



National Audit Office

## Measuring Up

**How good are the Government's data systems for monitoring performance against Public Service Agreements?**

PSA 18: 'Promote better health and wellbeing for all'

A review of the data systems underpinning the Public Service Agreement led by the Department of Health under the Comprehensive Spending Review 2007

# REPORT BY THE NATIONAL AUDIT OFFICE

## Validation of the data systems for the PSA18, Spending Review Period 2008-11

### HELPING THE NATION SPEND WISELY

The National Audit Office scrutinises public spending on behalf of Parliament.

The Comptroller and Auditor General, Tim Burr, is an Officer of the House of Commons. He is the head of the National Audit Office, which employs some 850 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 saves the taxpayer millions of pounds every year. At least £9 for every £1 spent running the Office.

#### For further information please contact:

Helen Feetenby  
National Audit Office,  
1<sup>st</sup> Floor, 89 Sandyford Road,  
Newcastle Upon Tyne, NE1 8HW  
Tel: 0191 269 8865  
Email: [helen.feetenby@nao.gsi.gov.uk](mailto:helen.feetenby@nao.gsi.gov.uk)

### CONTENTS

---

<b>Executive Summary</b>	<b>3</b>
<b>Indicator 18.1</b>	<b>7</b>
<b>Indicator 18.2</b>	<b>9</b>
<b>Indicator 18.3</b>	<b>11</b>
<b>Indicator 18.4</b>	<b>13</b>
<b>Indicator 18.5</b>	<b>16</b>

## **Executive Summary**

### **Introduction**

1. This report summarises the results of our examination of the data systems used by the Government in 2008 to monitor and report on progress against PSA 18.

### **The PSA and the Department**

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. PSA 18 is led by the Department of Health and the Department is responsible for all the indicators underpinning the PSA. 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 on progress against this PSA was in the Autumn Performance Report 2008.

### **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 September 2008 to February 2009, the National Audit Office (NAO) 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; and
  - 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 (see figure 1). The ratings are based on the extent to which Departments have:
- (i) put in place and operated internal controls over the data systems that are effective and proportionate to the risks involved;
  - (ii) 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 ...
<b>GREEN (fit for purpose)</b>	The data system is fit for the purpose of measuring and reporting performance against the indicator
<b>GREEN (disclosure)</b>	The data system is appropriate for the indicator and the Department has explained fully the implications of limitations that cannot be cost-effectively controlled
<b>AMBER (systems)</b>	Broadly appropriate, but needs strengthening to ensure that remaining risks are adequately controlled
<b>AMBER (disclosure)</b>	Broadly appropriate, but includes limitations that cannot be cost-effectively controlled; the Department should explain the implications of these
<b>RED (systems)</b>	The data system does not permit reliable measurement and reporting against the indicator
<b>RED (not established)</b>	The Department has not yet put in place a system to measure performance against the indicator

### Overview

8. The aim of the PSA is to promote better health and well being for all and is supported by five indicators. For this PSA, we have concluded that the indicators selected to measure progress are consistent with the scope of the PSA and afford a reasonable view of progress.

9. There is a named officer within the Department responsible for each of these indicators. This officer is supported by a lead analyst and statistical team. Performance and delivery of the PSA is overseen by a PSA Board, led by the Senior Reporting Officer within the Department. A Performance Committee also exists and meets quarterly to oversee governance and reporting of the PSA.
10. Figure 2 summarises our assessment of the data systems.

**Figure 2: Summary of assessments for indicator data systems**

No	Indicator	Rating
1	All-age-all-cause mortality (AAACM) rate	GREEN (fit for purpose)
2	Gap in all-age-all-cause mortality (AAACM) rate between Spearhead Group and national average	GREEN (fit for purpose)
3	Smoking prevalence	GREEN (disclosure)
4	Independence – Proportion of adults (18+) supported directly through social care community assessment to live at home	AMBER (systems)
5	Proportion of people with depression and/or anxiety disorders who are offered psychological therapies	AMBER (disclosure)

