



National Audit Office

MEASURING UP

HOW GOOD ARE THE GOVERNMENT'S
DATA SYSTEMS FOR MONITORING PERFORMANCE
AGAINST PUBLIC SERVICE AGREEMENTS?

JUNE 2010

Comprehensive Spending Review 2007 covering the period 2008-2011

Review of the data systems for Public Service Agreement 14 led by the Department for Education:

'Increase the number of children and young people on the path to success'

Our vision is to help the nation spend wisely.

We apply the unique perspective of public audit to help Parliament and government drive lasting improvement in public services.

The National Audit Office scrutinises public spending on behalf of Parliament. The Comptroller and Auditor General, Amyas Morse, is an Officer of the House of Commons. He is the head of the National Audit Office which employs some 900 staff. He and the National Audit Office are totally independent of Government. He certifies the accounts of all Government departments and a wide range of other public sector bodies; and he has statutory authority to report to Parliament on the economy, efficiency and effectiveness with which departments and other bodies have used their resources. Our work leads to savings and other efficiency gains worth many millions of pounds; £890 million in 2009-10.

Contents

Summary	4
Findings and conclusions for individual data systems	9
Indicator 1: 16 to 18 year olds who are Not in Education, Employment or Training (NEET)	9
Indicator 2: Young people's participation in positive activities	11
Indicator 3: Substance misuse by young people	14
Indicator 4: Under 18 conception rate	17
Indicator 5: First-time entrants to the Criminal Justice System aged 10-17	18

The National Audit Office study team consisted of: Shahryer Hussain, Georgina Light and Duncan Russell under the direction of Sid Sidhu. KPMG completed the detailed fieldwork and initial draft report working to the NAO. This report can be found on the National Audit Office website at www.nao.org.uk

For further information, please contact:
Sid Sidhu
National Audit Office
157-197 Buckingham Palace Road
Victoria
London
SW1W 9SP
Tel: 020 7798 7281
Email: sid.sidhu@nao.gsi.gov.uk

Summary

Introduction

1. This report summarises the results of our examination of the data systems used by the Government in 2009 to monitor and report on progress against PSA 14 “Increase the number of children and young people on the path to success”.

The PSA and the Departments

2. PSAs are at the centre of Government’s performance measurement system. They are usually three-year agreements, set during the spending review process and negotiated between departments and the Treasury. They set the objectives for the priority areas of Government’s work.
3. This PSA is led by the Department for Education – formerly the Department for Children, Schools and Families – (the Department), with data provided by a range of sources. Each PSA has a Senior Responsible Officer who is responsible for maintaining a sound system of control across departmental boundaries that supports the achievement of the PSA. The underlying data systems are an important element in this framework of control.
4. The most recent public statement provided by the Department of progress against this PSA was in the 2009 Autumn Performance Report in December 2009.

The purpose and scope of this review

5. The Government invited the Comptroller and Auditor General to validate the data systems used by Government to monitor and report its performance. During the period October to December 2009, the National Audit Office carried out an examination of the data systems for all the indicators used to report performance against this PSA. This involved a detailed review of the processes and controls governing:
 - The match between the indicators selected to measure performance and the PSA: the indicators should address all key elements of performance referred to in the PSA.
 - The match between indicators and their data systems: the data system should produce data that allows the Department to accurately measure the relevant element of performance.
 - For each indicator, the selection, collection, processing and analysis of data: control procedures should mitigate all known significant risks to data reliability. In addition, system processes and controls should be adequately documented to support consistent application over time.

- The reporting of results: outturn data should be presented fairly for all key aspects of performance referred to in the target. Any significant limitations should be disclosed and the implications for interpreting progress explained.
6. Our conclusions are summarised in the form of traffic lights (Figure 1). The ratings are based on the extent to which departments have:
- put in place and operated internal controls over the data systems that are effective and proportionate to the risks involved; and
 - explained clearly any limitations in the quality of its data systems to Parliament and the public.
7. The remaining sections of this report provide an overview of the results of our assessment, followed by a brief description of the findings and conclusions for each individual data system. Our assessment does not provide a conclusion on the accuracy of the outturn figures included in the Department’s public performance statements. This is because the existence of sound data systems reduces but does not eliminate the possibility of error in reported data.

