



Ministry of
JUSTICE

**Local Adult Reoffending
1 July 2010 –
30 June 2011
England and Wales**

Ministry of Justice
Statistics bulletin

Published 15th November 2011

Local Adult Re-offending

Introduction

Following a consultation, the MOJ has introduced a new measure of Proven Re-offending which provides consistent measures of re-offending at national and local levels¹

The local adult re-offending measure remains a NOMS performance indicator for Probation Trusts for the year 2011/12. Therefore we will continue to publish this legacy measure to support Probation Trusts in assessing their performance.

This bulletin contains re-offending data at the following geographic levels:

- Regions within England and Wales
- Probation Trusts
- Local Authorities².

It covers re-offending in the period 1 July 2010 to 30 June 2011.

These statistics are available via the Ministry of Justice website:

www.justice.gov.uk/publications//local-adult-reoffending.htm

¹ For more information on the new measure of proven re-offending see www.justice.gov.uk/publications/statistics-and-data/reoffending/proven-reoffending-quarterly.htm. More information explaining the differences between these two measures is available on request. See contact details at end of bulletin.

² “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 Re-offending

Key points

All statements on increases or decreases in re-offending rates in this section refer to comparisons with rates that have been adjusted to control for changes in the characteristics of offenders on the probation caseload³. The latest re-offending results are compared to the adjusted rate based on 2007/08 which is hereafter referred to as the baseline. The 2007/08 results covered re-offending between 1 April 2007 to 31 March 2008 and are the earliest published data on this measure.

- The East of England, North West, South East, and Wales regions had a statistically significant increase in re-offending compared to the baseline. Three regions had a statistically significant reduction in re-offending (London, West Midlands and Yorkshire & Humberside)⁴.
- Eight Probation Trusts had a statistically significant increase in re-offending, whilst seven Probation Trusts showed a statistically significant reduction in re-offending.
- Thirteen local authorities had a statistically significant increase in re-offending, whilst twenty four⁵ local authorities showed a statistically significant reduction in re-offending.

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

Trends in re-offending by area

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

Reductions in re-offending

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

³ See Appendix B for more information on the predicted rate, which variables have been controlled for and why it is important to control for changes in offender characteristics.

⁴ Changes in re-offending 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).

⁵ This includes the Isles of Scilly whose re-offending rate is based on a very small cohort size.

Within the West Midlands region, Staffordshire and West Midlands, and Warwickshire Probation Trusts and Birmingham, Sandwell, Solihull, and Staffordshire local authorities have had re-offending rates which were consistently lower than predicted.

For the Yorkshire and Humberside region, South Yorkshire and West Yorkshire Probation Trusts and Bradford, Rotherham, and Sheffield local authorities have experienced re-offending rates which are also consistently lower than predicted.

Havering, the Isles of Scilly⁶, and Northumberland local authorities have seen consistently lower than predicted rates.

Increases in re-offending

Derbyshire, Hertfordshire, Kent, Merseyside and Wiltshire Probation Trusts have had re-offending rates which are consistently higher than predicted.

Within Hertfordshire Probation Trust, Hertfordshire local authority has experienced re-offending rates which are also consistently higher than predicted.

Within Kent Probation Trust, Kent and Medway local authorities have had consistently higher than predicted re-offending rates.

Within Merseyside Probation Trust, Wirral local authority has had re-offending rates consistently higher than predicted.

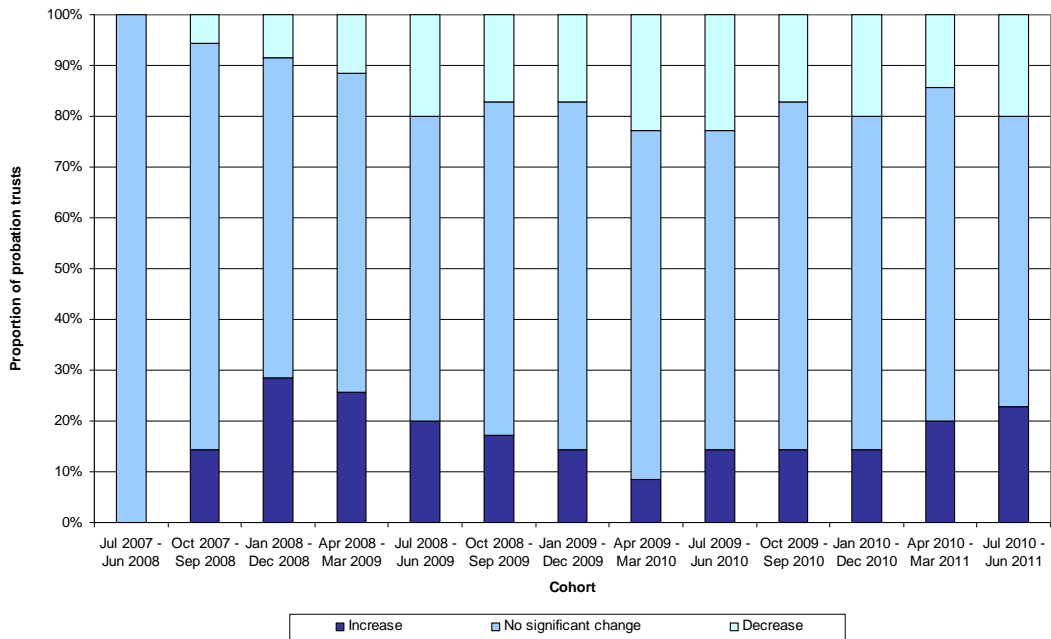
Carmarthenshire local authority has also had re-offending rates consistently higher than predicted.

