%	-12.78%

Local Adult Reoffending – 1 July 2009 – 30 June 2010

Region	Probation Trust	Local Authority	Cohort size (combining four quarters of probation caseload data) ²⁵	Actual rate of reoffending	Predicted rate of reoffending	% difference from baseline (2007/08 results) ²⁶
		Telford and Wrekin	1911	8.22%	9.18%	-10.49%
		Worcestershire	5902	9.47%	9.80%	-3.38%
Yorkshire and Humberside			72129	10.26%	11.15%	-8.01%
	Humberside		11908	10.38%	10.58%	-1.85%
		East Riding of Yorkshire	2033	8.46%	8.60%	-1.63%
		City of Kingston upon Hull	4913	10.89%	10.69%	1.85%
		North East Lincolnshire	2680	11.68%	12.41%	-5.89%
		North Lincolnshire	2293	9.33%	9.88%	-5.50%
	York and North Yorkshire		6997	11.29%	11.18%	0.98%
		North Yorkshire	4821	10.68%	10.74%	-0.51%
		York	2089	12.73%	12.46%	2.23%
	South Yorkshire		18814	10.34%	11.84%	-12.64%

Local Adult Reoffending – 1 July 2009 – 30 June 2010

Region	Probation Trust	Local Authority	Cohort size (combining four quarters of probation caseload data) ²⁵	Actual rate of reoffending	Predicted rate of reoffending	% difference from baseline (2007/08 results) ²⁶
		Barnsley	3425	9.69%	12.05%	-19.59%
		Doncaster	4560	11.27%	12.22%	-7.78%
		Rotherham	3548	10.06%	11.52%	-12.63%
		Sheffield	7025	10.04%	11.53%	-12.93%
	West Yorkshire		34410	9.96%	10.97%	-9.19%
		Bradford	8793	9.04%	10.59%	-14.59%
		Calderdale	2761	8.73%	10.54%	-17.17%
		Kirklees	5506	10.19%	10.78%	-5.50%
		Leeds	12665	10.59%	11.44%	-7.45%
		Wakefield	4502	10.51%	10.81%	-2.77%
	Unknown Probation Trust		3053	10.06%	11.40%	-11.82%
		Unknown local authority	8230	11.08%	10.27%	7.94%

²⁵ Note that data will not exactly aggregate from the local authority level to the Probation Trust level, as there are a small (roughly 1 per cent) number of offenders who could not be assigned to a local authority as they have no postcode data. There are also a small (again roughly 1 per cent) number of offenders whose postcode is in a local authority which is not in the probation trust where they are on the caseload.

²⁶ Data in bold illustrates that the change in reoffending from the baseline is statistically significant.

Appendix B – Differences between the Local Adult reoffending rate and the annual National Statistics

There are a number of differences between the local adult reoffending measure and the annual National Statistics:

- The sample of offenders
- The measure of reoffending
- The time allowed for reoffending
- The types of sentences which mean an offence is counted.

These differences reflect the different purposes of the outputs. The National Statistics on reoffending are the headline measure of reoffending in England and Wales. The local adult measure has been developed as a more timely source of information on trends in reoffending, and to improve understanding of how progress in reducing reoffending is being made at the local level.

Which offenders are included in the analysis?

The local measure takes a snapshot of every offender under probation supervision at the end of each quarter, and combines four such snapshots together. Each quarter, the dataset moves on, with one new quarter added, and the oldest removed.

This means that the local measure considers offenders who may have been under supervision in the community (either on licence from custody or on a court order) for a range of time from one day to a number of years. However, the local measure will not include offenders aged 22 and over who have been released from a short custodial sentence (as they do not receive probation supervision).

The national measure includes every offender discharged from prison or commencing a court order under probation supervision in January to March of a year.

The national measure considers offenders from the first day of their at risk period in the community, and does include offenders released from short custodial sentences.

Main reason for difference – using the national approach would not provide large enough numbers of offenders to enable measurement at the local level.