11. The Department has made efforts to integrate the indicators for this PSA into its 'Vital Signs' within the Operating Framework 2008/09 for the NHS, which describes the national priorities for the year. Our review of the Vital Signs framework illustrated that although Tier 3 indicators provide PCTs with the flexibility to prioritise at a local level, data for the PSA target still has to be reported using the approved national systems.
12. The Department undertakes extensive monitoring and analysis in respect of its performance against its PSAs and the underlying indicators. Data quality is also taken seriously within the Department; where external data are collected, service level agreements are in place detailing management's expectations of data quality and where data are collected at a local level, the Department supplements local level controls with central checks over data quality and completeness.
13. We have carried out a review on business critical IT systems and concluded that the Department has satisfactory processes and controls in place designed to ensure effective operation for the purposes of collecting and reporting of data in respect of the Department's PSAs.

14. Our main conclusions on the overall governance of the Department's PSAs are:

- Although there is some evidence that the Department routinely identifies risks relating to the collection of data and reporting of PSAs, risk analysis and quality reviews are often not formalised.
- 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. It also has written internal guidance providing further detail as to how the indicator will be calculated. However, it is sometimes unclear which elements relate to local reporting and management and the elements that relate to national reporting. For example, guidance to commissioners on improving access to psychological therapies emphasises the different models of delivery and measurement of outcomes but merely notes that access is a PSA target without further measurement guidance. Similarly the national guidelines for regional delivery include regional and service level performance indicators which are outcome based without reference to access targets.
- For some of the indicators, it is difficult to understand how success will be measured as this is not always defined in the technical guidance. For example, the access to psychological therapies technical guidance measures only improvement in the proportion of people gaining access to therapies but in part measures this against a static population denominator and does not include a trajectory for improvement. Similarly part of that measure of improvement includes measurement of access to therapy against the number of people diagnosed with depression and/or anxiety disorders irrespective of whether treatment could be by medication rather than therapy.
- Where the Department obtains data from external sources, such as outturn data are often published on the website of the external provider. The technical notes do not always make the reader aware of the availability of such information.
- Where data are collected at a local level, the Department does not always obtain evidence of local level controls and checks on the data. This would be good practice, even though the Department carries out its own controls and checks on the data.

15. We recommend that the Department:

- Formalises risk identification and quality review of data systems underpinning the PSA indicators. This could be in the form of data risk registers related to each indicator, which set out the risks to data quality, how the risks are expected to be mitigated and confirmation that the mitigation remains effective;

- Distinguishes in its guidance those elements of reporting that are only applicable at a local level from those required to assess progress against the PSA indicator;
- Ensures that all technical guidance details how success will be defined and how progress will be measured at a national level, including details of reporting intervals;
- Includes links in technical guidance and other publications to external sources of data reporting; and
- Seeks further evidence with regard to the effective operation of local level controls.

#### **Assessment of indicator set**

16. In undertaking the validation we read the documentation associated with the PSA, including the Delivery Agreement and considered whether the indicators selected to measure progress are consistent with the scope of this PSA. We conclude that the indicators selected afford a reasonable view of progress.

## **FINDINGS AND CONCLUSIONS FOR INDIVIDUAL DATA SYSTEMS**

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

### **Indicator 1 – All-age-all-cause mortality (AAACM) rate**

#### **Conclusion – Green (fit for purpose)**

17. The data system is fit for the purpose of measuring and reporting performance. We are satisfied with data quality for reporting against this target. The data system was validated previously under SR2004 and there have been no changes to the system in the intervening period.

#### **Characteristics of the data system**

18. Mortality data are collected by the Office for National Statistics (ONS) through the death registration process. The Information Centre is responsible for obtaining the data from ONS on death registrations and mid-year

population estimates, by 5 year age bands, and for males and females separately. The Information Centre then supplies the data to the Department who calculate three year rolling average directly age-standardised mortality rates (standardised to the European Standard Population). The death registrations and population estimates also form the basis of national interim life tables produced by ONS, which are used to measure average life expectancy at birth in England for men and women.