⁶ The re-offending rate for the Isles of Scilly is based on a very small cohort size.

Trends since 2007/08

Chart 1 shows the proportion of Probation Trusts that have seen increases/decreases/no significant change over each of the twelve quarters since the baseline. For the most recent quarter twenty three per cent of Trusts (eight Trusts) show an increase and twenty per cent (seven Trusts) show a decrease⁷.

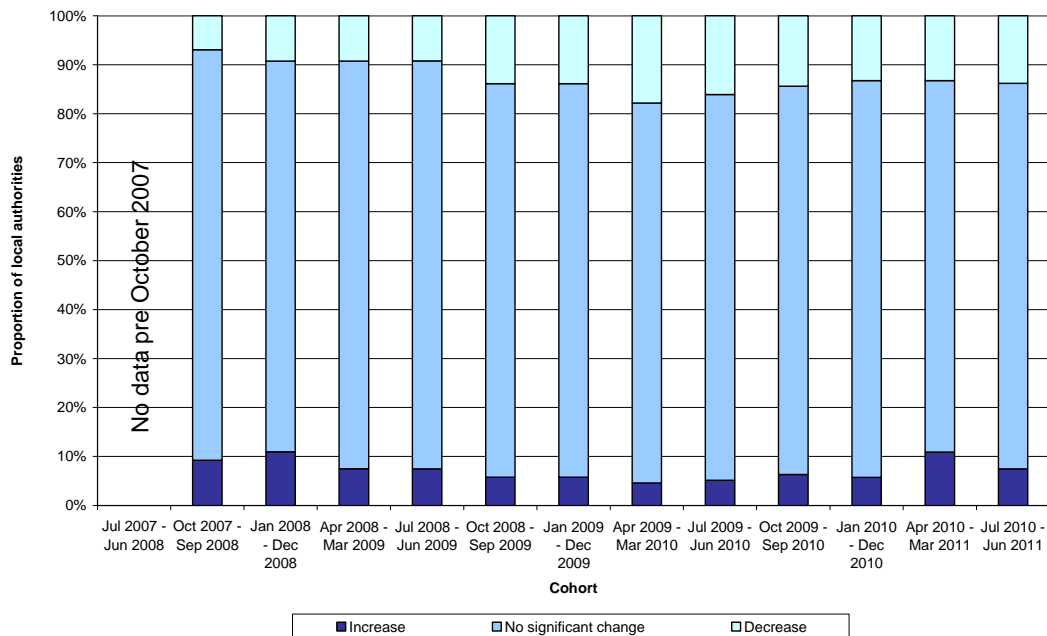
Chart 1: Proportion of Probation Trusts with increases/decreases/no change in re-offending, July 2007 – June 2011



⁷ Note that these percentages should not be directly compared to those in reports published prior to 16 November 2010 which were based on the former forty two Probation Areas.

Chart 2 presents the same information for local authorities⁸. For the most recent quarter the proportion showing an increase was seven per cent (thirteen local authorities) and the proportion showing a decrease fourteen per cent (twenty four local authorities).

Chart 2: Proportion of local authorities with increases/decreases/no change in re-offending, October 2007 – June 2011



Comparing re-offending rates between areas

Comparing changes in the actual rates of re-offending 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 re-offending between areas, it is important that comparisons are made on the basis of the reduction in re-offending 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.

Explanatory notes

Which offenders are included in the analysis?

The local adult re-offending measure takes a snapshot of all offenders, aged 18 or over, who are 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.