Methodology for measuring reoffending

The local measure counts the proportion of offenders from each snapshot that is proven to reoffend in a three month period, and compares this to the proportion expected to reoffend given their characteristics.

The headline national measure (frequency of reoffending) counts the number of offences (per 100 offenders) committed in a one year period, with no comparison to expected rates. It also presents the proportion of offenders that reoffend and produces expected rates – however, these are not the headline measure.

Main reason for difference – using the national approach would not allow for fair comparisons between areas or across time (given the small numbers of offenders being measured in an area, and the lack of a predicted rate for the frequency of reoffending).

Time allowed for reoffending

The local measure allows three months (with a further three months for offences to be proved by court conviction or caution)

The national measure allows twelve months (with a further six months for offences to be proved by court conviction)

Analysis has shown that reoffending over three months is representative of reoffending over twelve months for most offences, but is not representative for more serious offences which take longer to work through the criminal justice system.

Main reason for difference – using the local measure allows for more timely data than is possible using the national method.

What counts as a reoffence?

The local measure considers offences proved by both court convictions and cautions when counting whether an offender reoffended.

The national measure considers only court convictions.

Main reason for difference – adding in cautions to the local measure allows for slightly more offences to be included. Having a higher number of reoffenders allows for more robust expected rates of reoffending – smaller numbers make this prediction more difficult.

Other local measures of offending

Drug offending – The local measure of the offending of drug-misusing offenders includes the offending of individuals identified through their contact with the criminal justice system as Class A drug misusers between 1 January and 31 March each year. These data are reported at Drug Action Team level (or Community Safety Partnership level in Wales). This indicator provides the volume of offending for the offenders in a 12 month offending period; this is compared to the predicted volume of offending.

For more information see: www.homeoffice.gov.uk/rds/pdfs10/misc0210.pdf

Prolific and Priority Offenders – The local measure on the offending of Prolific and Priority Offenders (PPO's) measures the offending of all offenders identified as PPO's at the start of a financial year. These data are reported at national, regional, police force and local authority level. This indicator provides the change in the level of offending for the specified cohort in a 12 month period.

For more information see: www.homeoffice.gov.uk/rds/pdfs10/misc0110.pdf

Appendix C – Explanation of the Predicted Rate, Statistical Significance, and Funnel Plots

Introduction to the predicted rate

The characteristics of offenders are likely to be systematically different over time, and the Criminal Justice System aims to target particular sentences to offenders most likely to benefit most from that type. It is therefore, important to note that one can neither reach firm conclusions about changes in rates over time, nor about the relative effectiveness of different sentence types, from actual reoffending rates.

The Ministry of Justice has used as a basis for this local reoffending predicted model the work done for the National Statistics on reoffending (see Appendix E in the latest adult reoffending report - www.justice.gov.uk/publications/reoffendingofadults.htm).

Predicted or expected (yes/no) rates (see Lloyd et al., 1994, for a discussion) are used to take account of some of the differences in characteristics of offenders. Accordingly they can give a more meaningful measure of the change that has occurred in the rate of reoffending than can be obtained using the actual (yes/no) rates. If the composition of the groups of offenders being compared differs significantly over a time period, so that the type of offenders in one rolling four quarter dataset is inherently more (or less) likely to reoffend, this may result in a spurious rise or fall in the actual (yes/no) rates even when there may be no 'real' difference for similar offenders over that time. Hence the actual (yes/no) rates should be compared with the expected rates using a model based on data from an earlier period (baseline). Changes in reoffending rates should be measured by comparing the actual rate with the rate that would be expected given this group of offenders.

Statistical model

The local adult reoffending statistical model is an adaption of the 2005 logistic regression model as outlined above and includes a range of offender characteristics available in the Police National Computer (PNC), such as age, gender, offence group and criminal history. However, research has shown that other factors, for which data on these samples are not available, such as drug and alcohol use, employment, accommodation and marital background are likely to be significantly related to reoffending (see, for example, May, 1999).

