National Audit Office

Measuring Up

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

PSA 3: 'Ensure controlled, fair migration that protects the public and contributes to economic growth'

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

REPORT BY THE NATIONAL AUDIT OFFICE

Validation of the data systems for PSA 3, Spending Review 2008-11

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Executive Summary

Introduction

1. This report summarises the results of our examination of the data systems used by the Government between 2008 and 2011 to monitor and report on progress against Public Service Agreement (PSA) 3, "Ensure controlled, fair migration that protects the public and contributes to economic growth".

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 Home Office's UK Border Agency. 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 Home Office on progress against this PSA was in its 2009 Departmental Annual Report.

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 on PSA performance. During the period October to December 2008, the National Audit Office (NAO) carried out an examination of the data systems for all the indicators used to report performance against PSA 3. 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

   ▪ The collection, processing and analysis of data for each indicator. 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 (see 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

- 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. This PSA is supported by 5 indicators. They are as follows:

   - 3.1: Deliver robust identity management systems at the UK border

   - 3.2: Reduce the time to conclusion for Asylum applications

   - 3.3: Increase the number of enforced removals and voluntary departures year on year

   - 3.4: Increase the proportion of 'higher harm' enforced removals and voluntary departures

   - 3.5: By the effective management of migration reduce vacancies in shortage occupations

9. None of the indicators were used to measure performance in previous spending reviews.

10. The Agency has made concerted efforts since 2006 to improve its understanding of the quality of the data it generates and uses to report progress, not just against PSAs, but in other types of management information as well. By July 2008, each of the Department's principal data streams had been through three iterations of an annual review process, being awarded a star rating according to the results, ranging from 3 stars (excellent data quality practices) to 0 stars (extremely poor data quality practices). This is good practice. To date, the process has led to improvements in a number of data streams and, perhaps most importantly, has raised awareness of data quality as an issue throughout the Agency, including at board level.

11. The current Home Office star rating system is based upon self assessments of the quality of data that have been challenged by Staff in Home Office Science and Research Group as part of the reform programme. These self assessments are subjected to sample validation by the HO Internal Audit Unit. The UK Border Agency has built upon this approach by designing a new standards framework for their star ratings. The quality of all data streams, including the PSAs, that feed the performance metrics presented in the Agency's Monthly Strategic Performance Pack will be assessed against these standards. Implementation of the new approach began on 19 January 2009.

12. Nonetheless, important challenges remain and this validation exercise has shown that some data systems need strengthening to control the remaining risks to the measurement of the PSA indicators which the Agency has signed up to. The Agency is implementing an evidenced based assessment regime for all of its principal work streams which are reported to the Agency Board via its Monthly Strategic Performance Pack. This reflects a desire by the Agency to provide a more detailed examination of the suitability of data systems for measuring key performance indicators, like PSA targets. The United Kingdom Border Agency (UKBA) Data Quality Assurance work is, however, still at an early stage and the benefits have yet to be incurred or evaluated.

13. A recent internal audit report noted inconsistencies in the role of data quality officers in different parts of the Home Office and recommended the development of Department-wide standards and definitions for data quality. The Home Office hopes that, through grading changes and recent recruitment rounds, it can strengthen further the cadre of statisticians and social researchers who provide central professional oversight of data quality, as well as providing expert advice and assistance.

14. In many cases, it is beyond the control of the centre of the Department to change quickly or significantly the quality of an individual data stream, but in these instances the star rating project has made it easier to report information with necessary caveats applied. Recent annual reports have included substantial sections devoted to data limitations.