Methodology for measuring re-offending

The local adult measure counts the proportion of offenders who re-offend in a three month period, and compares this to the proportion expected to re-offend 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.

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 B.

What counts as a re-offence?

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

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 re-offend given the known characteristics of the offenders in the snapshot and re-offending rates in the baseline period. More detail on the predicted rate, and the statistical model used to calculate it, is provided in Appendix B.

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 single 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, 27 new Probation Trusts were established following a rigorous formal application process, resulting in all 42 former Probation Boards having been replaced by 35 Probation Trusts¹⁰.

As part of these changes, a number of former Probation Boards were involved in mergers to become Probation Trusts. This publication covers a reporting period (1 July 2010 to 30 June 2011) which was after the mergers came into effect.

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

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.

¹⁰ 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.

This bulletin covers all offenders who are on the probation caseload and are at risk of re-offending. 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 re-offending 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 re-offending 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 October 2010 to 30 September 2011 and will be published on 21 February 2012.

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

Tel: 020 3334 3536

Email: newsdesk@justice.gsi.gov.uk

Other enquiries about these statistics should be directed to:

Re-offending Statistics
Ministry of Justice 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: Local Adult Re-offending rates, all offenders on the probation caseload in England and Wales^{11,12}

Re-offending period covered	Cohort size (combining four quarters of probation caseload data)	Actual rate of re-offending	Predicted rate of re-offending	% difference from baseline
April 1 2007 to March 31 2008 (<i>baseline period</i>)	685,873	9.82%	9.82%	0.00%
July 1 2007 to June 30 2008	690,049	9.84%	9.81%	0.31%
October 1 2007 to September 30 2008	692,330	9.88%	9.83%	0.56%
January 1 2008 to December 31 2008	691,588	9.95%	9.86%	0.91%
April 1 2008 to March 31 2009	691,638	9.98%	9.92%	0.57%
July 1 2008 to June 30 2009	691,517	9.93%	9.98%	-0.52%
October 1 2008 to September 30 2009	690,994	9.87%	10.02%	-1.46%
January 1 2009 to December 31 2009	691,261	9.82%	10.02%	-2.03%
April 1 2009 to March 31 2010	688,616	9.71%	10.00%	-2.88%
July 1 2009 to June 30 2010	683,540	9.70%	9.96%	-2.60%
October 1 2009 to September 30 2010	677,654	9.77%	9.91%	-1.47%
January 1 2010 to December 31 2010	671,716	9.75%	9.89%	-1.34%
April 1 2010 to March 31 2011	667,469	9.82%	9.86%	-0.39%
July 1 2010 to June 30 2011	663,340	9.81%	9.85%	-0.45%

¹¹ 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 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.

¹² Data in bold illustrate that the change in reoffending from the baseline is statistically significant.

Table 2: Local Adult Re-offending rates, all offenders on licence under probation supervision, England and Wales^{13,14}

Re-offending period covered	Cohort size (combining four quarters of probation caseload data)	Actual rate of re-offending	Predicted rate of re-offending	% difference from baseline
April 1 2007 to March 31 2008 (<i>baseline period</i>)	102,721	8.22%	8.22%	0.00%
July 1 2007 to June 30 2008	106,840	8.37%	8.24%	1.51%
October 1 2007 to September 30 2008	111,402	8.63%	8.28%	4.24%
January 1 2008 to December 31 2008	114,614	8.69%	8.24%	5.45%
April 1 2008 to March 31 2009	118,112	8.78%	8.24%	6.50%
July 1 2008 to June 30 2009	120,290	8.67%	8.16%	6.18%
October 1 2008 to September 30 2009	122,255	8.44%	8.06%	4.71%
January 1 2009 to December 31 2009	125,000	8.31%	7.95%	4.60%
April 1 2009 to March 31 2010	127,724	8.15%	7.84%	4.07%
July 1 2009 to June 30 2010	130,074	8.01%	7.72%	3.75%
October 1 2009 to September 30 2010	132,180	7.93%	7.61%	4.19%
January 1 2010 to December 31 2010	134,168	7.81%	7.52%	3.82%
April 1 2010 to March 31 2011	136,532	7.72%	7.47%	3.29%
July 1 2010 to June 30 2011	139,235	7.66%	7.42%	3.23%

¹³ 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 re-offending 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.

¹⁴ Data in bold illustrate that the change in re-offending from the baseline is statistically significant.