The logistic regression model behind the local adult reoffending predicted rate provides a probability of reoffending for each offender and identifies the statistically significant set of variables that are related to reoffending. Aggregated predicted (yes/no) rates are also only valid for terms included in the final model. Any predicted rates for groups of offenders that have a common characteristic that is not in the final model (e.g., employment status or substance misuse) can suffer from statistical biases and are, therefore, unreliable.

For the local adult reoffending model additional developments were included to ensure that the predicted rate model was more robust against changes in the number of offenders, and that interaction terms and non-linear terms were included where appropriate. The final decision for inclusion or exclusion of particular variables was heavily influenced by their statistical significance (typically $p < 0.01$). The model coefficients, their exponents and significance values can be found in table 7.

The model has been peer reviewed by an academic statistician.

Model assessment

The model is assessed by calculating the level of discrimination between the offenders that reoffended and offenders that did not. The adult logistic regression model achieved a 68.0 per cent overall discrimination level on the latest dataset (Table 6). A level of discrimination of around 70 per cent was deemed to be acceptable and the model should predict results accurately enough for the predicted rate to be used. The discrimination can also be evaluated by calculating the Area Under Curve (AUC) for the Receiver Operating Characteristic curve. Again, the value for the model was 0.77, which means a good to excellent level of discrimination (Hosmer and Lemeshow, 2000, p.162).

Table 5: Classification table for the logistic regression model comparing latest dataset prediction with observed values

		Predicted to reoffend within one year?		%
		No	Yes	
Reoffended within one year?	No	416,490	200,728	67.5%
	Yes	18,341	47,981	72.3%

Table 6 shows the assessment for the logistic regression model for the available datasets. All cohorts show a discriminative power of 68-69 per cent and an AUC for the Receiver Operating Characteristic curve of around 0.77. This means that we can be confident of the predictive power of the logistic regression model over the time period measured.

Table 6: Classification table for the logistic regression model comparing prediction with observed values, all cohorts to date

	Number of Offenders	Area Under the Curve for the ROC	Classification Table
April 1 2007 to March 31 2008	685,873	0.76	68.1%
July 1 2007 to June 30 2008	690,049	0.77	68.4%
October 1 2007 to September 30 2008	692,330	0.77	68.7%
January 1 2008 to December 31 2008	691,588	0.77	68.9%
April 1 2008 to March 31 2009	691,638	0.77	68.9%
July 1 2008 to June 30 2009	691,517	0.77	68.6%
October 1 2008 to September 30 2009	690,994	0.77	68.3%
January 1 2009 to December 31 2009	691,261	0.77	68.1%
April 1 2009 to March 31 2010	688,616	0.77	67.8%
July 1 2009 to June 30 2010	683,540	0.77	68.0%

Table 7: List of variables in the logistic regression model applied to the 2007/08 data and their respective coefficients