15. Figure 2 summarises our assessment of the data systems.

Figure 2: Summary of assessments for indicator data systems

No	Indicator	Rating
1	Deliver robust identity management systems at the UK border	**RED (Not established)**
2	Reduce the time to conclusion for Asylum applications	**GREEN (fit for purpose)**
3	Increase the number of enforced removals and voluntary departures year on year	**AMBER (Systems)**
4	Increase the proportion of 'higher harm' enforced removals and voluntary departures	**AMBER (Systems)**
5	By the effective management of migration reduce vacancies in shortage occupations	**RED (Not established)**

16. Our main conclusions on the PSA are:

- Whilst there is a section in the 2008 Autumn Performance Report on data limitations, no limitations are actually disclosed in respect of those indicators against which performance has been measured;

- For all of the indicators, although there had been informal consideration of the risks relating to the data systems, no formal risk assessment process has been implemented; and

- The Department's administrative system, the Case Information Database, is unlikely to be suitable for measuring performance indicators 3 and 4 which require only very small changes as a minimum for success. Nonetheless, as reported changes become more marked, greater confidence can be placed in the data systems.

17. We recommend that the Department:

- Continue the annual central review of important data streams and the implementation and evaluation of evidence based star ratings;

- Complete specifications for Indicators 1 and 5 as soon as possible;

- Continues the implementation and evaluation of the first annual review of evidence based star ratings in all substantive work streams, and addresses weakness highlighted by the evidence review;

- Ensures it fully discloses the quality of data systems, and any limitations, when reporting performance;

- Consider the practicalities of carrying out a review of carriers data systems, to supplement their own internal 100% automated checks, confirming that they are meeting their legal responsibilities and that the e-Borders and roll out teams are fulfilling their quality control remit;

- UKBA should evaluate the quality of their recently introduced Monthly and Quarterly Data Quality reports, in particular, the extent to which they are used to improve the consistency and quality of the data systems; and

- Consider the magnitude of change in performance against Indicators 3 and 4 which would be considered statistically significant and fully disclose its analysis.

Assessment of indicator set

18. 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.

19. We conclude that the indicators selected afford a reasonable view of progress other than Indicator 5, for which it is not possible to accurately measure performance using the methods currently specified in the Delivery Agreement. In particular, it would be difficult to link migration to changes in vacancies for shortage occupations, due to the many factors which can influence vacancies. UKBA are aware of this limitation and this needs to be disclosed when performance is reported.

20. Finally, Indicators 3 and 4, as defined in the Delivery Agreement, require only very small changes (an increase of one) for success to be achieved. It is, however, unclear what level of increase would constitute a statistically significant change rather than one due to random or recording error.

Findings and conclusions for individual data systems

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

Indicator 1 - Deliver robust identity management systems at the UK border

Conclusion - Red (Not established)

21. The Department has not yet fully put in place a system to measure performance against Indicator 1; the system for measuring performance is incomplete. Of the two sub-measures to this indicator, a measurement option for one has only recently been approved within the Agency. The system for the second sub-measure is in development, and is not yet fully operational.

22. The Indicator is reported as "not assessed" in the 2009 Home Office Departmental Annual Report.

Characteristics of the data system

23. This indicator has two sub-measures:

   - *All non-EEA nationals that have unique secure IDs on arrival to the UK* – data relating to this measure will be generated through UKBA's "Secure ID" project. The preferred delivery option has recently been agreed. The capture and verification of biometric data of arriving non-EEA nationals will be undertaken at the UK Primary Checkpoint; and

   - *95 per cent of all journeys into and out of the UK to be tracked by end 2011* – data relating to this measure will be generated through UKBA's "E-Borders" programme, which aims to collect real time passenger movement data for journeys into and out of the UK, from passenger carriers. The proportion of journeys tracked will be estimated with reference to a Passenger Movements Model commissioned by UKBA.

Findings

24. The specification of the data system for collecting information on unique secure IDs is in the very early stages of development. Systems for delivery are not currently in place, nor are there systems in place to measure performance against the target. To be able to report performance against this

indicator by the end of the spending review period, the Agency will need to take prompt action to implement the project.

25. External data from passenger carrier services (such as airlines and shipping companies) will be used to track passengers into and out of the UK. Carriers are legally required to supply this information, and while the UKBA has no formal direct control over data collection, it has set out the data specifications with which carriers are legally compelled to comply in order to provide the required passenger data. UKBA plans to carry out checks on the data supplied by carriers, and reject it if the data is found to be flawed.