Table 3: Local Adult Re-offending rates, all offenders on court orders under probation supervision, England and Wales^{15,16}

Re-offending period covered	Cohort size (combining four quarters of probation caseload data)	Actual rate of re-offending	Predicted rate of re-offending	% difference from baseline
April 1 2007 to March 31 2008 (<i>baseline period</i>)	583,152	10.10%	10.10%	0.00%
July 1 2007 to June 30 2008	583,209	10.11%	10.10%	0.14%
October 1 2007 to September 30 2008	580,928	10.12%	10.12%	-0.02%
January 1 2008 to December 31 2008	576,974	10.20%	10.18%	0.18%
April 1 2008 to March 31 2009	573,526	10.23%	10.27%	-0.41%
July 1 2008 to June 30 2009	571,227	10.19%	10.36%	-1.64%
October 1 2008 to September 30 2009	568,739	10.18%	10.44%	-2.49%
January 1 2009 to December 31 2009	566,261	10.15%	10.48%	-3.14%
April 1 2009 to March 31 2010	560,892	10.07%	10.50%	-4.07%
July 1 2009 to June 30 2010	553,466	10.10%	10.49%	-3.70%
October 1 2009 to September 30 2010	545,474	10.21%	10.47%	-2.47%
January 1 2010 to December 31 2010	537,548	10.24%	10.48%	-2.27%
April 1 2010 to March 31 2011	530,937	10.37%	10.48%	-1.07%
July 1 2010 to June 30 2011	524,105	10.38%	10.50%	-1.15%

¹⁵ 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 re-offending 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.

¹⁶ Data in bold illustrate that the change in re-offending from the baseline is statistically significant.

Detailed tables

Hypothetical examples to illustrate how re-offending rates relate to numbers of re-offenders

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

A 10 per cent re-offending rate means that 1,000 offenders (out of the 10,000) re-offended.

An 11 per cent re-offending rate means that 1,100 offenders (out of the 10,000) re-offended.

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 re-offenders more than was predicted.

For an area with a caseload of 5000 offenders:

A 10 per cent re-offending rate means that 500 offenders (out of the 5,000) re-offended.

A 9.5 per cent re-offending rate means that 475 offenders (out of the 5,000) re-offended.

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 re-offenders fewer than predicted.

Table 4: Local Adult Re-offending rates for 1 July 2010 to 30 June 2011, 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 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 re- offending	Predicted rate of re-offending	% difference from baseline (2007/08 results) ²⁶
East Midlands			49,970	9.26%	9.21%	0.46%
	Derbyshire		10,518	8.47%	7.76%	9.21%
		Derby	3,565	7.99%	7.87%	1.52%
		Derbyshire	6,841	8.65%	7.67%	12.86%
	Leicestershire		10,396	8.06%	8.06%	0.00%
		Leicester	5,538	8.50%	8.36%	1.72%
		Leicestershire	4,679	7.54%	7.80%	-3.30%
		Rutland	151	7.28%	5.97%	22.05%

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Region	Probation Trust	Local Authority	Cohort size (combining four quarters of probation caseload data) ²⁵	Actual rate of re- offending	Predicted rate of re-offending	% difference from baseline (2007/08 results) ²⁶
	Lincolnshire		6,265	9.70%	9.19%	5.66%
		Lincolnshire	6,243	9.63%	9.15%	5.20%
	Northamptonshire		7,977	7.82%	8.14%	-3.86%
		Northamptonshire	7,975	7.84%	8.12%	-3.50%
	Nottinghamshire		14,814	11.23%	11.65%	-3.56%
		Nottingham	6,564	11.05%	11.93%	-7.44%
		Nottinghamshire	8,061	11.24%	11.36%	-1.08%
East of England			58,871	9.38%	8.97%	4.61%
	Bedfordshire		6,139	8.03%	7.92%	1.43%
		Bedford ¹⁷	2,023	8.60%	8.28%	3.93%
		Central ¹⁸ Bedfordshire	1,509	7.16%	7.24%	-1.16%
		Luton	2,677	8.22%	8.21%	0.16%

¹⁷ Formerly Bedford and Central Bedfordshire were both part of Bedfordshire Local Authority.