19. The current target is, by 2010, to increase the average life expectancy at birth in England to 78.6 years for men and to 82.5 years for women. The current estimate is that this is equivalent to AAACM in England decreasing to 649 deaths per 100,000 for men and 467 deaths per 100,000 for women by 2009-11. The translation from life expectancy to AAACM depends on the age distribution of death rates, so precise numbers will change as the age distribution changes – the current estimate is based on the 2005-07 age distribution of death rates.

## **Findings**

20. The Department places reliance on ONS and the NHS Information Centre to provide the data on mortality. The data are specified and requested annually by the Department. Death registrations and causes of mortality are National Statistics which are produced in accordance with the National Statistics Code of Practice protocols.

21. ONS mortality data taken from the death registration system are the only complete and comprehensive record of the cause of deaths available in the country and there is no viable alternative source of such data. Figures on the number of deaths are released annually but there can be up to two years time lag in reporting.

22. Our review of the system showed there to be no major risks to the data.

The Department has reported progress against the indicator in a statistical press release, published in November 2008 and the Autumn Performance Report 2008. The press release describes the Department as being broadly on course to deliver the life expectancy target by 2009-11. This is based on comparison of observed progress against a target trajectory and also on life expectancy projections published by the Government Actuaries Department.



## **Indicator 2 – Gap in all-age-all-cause mortality (AAACM) rate between Spearhead group and national average**

### **Conclusion – Green (fit for purpose)**

23. The data system is fit for the purpose of measuring and reporting performance. There are no significant issues concerning data quality for reporting against this target and the data limitations of progress measures are adequately disclosed. The data system was validated previously under SR2004 and there have been no changes to the system in the intervening period.

### **Characteristics of the data system**

24. The Spearhead Group consists of 70 local authority areas that are in the bottom fifth nationally for three or more of the following five factors:

- male life expectancy at birth;
- female life expectancy at birth;
- cancer mortality rate in under 75s;
- cardiovascular disease mortality rate in under 75s; and
- index of multiple deprivation 2004 average score

25. The aim of the target is to reduce health inequalities by 10% by 2010. The measure used to assess progress is the relative gap (i.e. percentage difference) in life expectancy at birth between the Spearhead Group and England. The AAACM rates described above as part of indicator 1 are again used as a proxy to measure life expectancy and form the basis of sub-national life tables which use age specific mortality rates defined by local authority area.

## Findings

26. The Spearhead Group was defined in 2004 for use with associated Spending Review 2004 PSA targets. Therefore, it is a fixed group of local authorities and does not reflect any changes to relative positions for those local authorities who may have moved out of the bottom fifth in subsequent years.
27. Progress for the Spearhead Group is assessed against the level of AAACM rates required to deliver the target for inequalities in life expectancy. To do this, figures for the AAACM gap that are equivalent to the target life expectancy gap need to be identified.
28. However, there is not a unique AAACM corresponding to a particular life expectancy as the age distribution of death rates does not remain constant over time. The target AAACM gap required to achieve the target life expectancy gap in 2010 will depend on the age distribution of death rates in 2009-11 which is not currently known. Therefore, the target gaps used to assess progress against the indicator are only provisional estimates, based on the 2005-07 age distribution of death rates and the current England life expectancy trend. This detail has been disclosed alongside the reported figures, which are described as not being on course to meet the target, and should aid the reader in fully interpreting the data.

### **Indicator 3 – Smoking prevalence**

#### **Conclusion – Green (disclosure)**

29. The General Household Survey (GHS) is capable of providing a reliable measure of prevalence but is subject to the limitations encountered in all survey based measures that cannot be cost effectively controlled and should therefore be adequately disclosed. The data system was validated previously under SR2004 and there have been no changes to the system in the intervening period.

#### **Characteristics of the data system**

30. The target aims to reduce adult smoking rates to 21% or less by 2010, with a reduction in prevalence among routine and manual groups to 26% or less.

31. The data for this target are derived from responses to questions on smoking prevalence in the ONS General Household Survey. This survey, which is conducted using face to face interviews will be merged into a new survey, the Integrated Household Survey, by 2010. The Integrated Household Survey is expected to include equivalent questions on smoking prevalence.