Figure 1: Key to traffic light ratings

Rating	Meaning ...
GREEN (Fit for purpose)	The data system is fit for the purpose of measuring and reporting performance against the indicator.
GREEN (Disclosure)	The data system is appropriate for the indicator and the Department has explained fully the implications of limitations that cannot be cost-effectively controlled.
AMBER (Systems)	Broadly appropriate, but needs strengthening to ensure that remaining risks are adequately controlled.
AMBER (Disclosure)	Broadly appropriate, but includes limitations that cannot be cost-effectively controlled; the Department should explain the implications of these.
RED (Systems)	The data system does not permit reliable measurement and reporting of performance against the indicator.
RED (Not established)	The Department has not yet put in place a system to measure performance against the indicator.

Overview

8. The PSA measures progress in increasing successful transitions to adulthood in terms of increased participation and resilience, and tackling negative outcomes and is supported by five indicators. There is a named officer within the Department responsible for each of these indicators. This officer is supported by a lead analyst.

Performance against the indicators is monitored quarterly within the Department as part of its internal PSA performance reporting.

9. For this PSA, we have concluded that the indicators selected to measure progress are consistent with the scope of the PSA. Figure 2 summarises our assessment of the data systems.

Figure 2: Summary of assessments for indicator data systems

No	Indicator	Rating
1	Reduce the percentage of 16-18 year olds not in education, employment or training (NEET)	AMBER (Systems)
2	More participation in positive activities	AMBER (Systems)
3	Reduce the proportion of young people frequently using illicit drugs, alcohol or volatile substances	AMBER (Systems)
4	Reduce the under-18 conception rate	GREEN (Fit for purpose)
5	Reduce the number of first-time entrants to the Criminal Justice System aged 10-17	AMBER (Systems)

10. The Department has worked to integrate the indicators within this PSA into its operational and performance management activities, for instance by integrating them into its business plan and performance reports.
11. The Department has a Data Services Group, chaired by the Head of Profession for Statistics, which acts as a central point within the Department for the review of data systems underpinning the majority of the Department's PSAs.
12. The Head of Profession for Statistics has day-to-day responsibility for data quality issues, with direct access and accountability to the Accounting Officer as required.
13. Director Generals are responsible for data quality in their respective areas of activity and take a proactive role in promoting high quality performance information, for example through the review of indicator definitions and involvement in the design of data systems. Furthermore, members of staff receive training within this area appropriate to their roles, with regular reviews of their development needs.
14. The Department has formal mechanisms for identifying and assessing areas of risk and reporting these to the Board. The Department's risk management processes include consideration of issues related to PSAs.
15. The Department undertakes internal monitoring and analysis in respect of its performance against its PSAs and the underlying indicators which support them,

including the preparation of detailed reports which set out (per indicator): current performance, significant risks to performance and further action to be taken in order to mitigate the risks identified and to further achieve the Department's objectives. The Department reports performance against its PSAs to the Board on a monthly basis.

16. Full performance is reported externally twice a year in the Autumn Performance Report and the Departmental Annual Report.

17. Our main conclusions on the Department's overall arrangements with respect to the PSA and the indicators that it encompasses are as follows.

- The Department is currently in the process of developing a Data Quality Strategy. This document will be used to codify the Department's overall approach to data quality, the roles and responsibilities of officers involved in data collection, data analysis and reporting. This document will then be used as the basis for ensuring data quality is embedded throughout the Department.
- Quality control processes are undertaken either by individual Data Owners (officers responsible for data compilation), who complete these checks on their respective indicator, or through the Data Services Group. However the Department does not have a standardised quality control methodology which can guide and inform Data Owners on the processes which they must follow to ensure that data are of the required quality prior to it being used for the calculation of indicators. For example some Data Owners undertake reconciliation checks to ensure data which is transferred across IT systems is consistent; however this process may not be undertaken by another Data Owner for a data system which has a similar IT element.
- Performance against the Department's PSAs reported within the published 2008 Autumn Performance Report contained performance reporting errors. These errors were identified after publication and corrected in subsequent versions. These were primarily due to performance data not being cleared for publication by the Data Owner. We were informed by Data Owners that they were not aware that the data which they were producing would be featured within the Autumn Performance Report. A revised process has been implemented for the publication of performance data for the 2009 Autumn Performance Report to ensure that data reported is accurate and has been authorised for publication by the Data Owner.
- The Department has agreed measurement annexes for all of its PSA indicators, setting out the definition of the indicator and the data sources to be used. The current National Indicator Set was introduced following the Government's Comprehensive Spending Review 2007. In the majority of cases in respect of indicators defined through the National Indicator Set, a target which measures