Local Adult Reoffending – 1 July 2010 – 30 June 2011

Region	Probation Trust	Local Authority	Cohort size (combining four quarters of probation caseload data) ²⁵	Actual rate of re- offending	Predicted rate of re-offending	% difference from baseline (2007/08 results) ²⁶
	Cambridgeshire and Peterborough		8,789	10.17%	9.78%	4.03%
		Cambridgeshire	5,427	9.66%	9.49%	1.71%
		Peterborough	3,247	10.53%	10.09%	4.35%
	Essex		19,376	9.16%	8.85%	3.47%
		Essex	14,122	8.99%	8.74%	2.91%
		Southend-on-Sea	2,569	10.08%	9.58%	5.25%
		Thurrock	2,465	8.72%	8.80%	-0.91%
	Hertfordshire		11,111	8.84%	7.83%	12.90%
		Hertfordshire	10,638	8.93%	7.87%	13.50%
	Norfolk and Suffolk		13,456	10.26%	10.03%	2.25%
		Norfolk	7,372	10.20%	10.27%	-0.64%
		Suffolk	6,014	10.49%	9.82%	6.87%
London			103,406	8.47%	8.71%	-2.72%

Region	Probation Trust	Local Authority	Cohort size (combining four quarters of probation caseload data) ²⁵	Actual rate of re- offending	Predicted rate of re-offending	% difference from baseline (2007/08 results) ²⁶
			3,069	7.46%	8.94%	-16.54%
		Barking and Dagenham				
		Barnet	2,849	8.04%	7.60%	5.80%
		Bexley	2,322	8.14%	8.19%	-0.67%
		Brent	3,952	9.94%	8.52%	16.71%
		Bromley	3,115	6.84%	7.95%	-13.95%
		Camden	2,186	10.25%	10.26%	-0.14%
		<i>City of London</i> ¹⁸	29	*	*	*
		Croydon	5,311	8.40%	9.00%	-6.70%
		Ealing	4,241	8.35%	7.87%	6.09%
		Enfield	3,594	7.76%	7.90%	-1.68%
		Greenwich	4,202	8.14%	8.87%	-8.25%

¹⁸ Data for the City of London is based on only 29 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 2010 – 30 June 2011

Region	Probation Trust	Local Authority	Cohort size (combining four quarters of probation caseload data) ²⁵	Actual rate of re- offending	Predicted rate of re-offending	% difference from baseline (2007/08 results) ²⁶
		Hackney	4,187	8.69%	8.99%	-3.30%
		Hammersmith and Fulham	2,651	10.83%	10.05%	7.69%
		Haringey	4,323	7.26%	8.35%	-13.00%
		Harrow	1,600	6.63%	7.48%	-11.43%
		Havering	2,144	6.72%	8.20%	-18.05%
		Hillingdon	2,679	8.14%	8.19%	-0.62%
		Hounslow	3,329	10.24%	9.10%	12.51%
		Islington	3,084	10.54%	9.89%	6.52%
		Kensington and Chelsea	1,477	9.14%	9.51%	-3.88%
		Kingston upon Thames	1,057	8.04%	8.69%	-7.43%
		Lambeth	5,239	8.05%	8.81%	-8.61%
		Lewisham	4,911	8.45%	9.23%	-8.40%
		Merton	1,953	8.65%	8.58%	0.89%
		Newham	5,220	8.74%	8.97%	-2.58%

Local Adult Reoffending – 1 July 2010 – 30 June 2011

Region	Probation Trust	Local Authority	Cohort size (combining four quarters of probation caseload data) ²⁵	Actual rate of re- offending	Predicted rate of re-offending	% difference from baseline (2007/08 results) ²⁶
		Redbridge	2,999	6.50%	8.01%	-18.86%
		Richmond upon Thames	1,138	7.12%	8.09%	-12.07%
		Southwark	4,688	8.26%	8.40%	-1.69%
		Sutton	1,909	9.17%	9.31%	-1.55%
		Tower Hamlets	3,821	9.11%	9.32%	-2.30%
		Waltham Forest	3,681	7.88%	7.99%	-1.41%
		Wandsworth	3,042	9.34%	9.26%	0.84%
		Westminster	1,952	9.43%	9.54%	-1.22%
North East			41,904	14.90%	15.08%	-1.25%
	Durham Tees Valley		20,657	15.02%	14.82%	1.35%
		Darlington	2,010	17.31%	14.24%	21.58%
		Durham	6,717	13.34%	12.94%	3.05%
		Hartlepool	2,201	17.13%	17.16%	-0.17%
		Middlesbrough	3,657	16.71%	17.01%	-1.76%