32. Routine and manual occupations are classified according to the following categories from the National Statistics Socio-economic Classification: lower supervisory and technical occupations, semi-routine occupations and routine occupations.

#### **Findings**

33. The results are survey based, which could result in error or bias. However, the ONS have mitigated this by adopting a weighting system to prevent over- or under-representation of certain social groups and to account for non-response.

34. Given the sensitive nature of the subject matter, there is a risk that respondents may be reluctant to provide truthful responses. As it is an interview based survey, measures such as ensuring the survey is carried out in a room where only the respondent is present are taken in order to mitigate this risk.

35. No significant risks to data quality were identified. The data are provided on an annual basis by ONS and are not changed or manipulated by the Department.
36. The Department has reported progress against the indicator in its Autumn Performance Report 2008. This states that in 2006 the percentage of over 16s who smoked was 21%, and in the routine and manual groups was 29%. These are the latest available figures; however the 2007 General Household Survey has been conducted and is due to be published in January 2009.
37. Within the CSR period the GHS is due to be incorporated into a new survey, the Integrated Household Survey. The initial expectation was that the Integrated Household Survey results for the 2010 calendar year, when overall achievement of the indicator would be assessed, would be published towards the end of 2011. However, at the current time, the Integrated Household Survey is still to be established and it may not be in operation prior to the end of the CSR period. The target is an absolute measure so comparability is not an issue with regard to the change of survey format.

## **Indicator 4 – Independence – Proportion of adults (18+) supported directly through social care community care assessment to live at home**

### **Conclusion – Amber (systems)**

38. Data are collected from local authorities' returns covering both direct provision of the numbers of referrals, assessments and packages of care (RAP) by local authorities and grant funded services (GFS) provided by the voluntary sector. Whilst the RAP and GFS data streams are considered appropriate sources of information against which the indicator can be measured, there are risks to data quality emerging from the GFS stream. We consider these to be sufficiently significant to compromise the quality of the outturn data.

### **Characteristics of the data system**

39. The indicator covers all adults receiving any amount of care/support to live independently, both through care packages provided directly by the local authority and including that provided by organisations that are grant funded (i.e. the voluntary sector).

40. Local authorities are responsible for submitting statistical returns to the NHS Information Centre. These are based on RAP data - which are National Statistics recording the number of people receiving social care services directly from Councils with Adult Social Services Responsibilities (CASSRs), and GFS data - which record the number of people receiving social care services from voluntary or charitable bodies, funded by local authority grants. The denominator is based on needs weighted population data taken from the Relative Needs Formula (RNF) allocation calculations. Both RAP and GFS data are snapshots at a point in time.

### **Findings**

41. The criteria to assess successful performance against the PSA indicator have not yet been published. However the Department's PSA Board monitors performance and recognises that the indicator will measure one part of the wider intention to deliver the *Putting People First* policy on enabling adults to live independently.

42. The Department of Health relies on the NHS Information Centre's controls to ensure that the data collection is fit for purpose. The NHS Information Centre has checks built into their internet data collection tools to validate the data at source and also carries out additional manual checks including year on year checks, consistency and outlier checks.
43. However, whilst the RAP data stream is relatively robust, verified by a National Statistics accreditation, there is a risk to data quality when combined with GFS data. There is a risk of double counting between RAP and GFS data as it is possible for people to receive part of their care from the Local Authority (RAP) and another part from a voluntary sector organisation (GFS), or from more than one GFS provider. The GFS guidance sets out requirements that cases should not be included where they are in receipt of a care plan, and so part of a RAP return. As part of the data collection procedures Local Authorities are requested to estimate the number of people who will be doubled counted because of this. Guidance is issued on how to form this estimate and Local Authorities have to provide contextual information about how they produce their estimate – nevertheless there remains the possibility of double counting. The Department estimates about 20% of GFS cases need to be excluded as double counted with RAP returns, but are unable to estimate the extent of double counting between GFS providers.
44. Collection of GFS data is based on a sample week. This data gives a snapshot of people receiving services during the sample week, and may not be sufficiently representative, or subject to anomalies which could make it difficult to distinguish significant changes. The NHS Information Centre published a report on Community Care Statistics 2007-08 Grant Funded Services in October 2008. This disclosed (un-quantified) limitations in the data arising from not accounting for seasonal variations and double counting.
45. There is also potential for councils to claim that they are supporting many people based on small amounts of GFS funding to a large number of organisations, although it should be possible to look underneath the headline figures with other linked data to get a clearer understanding of the overall picture.