26. UKBA have introduced a pilot system, Project Semaphore, to process data received from carriers, and this includes system-driven data quality checks.. They have carried out a series of tests to ensure that the data can be received and processed. Once these tests are passed, live data can be taken from that carrier. Contracts have now been let to develop the full scale e-Borders system.

27. As part of this new process, UKBA should consider the practicalities of carrying out a review of carriers data systems, to supplement their own internal 100% automated checks, confirming that carriers are meeting their legal responsibilities and that the e-Borders and roll out teams are fulfilling their quality control remit.

28. UKBA introduced a dedicated carrier rollout team comprising UKBA and Trusted Borders (contracted e-Borders consortium supplier) employees to ensure all carriers bringing passengers into the UK are tracked, monitored and compliant with the legislation. The e-Borders team also plan to monitor incoming data for problems which will be corrected by the carriers themselves.

29. A model will be used to estimate total annual passenger movements. There is a slight risk that the number of movements tracked by the system, expressed as a percentage of modelled total annual passenger movements, will be greater than 100%. In this event, the reported outturn will not be a credible measure of performance.

Indicator 2 - Reduce the time to case conclusion for Asylum applications

Conclusion - Green (fit for purpose)

30. The data system for Indicator 2 is fit for the purpose of measuring and reporting performance against the indicator. The Department should confirm that data quality is consistently high across all teams and ensure that systems for external reporting are consistent over the spending review period.

Characteristics of the data system

31. The Case Information Database (CID) is an administrative tool, used by UKBA to perform asylum tasks including recording all applications for asylum, with the related casework and decisions. It is regularly updated by caseworkers as they progress applications for asylum.

32. The Department's Immigration Research and Statistics (IRS) team uses data extracted from CID to produce a National Statistics data series, which is published annually and used to assess performance against the indicator. Performance is assessed based on the relevant cohort of applicants.

Findings

33. A large volume of information is input into CID by many caseworkers at multiple sites across the United Kingdom. To mitigate the risk that recording by caseworkers is inconsistent across different teams, a comprehensive training package has been rolled out to all caseworkers.

34. To encourage high standards of data quality, and to identify errors in CID, a programme of weekly data quality reviews is carried out by the data quality officers in all teams. The target for data quality is 95% accuracy, and our analysis suggests that this target is being met. The Department, however, does not compile statistics to demonstrate the level of accuracy across all teams, or monitor trends in accuracy levels over time.

35. Since our fieldwork, however, UKBA's Performance Management and Information Team have developed for each Asylum Team, Monthly and Quarterly Data Quality reports that highlight trends for the Asylum Flows. These should not be confused with the National Quarterly reports as they do not include the work streams of the Detained Fast Track, Third Country Unit (TCU) or cases that are allocated to other parts of asylum such as Criminal Casework Directorate (CCD). The process is still in the early stages but the NAO met with the Agency and provided initial feedback on the reports in April 2009. The reports usefulness will be reviewed during the NAO's follow up work late in 2009 and we recommend that UKBA continue to evaluate the quality of these reports and the extent to which they are used to improve the consistency and quality of the data systems over the next six months.

36. The Department is considering whether this series will continue to form part of National Statistics reporting in the future. The Department should ensure that if the data series is no longer a National Statistic, reporting remains consistent over time due to extra risks arising from the loss of the checks and balances provided by National Statistics status.

37. The 2008 Home Office Autumn Performance Report includes a section on data limitations. In relation to Indicator 2, a previous NAO report on asylum and migration statistics is mentioned but is not clearly referenced. In response to NAO feedback, this point has been rectified in the 2009 Home Office Departmental Annual Report.

Indicator 3 - Increase the number of enforced removals and voluntary departures year on year

Conclusion – Amber (Systems)

38. The data system for Indicator 3 is broadly appropriate for the purpose of measuring the indicator. It needs strengthening to ensure that the assessment of performance is valid, and to ensure remaining risks are adequately controlled.