Variables	Logistic coefficient	Exponent of coefficient	Significance
Constant	-1.340	0.085	<0.001
Age band			
18 - 20		<i>Reference category</i>	
21 - 24	-0.555	0.574	<0.001
25 - 29	-0.883	0.414	<0.001
30 - 34	-1.065	0.345	<0.001
35 - 39	-1.079	0.340	<0.001
40 - 49	-1.267	0.282	<0.001
50+	-1.429	0.239	<0.001
Gender			
Male		<i>Reference category</i>	
Female	-0.068	0.935	<0.001
General criminal career variables			
Time on caseload (days)	0.000	1.000	0.380
Time on caseload (inverse)	0.143	1.154	<0.001
Copas rate	0.854	2.349	<0.001
Copas rate (exponential)	-0.543	0.581	<0.001
Previous offences (linear)	-0.004	0.996	<0.001
Previous offences (log)	0.147	1.159	<0.001
Previous custodial sentences (linear)	0.019	1.019	<0.001
Previous custodial sentences (log)	0.198	1.219	<0.001
One or more previous serious offences	-0.082	0.922	<0.001
Length of criminal career			
Less than 1 year		<i>Reference category</i>	
1 year	0.109	1.115	0.001
2 years	0.105	1.111	0.011
3 years	0.082	1.086	0.013
4 years	0.080	1.084	0.314
5 years	0.033	1.033	0.283
6-10 years	0.032	1.033	0.998
11-15 years	0.000	1.000	0.156
16-20 years	-0.053	0.948	0.002
21-25 years	-0.128	0.880	0.001
26-30 years	-0.147	0.863	<0.001
30+ years	-0.298	0.742	<0.001
Index offence			
Violence (non serious)		<i>Reference category</i>	
Violence (serious)	-0.464	0.629	0.004
Robbery	-0.113	0.893	<0.001
Public Order	0.131	1.140	<0.001
Sexual	-0.206	0.814	<0.001
Sexual Child	-0.608	0.545	<0.001
Domestic Burglary	0.185	1.204	<0.001
Other Burglary	0.278	1.320	<0.001
Theft	0.508	1.661	<0.001
Handling	0.193	1.213	<0.001
Fraud/Forgery	-0.116	0.890	<0.001
Absconding Bail Offence	0.258	1.294	<0.001
Taking and Driving Away	0.187	1.206	<0.001
Theft from Vehicles	0.369	1.446	0.042
Motoring Offence	0.040	1.041	<0.001
Drink Driving	-0.141	0.868	<0.001
Criminal Malicious Damage	0.172	1.188	<0.001
Drugs Import/Export/Supply	-0.237	0.789	0.305
Drugs possession/Small Scale Supply	0.022	1.022	<0.001
Other	0.166	1.181	<0.001
Breach	0.244	1.277	<0.001
Ethnicity			
White		<i>Reference category</i>	
Not Recorded	-0.329	0.720	<0.001
Black	0.060	1.061	0.874
Asian	0.004	1.004	0.531
Other	0.038	1.038	<0.001
Appearances in previous cohorts			
No previous appearances		<i>Reference category</i>	
One previous appearance	-0.026	0.974	<0.001
Two previous appearances	-0.154	0.858	<0.001
Three previous appearances	-0.224	0.799	<0.001
Reoffences in previous cohorts			
No reoffences		<i>Reference category</i>	
One reoffence	0.448	1.566	<0.001
Two reoffences	0.736	2.088	<0.001
Three reoffences	0.973	2.647	<0.001
Reoffended in most recent cohort	0.225	1.253	0.001