performance has not been set. However we noted that in some cases, internal targets have been set and performance reported to the Department's Board.

- The Department does not in all cases have detailed written procedure notes in place explaining how each indicator is to be calculated and how any outliers or missing data are to be addressed. While the Department's current procedures are in most cases robust, the fact that they are not all recorded formally may make it difficult for the Department to ensure the comparability of data over time, particularly if responsibility for the calculation of performance against a given indicator is passed to a different member of staff. Where this finding has implications for individual indicators, we explore it in the next section of this report. We recommend that the Department develops for each indicator formal procedure notes setting out how the indicator is to be calculated and reported, so that this can be undertaken consistently over time and by different individual members of staff.
- The Department's Data Services Group has a remit to ensure robust processes are in place over the Department's data collection processes. However we noted that in some instances there are data streams which are used to compile indicators which are not reviewed by the Data Services Group. This occurs in some cases where data is provided directly to a Data Owner by another government body or an external contractor. This means that data which is used to compile indicators has not undergone an independent review to ensure it is of the required quality to support the indicator calculation. The Data Services Group is not fully aware of all the data systems within the Department which are used to compile indicators supporting its DSOs.

Assessment of indicator set

18. In undertaking the validation we reviewed the documentation associated with the PSA and considered whether the indicators selected to measure progress are consistent with the scope of this PSA. While the five indicators underpinning the PSA are providing some of the data to assess performance against the PSA target, other data sources could be used to provide a fuller coverage of the range of issues which could be impacting on the effective delivery of this PSA. These are already measured under DSO 6 "Keep children and young people on the path to success".

Findings and conclusions for individual data systems

19. The following sections summarise the results of the NAO's examination of each data system.

Indicator 1: 16 to 18 year olds who are Not in Education, Employment or Training (NEET)

Conclusion: AMBER (Systems)

20. We have concluded that the data system underlying this indicator is broadly appropriate. However, the Department should assess the implications and impact of the estimation techniques on the accuracy of the indicator and report this together with error margins.

Characteristics of the data system

21. This indicator is linked to the National Indicator Set (NIS 117). Non-participation in education, employment or training between the ages of 16 and 18 is seen by the Government as a major predictor of later unemployment, low income, depression, involvement in crime and poor mental health.

22. Data on the 16-18 year old population of England is provided by the Office for National Statistics and the Government Actuary's Department population estimates and is based on Census data. These population estimates, which are based on age data at the mid-year, are a National Statistic.

23. Numbers of 16-18 year olds known to be participating in education and government funded training are based on Schools Census data, the Learning and Skills Council's Individualised Learner Records and the Higher Education Statistics Agency Student Records. The data on these 16-18 year old students is subtracted from the 16-18 year old population.

24. Data from the Labour Force Survey is then used to apportion the remaining population between employer funded training, other (self-funded) education and training, and those not in education or training. Finally the figure for those not in education or training is divided between employed and unemployed people using labour market proportions from the Labour Force Survey to derive the proportion of the 16-18 year old population not in education, employment or training.

Findings

25. The Department has formal written procedures which detail how the indicator is calculated.

26. The Department is aware of the general controls within each of the data providers in respect of information sent through to be used in the calculation of the indicator. However the Department has not formally assessed these data streams to ensure that they provided the sufficient reliable data to support the indicator calculation.