Local Adult Reoffending – 1 July 2010 – 30 June 2011

Region	Probation Trust	Local Authority	Cohort size (combining four quarters of probation caseload data) ²⁵	Actual rate of re- offending	Predicted rate of re-offending	% difference from baseline (2007/08 results) ²⁶
		Redcar and Cleveland	2,699	14.97%	15.54%	-3.71%
		Stockton-on-Tees	3,313	13.58%	14.37%	-5.48%
	Northumbria		21,247	14.77%	15.34%	-3.70%
		Gateshead	3,262	13.98%	14.51%	-3.68%
		Newcastle-upon- Tyne	5,173	16.64%	17.08%	-2.55%
		North Tyneside	2,658	15.39%	15.32%	0.47%
		Northumberland	3,271	10.85%	12.32%	-11.94%
		South Tyneside	2,197	14.66%	15.63%	-6.21%
		Sunderland	4,645	15.78%	16.00%	-1.35%
North West			104,196	10.05%	9.80%	2.57%
	Cheshire		10,780	8.69%	8.85%	-1.84%
		Cheshire East	3,059	7.26%	8.10%	-10.44%

Local Adult Reoffending – 1 July 2010 – 30 June 2011

Region	Probation Trust	Local Authority	Cohort size (combining four quarters of probation caseload data) ²⁵	Actual rate of re- offending	Predicted rate of re-offending	% difference from baseline (2007/08 results) ²⁶
		Cheshire West and Chester	3,576	10.04%	9.54%	5.21%
		Halton	1,865	8.69%	8.71%	-0.30%
		Warrington	2,331	8.54%	9.05%	-5.70%
	Cumbria		5,626	11.66%	11.94%	-2.37%
		Cumbria	5,597	11.63%	11.96%	-2.71%
	Greater Manchester		43,837	9.80%	9.60%	2.06%
		Bolton	3,985	10.84%	9.96%	8.81%
		Bury	2,656	7.57%	8.16%	-7.31%
		Manchester	11,920	10.22%	9.88%	3.38%
		Oldham	3,511	9.06%	9.71%	-6.69%
		Rochdale	3,785	8.77%	9.49%	-7.60%
		Salford	4,916	9.91%	9.52%	4.04%
		Stockport	3,179	9.66%	9.60%	0.58%

Local Adult Reoffending – 1 July 2010 – 30 June 2011

Region	Probation Trust	Local Authority	Cohort size (combining four quarters of probation caseload data) ²⁵	Actual rate of re- offending	Predicted rate of re-offending	% difference from baseline (2007/08 results) ²⁶
		Tameside	3,085	10.89%	10.49%	3.83%
		Trafford	2,449	8.98%	9.11%	-1.44%
		Wigan	4,062	9.85%	8.89%	10.74%
	Lancashire		21,514	11.09%	10.85%	2.16%
		Blackburn with Darwen	3,161	9.49%	10.07%	-5.75%
		Blackpool	3,847	11.65%	10.78%	8.08%
		Lancashire	14,562	11.29%	11.05%	2.19%
	Merseyside		22,439	9.81%	9.10%	7.76%
		Knowsley	2,750	8.47%	8.55%	-0.86%
		Liverpool	10,112	9.60%	9.20%	4.37%
		St Helens	2,442	10.69%	9.53%	12.11%
		Sefton	2,792	8.60%	8.34%	3.11%
		Wirral	4,299	11.10%	9.41%	17.96%
South East			72,553	9.67%	9.35%	3.42%

Local Adult Reoffending – 1 July 2010 – 30 June 2011

Region	Probation Trust	Local Authority	Cohort size (combining four quarters of probation caseload data) ²⁵	Actual rate of re- offending	Predicted rate of re-offending	% difference from baseline (2007/08 results) ²⁶
	Hampshire		18,756	10.80%	10.65%	1.34%
		Hampshire	10,189	10.59%	10.12%	4.64%
		Isle of Wight	1,427	11.56%	10.84%	6.65%
		Portsmouth	2,833	12.25%	12.34%	-0.74%
		Southampton	4,119	10.44%	10.82%	-3.49%
	Kent		15,855	9.65%	8.55%	12.84%
		Kent	12,983	9.44%	8.47%	11.45%
		Medway	2,837	10.65%	9.11%	16.90%
	Surrey and Sussex		19,367	8.76%	8.63%	1.49%
		Brighton and Hove	3,269	8.20%	9.04%	-9.34%
		East Sussex	4,387	8.82%	8.16%	8.05%
		Surrey	6,001	8.42%	8.88%	-5.28%
		West Sussex	5,812	9.08%	8.49%	7.05%
	Thames Valley		18,575	9.51%	9.48%	0.35%
		Bracknell Forest	915	7.65%	9.22%	-17.04%