Local Adult Reoffending – 1 July 2009 – 30 June 2010

Variables	Logistic coefficient	Exponent of coefficient	Significance
Previous offences			
Total number of previous violence offences	-0.006	0.994	<0.001
Total number of previous public order offences	0.033	1.033	<0.001
Total number of previous theft offences	0.011	1.011	<0.001
Total number of previous handling offences	-0.012	0.988	<0.001
Total number of previous absconding offences	0.016	1.016	0.015
Total number of previous theft from vehicle offences	0.007	1.007	0.039
Total number of previous drink driving offences	0.026	1.026	<0.001
Total number of previous criminal damage offences	0.009	1.009	<0.001
Total number of previous drugs (possession/small-scale supply) offences	0.010	1.010	<0.001
One or more previous sexual offences	0.121	1.129	<0.001
Area			
London		<i>Reference category</i>	
Avon and Somerset	-0.092	0.912	0.006
Bedfordshire	-0.144	0.866	0.439
Cambridgeshire	-0.030	0.970	0.010
Cheshire	-0.097	0.908	<0.001
Teesside	0.191	1.211	0.098
Cumbria	0.070	1.072	<0.001
Derbyshire	-0.233	0.792	<0.001
Devon and Cornwall	-0.153	0.858	0.006
Dorset	-0.132	0.877	0.135
Durham	0.055	1.057	0.007
Essex	-0.080	0.923	0.104
Gloucestershire	-0.080	0.923	0.166
Hampshire	-0.040	0.961	0.005
West Mercia	-0.100	0.904	<0.001
Hertfordshire	-0.163	0.849	0.079
Humberside	-0.061	0.941	<0.001
Kent	-0.151	0.860	0.378
Lancashire	-0.023	0.977	<0.001
Leicestershire	-0.242	0.785	0.019
Lincolnshire	-0.111	0.895	<0.001
Greater Manchester	-0.175	0.840	<0.001
Merseyside	-0.163	0.849	0.618
Norfolk	-0.021	0.979	0.007
Northamptonshire	-0.125	0.882	<0.001
Northumbria	0.120	1.128	0.021
Nottinghamshire	0.069	1.071	0.007
Thames Valley	-0.077	0.926	0.001
Staffordshire	-0.112	0.894	0.019
Suffolk	-0.116	0.891	0.004
Surrey	-0.146	0.864	<0.001
Sussex	-0.165	0.848	0.469
Warwickshire	-0.037	0.964	<0.001
West Midlands	-0.095	0.909	<0.001
Wiltshire	-0.217	0.805	0.162
North Yorkshire	-0.060	0.942	0.165
South Yorkshire	0.038	1.039	0.016
West Yorkshire	-0.056	0.946	0.154
Dyfed-Powys	-0.074	0.929	0.323
Gwent	-0.038	0.962	0.359
North Wales	0.036	1.037	0.590
South Wales	-0.015	0.985	0.439
Unknown area	0.037	1.037	<0.001
Type of sentence			
Licence		<i>Reference category</i>	
Community order	0.273	1.314	<0.001
Interactions between sentence type and age			
Community order and aged 18-20		<i>Reference category</i>	
Community order and aged 21 - 24	0.279	1.322	<0.001
Community order and aged 25 - 29	0.488	1.630	<0.001
Community order and aged 30 - 34	0.649	1.913	<0.001
Community order and aged 35 - 39	0.621	1.861	<0.001
Community order and aged 40 - 49	0.795	2.214	<0.001
Community order and aged 50+	0.835	2.306	0.002
Interactions between sentence type and criminal career variables			
Community order * Time on caseload (inverse)	0.603	1.827	<0.001
Community order * previous drink driving offences	-0.053	0.949	<0.001
Community order * previous custodial sentences (log)	-0.159	0.853	<0.001
Interactions between sentence type and appearances in previous cohorts			
Community order and one previous appearance	-0.213	0.809	<0.001
Community order and two previous appearances	-0.281	0.755	<0.001
Community order and three previous appearances	-0.327	0.721	<0.001
Community order and reoffended in most recent cohort	0.188	1.207	<0.001

Statistical significance

Testing for statistical significance allows us to determine whether a change between two datasets is likely to be due to a real change in performance, or is just due to random volatility in the data.

For the local reoffending measure we test for statistical significance such that we are 95 per cent confident that any change we observe that meets our test for statistical significance is 'real'. Lines which show where the 99 per cent level of confidence would lie are also included on the funnel plots.

Funnel plots²³

The funnel plot shows how many areas have results which are statistically significantly better or worse than the baseline.

The standardised reoffending ratio is calculated as:

$$(A/P)*100$$

where A is the proportion of offenders reoffending (Actual rate)
and P is the proportion of offenders we predict will reoffend (Predicted rate).

When the actual rate is higher than the predicted rate (more offenders reoffending than predicted), the ratio will be greater than 100. The ratio will be lower than 100 when the actual rate is lower than the predicted rate (fewer offenders reoffending than predicted).

The x-axis shows the predicted number of reoffenders (and is therefore an indication of the size of the caseload in each area).

The 'funnel' has two dotted lines which show the boundaries of statistical significance (based on 95 per cent and 99 per cent confidence that the result represents a real change in performance).

²³ For further details on the construction of funnel plots and how they may be used, see Spiegelhalter, 2005.

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