27. The Department does not directly calculate the reported figure but arrives at it through apportionment and estimation. There are a number of factors within the indicator calculation process which may lead to errors.
- a. The figures directly subtracted from the population estimate are taken from four different data streams, two of which involve data taken at the same reference date as the population estimate which are the government funded training and schools census data.
 - b. The Department is aware that the majority of responses given in the Labour Force Survey in respect of 16-18 year olds are 'proxy' responses, given by their parents or guardians. The Department has previously estimated that a proportion of these proxy responses are likely to be inaccurate (5.5 per cent) or incomplete (5.1 per cent) based on comparisons with other data.
 - c. The calculation of the final NEET figure involves the application of proportions based on Labour Force Survey data for 16/17/18 and 16-18 age groups combined as appropriate, each split by gender. However this may introduce errors as the Department has not carried out a formal assessment to ascertain whether the employment profile of the 16-18 year old population is in line with that of the general population.
28. The Department should assess the implications of each of the above and their impact on the accuracy of the calculation of the indicator and include this assessment within its external reporting of the indicator.
29. The Department does not disclose estimated error margins because a robust 95 per cent confidence interval cannot be calculated. An indicative error margin of 0.6 percentage points is reported based on historical data, although this dataset is not defined.

Indicator 2: Young people's participation in positive activities

Conclusion: AMBER (Systems)

30. We have concluded that the data system underlying this indicator is broadly appropriate, but there remain risks around standardisation of data collection. The Department has put improvements in place for subsequent surveys. The appropriateness of confidence intervals should be reviewed and the Department could improve disclosure of age range covered by this indicator in its departmental annual report. The indicator does not currently seek the views of 16-18 year olds.

Characteristics of the data system

31. This indicator is defined under the National Indicator Set (NI 110). The data for this indicator is collected by a pupil perception and experience survey called "Tellus". The first Tellus survey was delivered to a handful of local authorities in 2006 by Ofsted before being developed as a national survey by Ofsted with support from the Department. The subsequent waves of the Tellus survey (Tellus2 and Tellus3) were delivered by Ofsted in 2007 and 2008 respectively with assistance from participating local authorities. The survey reported in the 2009 Autumn Performance Report was Tellus3.
32. Tellus is a quantitative self-completion online survey designed to gather children and young people's views on their life, school and local area. The survey is aimed at children and young people in Years 6 (age 10-11), 8 (aged 12-13) and 10 (aged 14-15). It is delivered in schools and the sample includes mainstream primary and secondary schools, academies, special schools and pupil referral units.
33. Ofsted provided the Department with data from Tellus3 to so it could calculate the National Indicator performance measures which were published via a Statistical Release in January 2009.
34. In developing the national survey Ofsted and the Department sought specialist advice to develop the survey methodology and questionnaire content. This work concluded that a sample of children and young people in years 6, 8 and 10 would provide a representative view of children and young people. The questionnaire content was cognitively tested with children in years 6, 8 and 10.
35. The specific years were chosen in order to give a large and broad enough response level so as to reduce the statistical margin of error (around three percentage points) at the 95 per cent confidence level.
36. Ofsted was responsible for verifying that sufficient data had been collected and was also responsible for weighting responses in order to obtain the desired cross-section of responses by school type, gender and eligibility for free school meals. The data was then provided to the Department to calculate the National Indicator performance measures.

37. Increasing participation in positive activities, as a strategy, is focused on young people aged 14-19. Therefore, of the years sampled in Tellus, only responses from Year 10 are used to measure this indicator. The relevant questions from the Tellus3 survey asked children whether they in the last four weeks 'had participated in any group activity led by an adult outside school lessons (such as sports, arts, or youth group)' and/or claiming they had participated in one or more of the following structured activities: sports club or class; a youth club/group with organised activities run by adults; arts group or class or a music group or lesson. Positive responses to these questions were then counted towards the indicator figure.