Local Adult Reoffending – 1 July 2010 – 30 June 2011

Region	Probation Trust	Local Authority	Cohort size (combining four quarters of probation caseload data) ²⁵	Actual rate of re- offending	Predicted rate of re-offending	% difference from baseline (2007/08 results) ²⁶
		Buckinghamshire	3,260	8.93%	8.87%	0.63%
		Milton Keynes	2,586	12.18%	10.29%	18.40%
		Oxfordshire	4,087	9.32%	9.77%	-4.62%
		Reading	2,090	9.09%	9.42%	-3.48%
		Slough	2,718	8.76%	9.26%	-5.45%
		West Berkshire	1,081	10.45%	10.62%	-1.56%
		Windsor and Maidenhead	1,099	8.83%	8.53%	3.41%
		Wokingham	697	8.75%	8.46%	3.42%
South West			42,788	9.69%	9.40%	3.10%
	Avon and Somerset		16,725	10.16%	9.79%	3.74%
		Bath and N.E. Somerset	1,469	10.69%	9.02%	18.48%
		City of Bristol	7,353	10.93%	10.45%	4.66%
		North Somerset	1,875	9.92%	10.01%	-0.93%
		Somerset	3,766	10.25%	9.62%	6.56%

Local Adult Reoffending – 1 July 2010 – 30 June 2011

Region	Probation Trust	Local Authority	Cohort size (combining four quarters of probation caseload data) ²⁵	Actual rate of re- offending	Predicted rate of re-offending	% difference from baseline (2007/08 results) ²⁶
		South Gloucestershire	2,100	7.52%	8.25%	-8.83%
	Devon and Cornwall		10,935	9.63%	8.89%	8.32%
		Cornwall	2,443	8.31%	7.69%	8.11%
		Devon	3,638	9.35%	8.83%	5.84%
		<i>Isles of Scilly</i> ¹⁹	3	*	*	*
		Plymouth	3,403	10.46%	9.57%	9.32%
		Torbay	1,319	11.07%	9.48%	16.72%
	Dorset		5,474	8.84%	9.35%	-5.39%
		Bournemouth	2,477	10.21%	10.01%	2.01%
		Dorset	1,927	7.42%	8.49%	-12.64%
		Poole	1,130	8.23%	9.38%	-12.22%
	Gloucestershire		4,917	8.68%	9.71%	-10.52%

19 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 2010 – 30 June 2011

Region	Probation Trust	Local Authority	Cohort size (combining four quarters of probation caseload data) ²⁵	Actual rate of re- offending	Predicted rate of re-offending	% difference from baseline (2007/08 results) ²⁶
		Gloucestershire	4,928	8.58%	9.66%	-11.14%
	Wiltshire		4,737	10.20%	8.93%	14.24%
		Swindon	1,753	11.81%	9.73%	21.34%
		Wiltshire	2,858	8.96%	8.38%	6.93%
Wales			42,720	11.25%	10.75%	4.62%
		Blaenau Gwent	1,087	8.92%	9.91%	-9.96%
		Bridgend	2,124	10.22%	9.94%	2.74%
		Caerphilly	2,214	9.71%	9.44%	2.82%
		Cardiff	6,368	12.04%	11.98%	0.50%
		Carmarthenshire	1,982	15.84%	12.12%	30.68%
		Ceredigion	530	8.49%	8.24%	3.01%
		Conwy	1,366	8.78%	10.31%	-14.79%
		Denbighshire	1,341	9.69%	9.70%	-0.09%
		Flintshire	1,924	7.95%	8.60%	-7.53%
		Gwynedd	1,583	9.03%	10.66%	-15.29%

Local Adult Reoffending – 1 July 2010 – 30 June 2011

Region	Probation Trust	Local Authority	Cohort size (combining four quarters of probation caseload data) ²⁵	Actual rate of re- offending	Predicted rate of re-offending	% difference from baseline (2007/08 results) ²⁶
		Isle of Anglesey	806	9.31%	10.73%	-13.27%
		Merthyr Tydfil	1,111	13.32%	11.67%	14.12%
		Monmouthshire	650	11.54%	10.68%	7.99%
		Neath Port Talbot	1,919	10.63%	9.23%	15.20%
		Newport	2,620	12.52%	12.71%	-1.49%
		Pembrokeshire	1,166	12.35%	10.62%	16.26%
		Powys	1,045	10.14%	9.55%	6.22%
		Rhondda, Cynon, Taff	3,882	11.33%	9.78%	15.94%
		Swansea	3,778	11.83%	10.95%	8.07%
		Torfaen	1,029	10.79%	11.34%	-4.88%
		The Vale of Glamorgan	1,729	11.74%	11.20%	4.79%
		Wrexham	2,249	12.76%	11.85%	7.69%
West Midlands			72,160	7.91%	8.78%	-9.84%
	Staffordshire and West Midlands		56,184	7.38%	8.49%	-13.02%