46. GFS data collection from the voluntary sector is dependent on local arrangements and data collection is not always included in service level agreements with the voluntary sector.
  
47. The Autumn Performance Report 2008 gives a baseline of 3,143 adults per 100,000 receiving community-based services, based on provisional 2007-08 RAP and GFS data. However, it does not disclose limitations in the data.

## **Indicator 5 – Proportion of people with depression and/or anxiety disorders who are offered psychological therapies**

### **Conclusion – Amber (disclosure)**

48. The datasets, if working as specified, are broadly appropriate and should be capable of providing the necessary information to measure progress against the indicator. There are, however, current limitations that cannot be cost-effectively controlled and the Department should explain the implications of these.
49. For two of the three datasets underpinning this indicator, although systems are in place, data has not yet been collected for reporting purposes. Once this occurs, the Department should assess data quality and whether the systems need strengthening.

### **Characteristics of the data system**

50. The data system is based around three elements:
- (a) the ONS Psychiatric Morbidity Survey. This provides a robust estimate of the number of people with depression and/or anxiety disorders (both diagnosed and undiagnosed), but the survey is at one point in time;
  - (b) the number of people diagnosed with depression and/or anxiety disorders. This is to be taken from GP records following a query search and collated by primary care trusts (PCTs), before submission to the NHS Information Centre; and
  - (c) the number of people who are offered psychological therapies. This will be captured by PCT returns which follow a defined dataset developed by the Improving Access to Psychological Therapies (IAPT) programme board.
51. There are two elements to the indicator: the proportion of the population with the disorders offered therapies (c)/(a) and the proportion of diagnosed cases offered therapies (c)/(b).



52. The NHS Information Centre will receive data each quarter from PCTs on the number of people diagnosed with depression and / or anxiety disorders and the number of people who have received psychological therapies via the 'Omnibus' system.

## **Findings**

53. The number of people with depression and /or anxiety disorders will be obtained from the Psychiatric Morbidity Survey (an ONS survey conducted according to the ONS Code of Practice). The survey has not been commissioned specifically for this indicator so the Department are reliant on results published by the ONS without any control over the data system or ability to assess confidence in the dataset. However, the technical note supporting the survey results contains information on the 95% confidence interval for the data. The Department currently use the latest (2000) survey results which are then adjusted to show adults (18+) rather than those aged 16-74 included in the survey, which introduces a risk of error.

54. The 2008 survey results will be used when published. However even though these will be more recent, the number of people with depression and /or anxiety disorder derived from the survey will remain static over the reporting period, whereas the other two component datasets will be updated on a quarterly basis. This potentially reduces the comparability of the data used to measure the indicator (e.g. the number of people receiving therapies may increase whilst the actual overall proportion could be decreasing) and the Department should disclose the limitation of the particular denominator.

55. The number of people diagnosed with depression and /or anxiety disorders will be collected by PCTs from GP records. At the time of our fieldwork a mechanism had been put in place to collect this data, but the returns from PCTs had not yet been collected and sent to the NHS Information Centre. As a result it is not yet known whether there will be any issues in regard to data completeness. Once quarterly data begins to be received, the Department will have to assess whether data are sufficiently robust, and strengthen the system if necessary.

56. The IAPT programme that provides funding for psychological therapies has only been rolled out to 35 PCTs in the first year. By 2011 the programme is expected to cover 50% of the population. Some PCTs offer psychological

therapies out of other funding whilst some do not offer them at all. All PCTs are expected to return data and have been provided with guidance on the definition of psychological therapies and are supported by IAPT leads. As returns have not yet been received it is too early to form an opinion on the quality of the data.

57. There is currently no baseline data available and it is therefore not possible to conclude on reported progress.