Findings

38. Two versions of the Tellus3 survey were developed, one for primary school children and the other for secondary school children. A standard question set was used for each questionnaire, with appropriate controls in place, such as clear instructions to respondents, standardised answers to respond to questions by respondents and restrictions on the level of assistance that can be given to respondents. This would help ensure that the data collected was robust, reliable and comparable.
39. Validation checks (for example on school year and age) were carried out on the data by Ofsted to check that all responses fell into acceptable ranges. The responses from the survey were also weighted to ensure that the data for a local authority was representative of the population of children within that area, in terms of gender and proportion of children eligible for free school meals, as a proxy measure for deprivation.
40. We noted that five local authorities chose not to participate in the Tellus3 survey and in total 148,998 children and young people from 3,113 schools in England took part in the survey. Nationally the response rate was sufficient for the departmental indicator to be calculated and the confidence level to be met.
41. Responsibility for the Tellus survey transferred from Ofsted to the Department in 2008 and the next waves of the survey, Tellus4, was delivered by the National Foundation for Educational Research (NFER) on the Department's behalf. A number of key changes were made to the design and delivery of the survey with the aim of improving the robustness of the data and confidence in its use. These changes included a dedicated website designed to support all aspects of the survey, a streamlining of the administrative and management processes and more detailed guidance to schools to help ensure consistent delivery.
42. The Tellus4 survey data differs from that of Tellus3 for a number of reasons. Firstly, responses were weighted by gender, year group and the Income Deprivation Affecting Children Index scores which the Department considered to be a better measure for deprivation rather than the previous measure of free school meal eligibility. In addition to improve response rates for the Tellus4 survey, the timing

was changed from the Summer term in 2008 to the Autumn term in 2009. As a result of this timing change and other improvements made, the Tellus4 survey achieved 253,755 individual responses in 3,699 schools with only one local authority choosing not to participate – an improvement of over 100,000 responses from Tellus3.

43. The Department re-weighted the Tellus3 data and recalculated the Tellus3 National Indicators to aid comparability. The National Indicator performance measures for 2009 (Tellus4) and information of the re-weighted Tellus3 data were published in a Statistical Release in February 2010.
44. There remains a risk that collection methods can vary between schools and areas, for instance children being asked to do the survey in isolation in some schools or as a group in others. No specific assessment has been made by the Department of the risks to standardisation of data collection.
45. The Department should assess if the age range currently sampled covers a broad enough scope and whether the sampling should be expanded to include over 16 year olds for the participation in positive activities indicator. It should also state the age range of the children covered by the indicator within 2010 Departmental Annual Report.
46. The Department commissioned an independent evaluation of the Tellus4 survey. The evaluation was undertaken as a small scale, targeted piece of work aimed at providing an insight into the delivery of the Tellus4 survey by schools and evaluating the improvements made to Tellus4. The Research report will be published by the Department later in the year.

Indicator 3: Substance misuse by young people

Conclusion: AMBER (Systems)

47. We have concluded that the data system underlying this indicator is broadly appropriate, but there remain risks around standardisation of data collection. The Department has put improvements in place in subsequent surveys. The appropriateness of confidence intervals should be reviewed and the Department could improve disclosure of age ranges covered by this indicator in its departmental annual report.

Characteristics of the data system

48. This indicator is defined under the National Indicator Set (NI 115). The data for this indicator is collected by a pupil perception and experience survey called "Tellus". The first Tellus survey was delivered to a handful of local authorities in 2006 by Ofsted before being developed as a national survey by Ofsted with support from the Department. The subsequent waves of the Tellus survey (Tellus2 and Tellus3) were delivered by Ofsted in 2007 and 2008 respectively with assistance from participating local authorities. The survey reported in the 2009 Autumn Performance Report was Tellus3.

49. Tellus is a quantitative self-completion online survey designed to gather children and young people's views on their life, school and local area. The survey is aimed at children and young people in Years 6 (age 10-11), 8 (aged 12-13) and 10 (aged 14-15). It is delivered in schools and the sample includes mainstream primary and secondary schools, academies, special schools and pupil referral units.

50. Ofsted provided the Department with data from Tellus3 to so it could calculate the National Indicator performance measures which were published via a Statistical Release in January 2009.

51. In developing the national survey Ofsted and the Department sought specialist advice to develop the survey methodology and questionnaire content. This work concluded that a sample of children and young people in years 6, 8 and 10 would provide a representative view of children and young people. The questionnaire content was cognitively tested with children in years 6, 8 and 10. The specific years were chosen in order to give a large and broad enough response level so as to reduce the statistical margin of error (around one percentage point) at the 95 per cent confidence level.