Local Adult Reoffending – 1 July 2010 – 30 June 2011

Region	Probation Trust	Local Authority	Cohort size (combining four quarters of probation caseload data) ²⁵	Actual rate of re- offending	Predicted rate of re-offending	% difference from baseline (2007/08 results) ²⁶
		Birmingham	20,554	6.81%	8.22%	-17.17%
		Coventry	5,208	8.20%	8.92%	-8.07%
		Dudley	3,206	7.24%	8.56%	-15.42%
		Sandwell	4,670	6.32%	8.03%	-21.30%
		Solihull	2,035	6.09%	8.01%	-23.96%
		Staffordshire	8,062	7.05%	7.86%	-10.32%
		Stoke-on-Trent	4,680	10.32%	9.76%	5.76%
		Walsall	3,463	8.06%	9.60%	-16.05%
		Wolverhampton	3,923	7.65%	8.73%	-12.42%
	Warwickshire		5,141	8.07%	9.52%	-15.18%
		Warwickshire	5,095	7.91%	9.43%	-16.10%
	West Mercia		10,835	10.60%	9.94%	6.68%
		Herefordshire	1,554	11.90%	11.37%	4.73%
		Shropshire	1,902	10.25%	9.40%	9.06%
		Telford and Wrekin	1,759	9.66%	9.58%	0.91%

Local Adult Reoffending – 1 July 2010 – 30 June 2011

Region	Probation Trust	Local Authority	Cohort size (combining four quarters of probation caseload data) ²⁵	Actual rate of re- offending	Predicted rate of re-offending	% difference from baseline (2007/08 results) ²⁶
		Worcestershire	5,641	10.58%	9.80%	8.01%
Yorkshire and Humberside			71,719	10.39%	10.96%	-5.23%
	Humberside		11,773	10.62%	10.41%	1.96%
		East Riding of Yorkshire	1,956	7.57%	8.50%	-10.93%
		City of Kingston upon Hull	4,804	12.49%	10.90%	14.62%
		North East Lincolnshire	2,673	10.81%	11.76%	-8.10%
		North Lincolnshire	2,338	9.02%	9.44%	-4.39%
	York and North Yorkshire		6,748	11.59%	11.38%	1.87%
		North Yorkshire	4,695	11.10%	10.90%	1.78%
		York	2,010	12.54%	12.56%	-0.21%
	South Yorkshire		18,534	10.27%	11.61%	-11.53%
		Barnsley	3,301	10.81%	11.73%	-7.79%

Region	Probation Trust	Local Authority	Cohort size (combining four quarters of probation caseload data) ²⁵	Actual rate of re- offending	Predicted rate of re-offending	% difference from baseline (2007/08 results) ²⁶
		Doncaster	4,547	11.06%	12.32%	-10.23%
		Rotherham	3,375	9.63%	11.06%	-12.91%
		Sheffield	7,075	9.75%	11.26%	-13.41%
	West Yorkshire		34,664	10.14%	10.72%	-5.43%
		Bradford	8,729	8.68%	10.09%	-13.92%
		Calderdale	2,934	9.24%	10.54%	-12.41%
		Kirklees	5,335	9.33%	10.51%	-11.17%
		Leeds	13,145	11.20%	11.25%	-0.42%
		Wakefield	4,422	11.47%	10.79%	6.22%
	Unknown Probation Trust		3,053	10.12%	11.24%	-9.97%
		Unknown local authority	7,536	11.31%	10.18%	11.01%

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 re-offending from the baseline is statistically significant.

Appendix B – Explanation of the Predicted Rate and Statistical Significance

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 with the greatest likelihood 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 re-offending rates.

The Ministry of Justice has used as a basis for this local re-offending predicted model the work done for the National Statistics on re-offending (see Appendix E in the latest adult re-offending report - www.justice.gov.uk/publications/statistics-and-data/reoffending/adults.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 re-offending 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 re-offend, 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 re-offending 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 re-offending 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 re-offending (see, for example, May, 1999).

The logistic regression model behind the local adult re-offending predicted rate provides a probability of re-offending for each offender and identifies the statistically significant set of variables that are related to re-offending. 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 re-offending 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 69.1 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 0.78, 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	411,020	187,257	68.7%
	Yes	17,937	47,126	72.4%

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%
October 1 2009 to September 30 2010	677,654	0.77	68.5%
January 1 2010 to December 31 2010	671,716	0.78	68.6%
April 1 2010 to March 31 2011	667,469	0.78	69.0%
July 1 2010 to June 30 2011	663,340	0.78	69.1%

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

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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 re-offending 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'.

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