39. For the purposes of determining whether performance has been met, the PSA Delivery Agreement does not define what magnitude of increase in removals would be statistically significant. And there are vulnerabilities relating to the classification and accreditation of some removals to a particular UKBA region or team although this breakdown is not required as part of this PSA reporting mechanism as it relates to total removals.

40. The Home Office report that around 20 potential removals or voluntary departures are not included in each quarterly publication, due to known data quality issues. However, these departures are investigated and formally recorded at a later date if they meet agreed quality assurance standards.

Characteristics of the data system

41. The Case Information Database (CID) is an administrative tool, used by UKBA to capture enforcement and removals work-streams, including recording dates of removal of people not entitled to be in the United Kingdom. It is regularly updated by caseworkers as they progress each removal case. Within UKBA, the Immigration Group records information relating to enforced removals and assisted voluntary returns of immigration offenders and the Criminal Casework Directorate records data pertaining to the removal of Foreign National Prisoners.

42. The Department's Immigration Research and Statistics (IRS) team uses data extracted from CID to produce a National Statistics data series, which is published quarterly and used to assess performance against the indicator.

Findings

43. A large volume of information is input into CID by many caseworkers at multiple sites across the United Kingdom. To mitigate the risk that caseworkers are inconsistent across different teams, a comprehensive training package has been rolled out to all caseworkers. However, improved training processes were not rolled out to caseworkers in the Criminal Casework Directorate until November 2008 and there remains a risk that during the first seven months of the spending review period, data collection standards may have lacked consistency and accuracy within this directorate. The Agency has now agreed Minimum Data Set standards across all removal delivery

areas to ensure consistency in the way that removals are recorded on the CID database and these standards are strengthened by hard validation in the system itself.

44. A programme of weekly data quality reviews are carried out by data quality officers in the Immigration Group. Between April and September 2008, the average data quality for the minimum data set (mandatory fields in CID) updated for enforced removals and assisted voluntary returns was over the target of 95% accuracy according to UKBA's analysis. The minimum data set includes data relating to removals as well as unrelated data in which recording errors would not influence reporting on performance against the indicator. Furthermore, data quality officers from Immigration Group and Criminality & Detention Group undertake quarterly reconciliation of their own removals data with independent removals data produced by Immigration Research and Statistics (IRS). This process allows independent challenge of removal figures, ensures data standards adhere to National Statistics protocols and permits all parties to investigate and resolve any disparities within the data before agreeing the final removal figures prior to the IRS quarterly publications. Across this spending review period IRS challenged 0.5% of the removals data provided by the department.

45. For the purposes of determining whether performance has been met, the PSA Delivery Agreement does not define what magnitude of increase in removals would be statistically significant. There is, therefore, a risk that the target of a statistically significant increase in the number of removals (potentially a change of one), would not be statistically valid because of the likelihood of a certain level of error in the recorded data (data reported as National Statistics is reported to the nearest 5 removals).

46. There are particularly vulnerabilities relating to the classification and accreditation of some removals to a particular UKBA region or team, however, these data quality issues do not negatively impact upon the reporting of the actual removal itself. In real terms only 1% of total removals within the last reporting year have experienced such issues and the majority of these are resolved in time for the next quarterly reconciliation between the UKBA and Immigration Research and Statistics.

47. The Home Office, however, report that around 20 potential removals or voluntary departures are not included in each quarterly publication due to known data quality issues. If, at a later date, it is agreed that these are removals, they will be included in the annual publications when revisions are incorporated, although it is unclear how many of these are ultimately resolved or the extent to which they contribute to a growing backlog.

48. The 2008 Home Office Autumn Performance Report includes a section on data limitations. In relation to Indicator 3, the National Statistics Code of Practice is mentioned but is not clearly

referenced. In response to NAO feedback, this issue has been addressed in the
2009 Home Office Departmental Annual Report.

Indicator 4 - Increase the proportion of 'higher harm' enforced removals and voluntary departures

Conclusion – Amber (Systems)

49. The data system is broadly appropriate for the purpose of measuring the indicator. It needs strengthening to ensure that the assessment of performance is valid, the Agency should also take steps to ensure compliance rates are increased and to ensure remaining risks are adequately controlled.