52. Ofsted was responsible for verifying that sufficient data had been collected and was also responsible for weighting responses in order to obtain the desired cross-section of responses by school type, gender and eligibility for free school meals. The data was then provided to the Department to calculate the National Indicator performance measures.

53. The relevant questions from the Tellus3 survey asked children whether they have been drunk or taken drugs in the past four weeks in separate questions. If the child responds yes to either or both of the initial questions, they are then asked to specify how many times they have been drunk or taken drugs in the past four weeks. Only an aggregate result of twice or more within the past four weeks for the two questions would lead to the child being assessed as a substance misuser, and hence being included within the numerator for the calculation.

Findings

54. Two versions of the Tellus3 survey were developed, one for primary school children and the other for secondary school children. A standard question set was used for each questionnaire, with appropriate controls in place, such as clear instructions to respondents, standardised answers to respond to questions by respondents and restrictions on the level of assistance that can be given to respondents. This would help ensure that the data collected was robust, reliable and comparable.
55. Validation checks (for example on school year and age) were carried out on the data by Ofsted to check that all responses fell into acceptable ranges. The responses from the survey were also weighted to ensure that the data for a local authority was representative of the population of children within that area, in terms of gender and proportion of children eligible for free school meals, as a proxy measure for deprivation.
56. We noted that five local authorities chose not to participate in the Tellus3 survey and in total 148,998 children and young people from 3,113 schools in England took part in the survey. Nationally the response rate was sufficient for the departmental indicator to be calculated and the confidence level to be met.
57. The survey questionnaire defines drugs. The statement details 'drugs does not include anything you take as a medicine, nor does it include alcohol, but does include solvents, glue and gas'. While this provides some information to pupils, given the age range covered, respondents may still be unfamiliar with the terms used, which could impact their responses and the validity of the data used to calculate this particular indicator.
58. Additionally the Department should give clarity over the expected confidence interval for the data in its external reporting. Currently the 2009 Autumn Performance Report states that the confidence interval is 'around one percentage point' at a national level and that the confidence level will 'vary between local authorities'. This is greater than the expected confidence interval specified within the PSA Measurement Annex (0.5 per cent). The Department should consult its analysts as to the applicable confidence level for the data used.
59. Responsibility for the Tellus survey transferred from Ofsted to the Department in 2008 and the next waves of the survey, Tellus4, was delivered by the National

Foundation for Educational Research (NFER) on the Department's behalf. A number of key changes were made to the design and delivery of the survey with the aim of improving the robustness of the data and confidence in its use. These changes included a dedicated website designed to support all aspects of the survey, a streamlining of the administrative and management processes and more detailed guidance to schools to help ensure consistent delivery.

60. The Tellus4 survey data differs from that of Tellus3 for a number of reasons. Firstly, responses were weighted by gender, year group and the Income Deprivation Affecting Children Index scores which the Department considered to be a better measure for deprivation rather than the previous measure of free school meal eligibility. In addition to improve response rates for the Tellus4 survey, the timing was changed from the Summer term in 2008 to the Autumn term in 2009. As a result of this timing change and other improvements made, the Tellus4 survey achieved 253,755 individual responses in 3,699 schools with only one local authority choosing not to participate – an improvement of over 100,000 responses from Tellus3. Some minor changes were made in Tellus4 to improve the clarity of the substance misuse questions eg Year 6 pupils were only asked about drinking alcohol and not about taking drugs, but the Department considered the findings to still be comparable.
61. The Department re-weighted the Tellus3 data and recalculated the Tellus3 National Indicators to aid comparability. The National Indicator performance measures for 2009 (Tellus4) and information of the re-weighted Tellus3 data were published in a Statistical Release in February 2010.
62. There remains a risk that collection methods can vary between schools and areas, for instance children being asked to do the survey in isolation in some schools or as a group in others. No specific assessment has been made by the Department of the risks to standardisation of data collection. The age range covered by the Tellus3 survey was not disclosed in the 2009 Autumn Performance Report.
63. The Department commissioned an independent evaluation of the Tellus4 survey. The evaluation was undertaken as a small scale, targeted piece of work aimed at providing an insight into the delivery of the Tellus4 survey by schools and evaluating the improvements made to Tellus4. The Research report will be published by the Department later in the year.