50. Progress is published annually with the first report for the end of the reporting cycle in the Home Office Departmental Annual Report June 2009. The Agency recognised and acted on the need to improve data capture ahead of publication of its results and has included caveats about the quality of the data when performance data is reported, to improve the transparency and comprehensiveness of reporting to the public and Parliament.

Characteristics of the data system

51. The Case Information Database (CID) is an administrative tool, used by UKBA to perform enforcement and removals work-streams, including recording dates of removal of people not entitled to be in the United Kingdom. It is regularly updated by caseworkers as they progress each removal case. Within UKBA, the Immigration Group records removals information relating to enforced removals and assisted voluntary returns of immigration offenders and the Criminal Casework Directorate (CCD) records data pertaining to the removal of Foreign National Prisoners.

52. Assessment and recording of "harm" is a new activity for the UKBA. Training has been provided to caseworkers responsible for assessing and recording harm, reminder boxes have been introduced in CID and a "harm matrix" has been developed to reduce the subjectivity of the assessment.

Findings

53. The Agency has developed a monitoring system that when fully operational should allow it to reliably report progress against this indicator. Currently however, not all removals cases are being assessed for harm. Immigration Group figures show that only 84 per cent of cases within this financial year have been designated a harm level, and non-assessed removals are identified and cascaded across Immigration Group on a monthly basis to be updated as a priority. For

Immigration Group cases not designated with a harm level, this is often due to the applicant's embarkation being identified after they have voluntarily left the UK without notifying immigration authorities. They were not removed via removal operations and therefore did not form part of the harm assessment process.

54. Immigration Group and CCD perform data quality checks on harm data on a monthly sample basis. Figures from Immigration Group show that harm was correctly reflected in 96% of cases checked since April 2008. No equivalent check of 'harm' categorisations is performed on Border Force data.

55. Data on the removal of "harm" cases as a proportion of total cases removed is being collected and is being reported internally within the Department, with caveats applied concerning the quality of the data system. External publication of performance against this target was included in the Home Office Departmental Report in June 2009.

Indicator 5 - By the effective management of migration reduce vacancies in shortage occupations

Conclusion – Red (Not Established)

56. At the time the review was conducted, a data system was not yet in place to measure performance against Indicator 5. No one data system can be used to measure performance against Indicator 5, due to its cross Government nature so the Agency will use a number of proxy measures to assess performance. Given these changes, our rating remains as Red (not established) until we have had the opportunity to review the changes during our follow-up validation work in October through to December 2009.

57. The Indicator is reported as "not assessed" in the 2009 Home Office Departmental Anuual Report.

Characteristics of the data system

58. Shortage occupations (those occupations where there is a shortage of skilled workers in the UK) were defined by the Migration Advisory Committee (MAC) in September 2008.

59. The National Employer Skills Survey (NESS) is the intended data source for this indicator. The NESS collects data on skills shortage vacancies (vacancies arising due to a shortage of individuals with the required skills to fill a job vacancy) and will be the main measure for PSA 3.5, as set out in the PSA 3 Delivery Agreement.

Findings

60. The data collected by the NESS is less detailed than the occupations classified as shortage occupations by the MAC. It is not possible to directly assess the level of skills shortages for these occupations without further manipulation of NESS data.

61. It is the intention of the indicator that cross-government delivery networks will be required to deliver progress against the target, since vacancies may be filled by education and training, movement of labour within the EEA or migration of people from non-EEA countries. It will be challenging to demonstrate how effective cross-government action has influenced the measure. Further, because the NESS Survey is only published every 2 years the Agency will use a number of proxy measures to monitor performance. These include Job Centre Plus data on vacancies for shortage occupations at the 4 digit SOC code; Labour Force Survey data on the relative proportion of employees in shortage occupations from UK, EEA and the rest of the world and; Points Based System data on the number of Certificates of Sponsorship issued to migrants for shortage occupations.