Indicator 4: Under 18 conception rate

Conclusion: GREEN (fit for purpose)

64. We have concluded that the data system underlying this indicator is fit for the purpose of measuring and reporting performance against the indicator and no significant risks to data quality were identified.

Characteristics of the data system

65. This indicator is defined under the National Indicator Set (NIS 112) and it is a National Statistic. The data used to monitor this target is collected externally to the Department, but is well established and well defined, and has been collected consistently for some years.

66. There are two elements to the data system, births and legal abortions which are legally required to be reported (through the Office for National Statistics for births and through the Department of Health for abortions). The Office for National Statistics collates the births and population data, and it receives abortions data under a service level agreement, so that it may calculate conceptions.

67. The under 18 conception rate is calculated by dividing the total number of conceptions to all women under 18 by the total female population aged 15-17 (95 per cent of under 18 conceptions occur among 15-17 year olds). The Department disclosed this measurement group within its 2009 Autumn Performance Report. Performance data is reported as conception rates per 1,000 females.

68. Data is generally of good quality, the Department of Health carries out initial quality checks under the service level agreement on receipt of returns from practitioners and before quarterly transmission to the Office for National Statistics. Systems are in place for imputing missing information such as the mother's age.

Findings

69. The data to support this indicator is taken from the ONS conception statistics. There is a 14 month time-lag in the release of conception statistics, as they are partly compiled from birth registration data, which may not be available until up to 11 months after the date of conception.

70. The conception rate includes pregnancies that result in either one or more live births or stillbirths or a legal abortion, but does not include miscarriages since there is no requirement for these to be registered. No data quality issues were identified following the validation of this indicator in 2008.

Indicator 5: First-time entrants to the Criminal Justice System aged 10-17

Conclusion: AMBER (Systems)

71. We have concluded that the data system underlying this indicator is broadly appropriate. However the Department has not formally assessed the robustness or quality of the data which it receives or how it is validated and the Department does not have any formally documented controls over its processes for analysing the data streams and calculating the indicator.

Characteristics of the data system

72. This indicator is defined under the National Indicator Set (NIS 111). First-time entry to the criminal justice system is taken to be the first reprimand; final warning or a court disposal.

73. The data used to calculate performance against this indicator is taken from the Police National Computer (PNC) maintained by the National Policing Improvement Agency.

74. The PNC is an operational database used by all police forces in England and Wales which logs details of all 'recordable' offences. These are criminal offences that can attract a custodial sentence plus some additional non-custodial offences defined in legislation. Some 'non-recordable' offences may be recorded on the PNC particularly when they accompany a recordable offence in the same case. An offender cautioned or convicted for a 'non-recordable' offence, such as driving without insurance, is not counted for the indicator on that occasion. Offences processed by other authorities including British Transport Police, MOD and HMRC are not included in the PNC.

75. A data extract from the PNC is prepared by Ministry of Justice staff detailing offenders aged under 18 years who received their first reprimand; court disposal or final warning. As children aged less than 10 years old cannot be charged with a criminal offence this only includes data relating to offences committed by youths between 10 and 17 years old. This data is then sent to the Department for the calculation of the indicator. The data extract contains all records on the PNC processed by police forces in England and Wales. England only figures are calculated using the home address or postcode of where the offence was committed. Where no address or postcode is recorded, a model based on the patterns of offenders dealt with by police stations is used to allocate offenders.

76. In order to report the indicator per 100,000 10-17 year olds, the Department uses population data provided by the Office for National Statistics on the mid-year population estimate. The data is split by single year of age to allow staff to extract the data for the 10-17 year old population.

Findings

77. The Department does not assess the robustness or quality of the data which it receives from the Ministry of Justice or the Office for National Statistics. The Department is aware that both undertake validation of the data, but not what the validation entails.
78. The Department does not have any formally documented controls over the process for analysing the data streams and calculating the reported figure.
79. The Department recognises that the measure may not include all convictions resulting from prosecutions by authorities other than the police. This is disclosed in the 2009 Departmental Annual Report and 2009 Autumn Performance Report.